Weinschel Associates

Broadband RF/Microwave Solutions

Introduction

Weinschel Associates has at its foundation a 40 year legacy as a supplier of high performance, high quality Broadband Passive Components to the RF and Microwave communities. WA builds on this foundation through the application of modern process and product technologies to continuously drive our product, price, and service performance.

At the core of our business are our proven Engineering and Manufacturing techniques. Refined methods of resistor manufacture produce better yields at higher accuracies with improved typical performance. This applies both to attenuation and VSWR versus frequency as well as low power and temperature coefficients. The process of deposition and ruggedness of our resistive films provide bilateral match for all units and bilateral high power input in many of our models.

Wrapped around this core is an aggressive and customer-focused business model. WA understands modern consumers of RF and Microwave Passive Components are less likely to be Microwave experts than in decades past and we are dedicated to helping our customers identify and acquire the optimum products.

Our goal is to serve you, the customer, with an ever increasing usefulness of product line. This catalogue provides a snapshot of our product offerings. We hope you will find what you require.

Catalog Table of Contents

Product Section	Page Number
Fixed Coaxial Attenuators	1
Coaxial Terminations	71
Resistive Power Splitters and Dividers	122
Variable Attenuators	133
Precision RF Adapters	140
RF Tuners	149
Precision Attenuator Sets	152
DC Blocks	158
High-Reliability & Environment Qualified Components	171
Sales Representatives	180
Ordering Information	185

Please keep in mind new products are always in development and we would be delighted to discuss your requirements to help you find the best product for your application.

Mission Statement

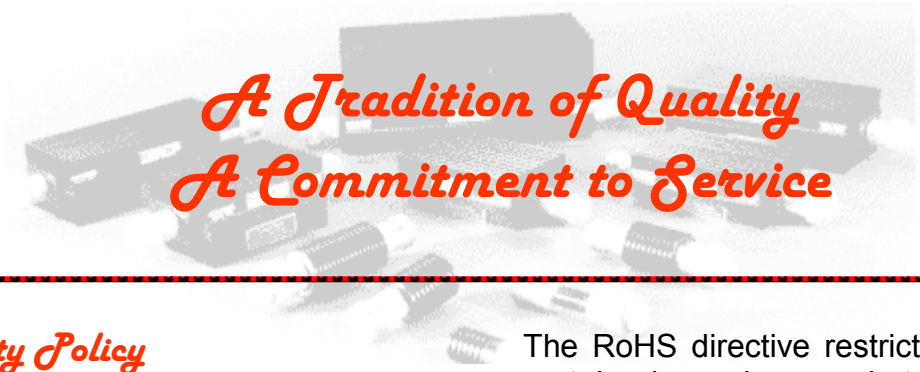
Weinschel Associates designs and manufactures high-quality RF and Microwave products for commercial and military markets both domestic and international. Core technologies originated by founder Bruno Weinschel are leveraged using modern design, production, delivery, and service techniques to provide the best product at the best price to our customers. Our path to success hinges upon a continuous focus on product quality, price performance, and service.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice



A Tradition of Quality
A Commitment to Service

Quality Policy

The Quality Policy of Weinschel Associates is as follows:

- To meet or exceed all requirements agreed to with our customers.
- To strive for continuous improvement in Product Quality, Price Performance, and Customer Service.

Quality Control

Our products are designed and tested to meet MIL-I-45208, MIL-Q-9858, MIL-C-45662 as they apply. Connector interface dimensions comply with MIL-PRF-39012, MIL-STD-348, and IEEE-STD-287. Attenuators are designed to meet MIL-DTL-3933. Terminations are designed to comply with MIL-DTL-39030.

RoHS Compliance

The RoHS directive (EU Directive 2002/95/EC) became valid on 1 July 2006 in the member states of the European Union. Its aim is to reduce a total of six substances from Electrical and Electronic Equipment (EEE), thereby contributing to the protection of human health and the environment.

Although RoHS is a European Union (EU) Directive, manufacturers of EEE outside Europe must also abide by this legislation if the equipment they produce is ultimately imported into an EU member state.

The RoHS directive restricts the use of certain hazardous substances commonly used in the manufacturing of electronic equipment and requires producers of electronic equipment to reduce the concentration of these hazardous materials, by July, 2006, to proscribed levels by weight.

Weinschel Associates aims to minimize environmental impacts due to our products and processes by systematically considering environmental issues during product design.

To the best of our knowledge, the products presented in this catalogue comply with the hazardous substance restrictions imposed by the RoHS directive and are suitable for use in RoHS-compliant systems and assemblies.

How to Order

When placing an order, please provide the model number, attenuation in decibels (dB) for an attenuator, and the desired connector configuration.

Examples					
Attenuator:	WA48	-	30	-	43
	Model		dB		*
Termination:	WA1424	-	5		
	Model		*		

* Connector Code

Connector Codes

Connector Code: Each digit represents a connector type per the following table:

Connector Type	Code
SMA Jack (f)	-1
SMA Plug (m)	-2
N-Type Jack (f)	-3
N-Type Plug (m)	-4
TNC Jack (f)	-5
TNC Plug (m)	-6
DIN 7/16 Jack (f)	-7
DIN 7/16 Plug (m)	-8
7 mm	-9

Connector codes may vary depending on model type as listed on the associated specification sheet. In the case of Uni-directional attenuators, the first digit of the connector code identifies the input connector (N-type Plug (m) in the example) and the second digit identifies the output connector (N-Type Jack (f) in the example).
Connector types not listed on the specification sheets may be available. We will make every effort to accommodate your request.

Power Ratings

Unless otherwise specified, all of our products will operate at their full power rating without the need for forced air cooling.
All of our products are dry and achieve their rated power handling without oils or other coolants.

Warranty

Weinschel Associates warrants each product it manufactures to be free from defects in material and workmanship. Defective product will be repaired or replaced at the discretion of WA at no charge to the customer for a period of two years after shipment to the original purchaser.
The above warranty is Weinschel Associates sole warranty and the extent of its liabilities and obligations with respect to its products unless otherwise explicitly agreed to in writing. WA makes no other warranty of any kind, express or implied, and disclaims any warranty of merchantability or fitness for a particular purpose. In no event shall WA be liable for any incidental, consequential, or special loss or damages, or for any sum greater than the purchase price of the product.
Weinschel Associates reserves the right to make changes in the design of its products at any time without incurring any obligation to make those changes on products it has previously sold.

FIXED COAXIAL ATTENUATORS

DC – 40.0 GHz **2 – 1000 WATTS**

Low Power Fixed Attenuators: 2 Watts to 25 Watts						
Model Number	**Frequency Range DC - (GHz)**	**Average Power (W)**	**Peak Power (kW)**	**Standard* Attenuation Values (dB)**	**Connectors and Mounting Notes**	**Page No.**
WA50	3	2	0.5	1 to 50	N	47
WA1W/6	6	2	0.5	1 to 60	N	5
WA18	12.4	2	0.5	1 to 30	BNC	14
WA1W	12.4	2	0.5	1 to 60	N	5
WA3	12.4	2	0.5	1 to 60	SMA	10
WA3C	12.4	2	0.25	0 to 30	SMA	6
WA3H	12.4	2	0.25	1 to 60	SMA	7
WA3M	12.4	2	0.5	1 to 60	SMA	8
WA3T	12.4	2	0.5	1 to 60	SMA	9
WA12	18	2	0.25	1 to 12	SMA, Flange Mount	14
WA2W	18	2	0.5	1 to 60	N	5
WA32	18	2	0.5	3 to 60	SMA	167
WA4	18	2	0.5	1 to 60	SMA	10
WA4C	18	2	0.25	0 to 30	SMA	6
WA4H	18	2	0.25	1 to 60	SMA	7
WA4M	18	2	0.5	1 to 60	SMA	8
WA4T	18	2	0.5	1 to 60	SMA	9
WA9	26.5	2	0.25	1 to 60	SMA	13
WA54	40	2	0.25	3 to 30	2.92 mm	50
WA18/6	6	2	1	1 to 30	BNC	16
WA1	12.4	5	1	1 to 60	N	4
WA19/6	6	5	1	1 to 30	BNC	17
WA17	18	5	1	1 to 60	7 mm	15
WA2	18	5	1	1 to 60	N	4
WA44	18	5	1	1 to 60	N	41
WA7	18	5	1	1 to 60	SMA	11
WA75	40	5	0.25	3 to 30	2.92 mm	64
WA200271	3	10	1.8	3 to 30	SMA, Low-Profile	70
WA37	8.5	10	1	1 to 60	N	34
WA41	18	10	1	1 to 60	SMA	38
WA41T	18	10	1	1 to 60	TNC	39
WA8	18	10	1	1 to 60	N	12
WA76	40	10	0.20	6, 10, 20, 30	2.92 mm	65

* Other attenuation values and connector configurations are available

Custom solutions at "off-the-shelf" prices

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

FIXED COAXIAL ATTENUATORS

DC – 40.0 GHz **2—1000 WATTS**

Low Power Fixed Attenuators: 2 Watts to 25 Watts—Continued						
Model Number	**Frequency Range DC - (GHz)**	**Average Power (W)**	**Peak Power (kW)**	**Standard* Attenuation Values (dB)**	**Connectors and Mounting Notes**	**Page No.**
WA34L	4	20	5	3 to 40	N, SMA, 7/16 DIN	31
WA33L	8.5	20	5	3 to 40	N, SMA, 7/16 DIN	27
WA89	40	20	0.20	10, 20, 30	2.92 mm	66
WA21	4	25	5	3 to 40	N, SMA, Low-Profile, Mountable	18
WA34	4	25	5	3 to 40	N, SMA, 7/16 DIN	29
WA34B	4	25	5	3 to 40	N, SMA, Square Body Mount	30
WA22	8.5	25	5	3 to 40	N, SMA, Low-Profile, Mountable	18
WA33	8.5	25	5	3 to 40	N, SMA, 7/16 DIN	28
WA33B	8.5	25	5	3 to 40	N, SMA, Square Body Mount	26
WA46	18	25	1	3 to 40	N, SMA, TNC	43
WA74	26.5	25	0.50	3 to 30	3.5 mm	63

Medium Power Fixed Attenuators: 50 Watts to 150 Watts						
Model Number	**Frequency Range DC - (GHz)**	**Average Power (W)**	**Peak Power (kW)**	**Standard* Attenuation Values (dB)**	**Connectors and Mounting Notes**	**Page No.**
WA23	4	50	5	3 to 40	N, SMA	19
WA23B	4	50	5	3 to 40	N, SMA, Square Body Mount	20
WA71	4	50	5	3 to 40	N, SMA, Low-Profile, Mountable	61
WA24	8.5	50	5	3 to 40	N, SMA	21
WA24B	8.5	50	5	3 to 40	N, SMA, Square Body Mount	22
WA72	8.5	50	5	3 to 40	N, SMA, Low-Profile, Mountable	62
WA47	18	50	1	6 to 40	N, SMA, TNC	44
WA90	18	50	1	3 to 40	N, SMA, TNC	67
WA29	8.5	75	5	3 to 40	N, SMA, 7/16 DIN	23

* Other attenuation values and connector configurations are available

Custom solutions at "off-the-shelf" prices

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

FIXED COAXIAL ATTENUATORS

DC – 40.0 GHz **2—1000 WATTS**

Medium Power Fixed Attenuators: 50 Watts to 150 Watts—Continued						
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA59	2.5	100	10	10 to 40	N, SMA, Low-Profile, Mountable	53
WA30	4	100	5	3 to 40	N, SMA, 7/16 DIN	24
WA68	6	100	5	3 to 40	N, SMA, 7/16 DIN	59
WA31	8.5	100	5	3 to 40	N, SMA, 7/16 DIN	25
WA48	18	100	1	10 to 40	N, SMA, TNC	45
WA91	18	100	1	10 to 40	N, SMA, TNC	68
WA40	2.5	150	5	3 to 40	N, SMA, 7/16 DIN	37
WA42	2.5	150	5	3 to 40	N, SMA, Low-Profile, Mountable	40
WA65	2.5	150	10	3 to 30	N, SMA, 7/16 DIN	56
WA39	4	150	5	3 to 40	N, SMA, 7/16 DIN	36
WA61	4	150	5	3 to 40	N, SMA	55
WA57	5	150	10	3 to 40	N, SMA, 7/16 DIN	51
WA49	8.5	150	5	3 to 40	N, SMA, 7/16 DIN	46
WA62	8.5	150	5	3 to 40	N, SMA	55
WA66	18	150	1	20 to 40	N	57

High Power Fixed Attenuators: 200 Watts to 1000 Watts						
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA95	18	200	1	10, 20, 30, 40	N	69
WA45	2.5	250	10	3 to 40	N, SMA, 7/16 DIN	42
WA58	5	250	10	3 to 40	N, SMA, 7/16 DIN	52
WA35	8.5	250	5	10 to 40	N, SMA, 7/16 DIN	32
WA38	5	300	5	3 to 40	N, SMA, 7/16 DIN	35
WA36	8.5	300	5	10 to 40	N, SMA, 7/16 DIN	33
WA67	12.4	350	1	20 to 40	N	58
WA53	2.5	500	10	3 to 40	N, SMA, 7/16 DIN	49
WA60	5	500	10	10 to 40	N, SMA, 7/16 DIN	54
WA51	8.5	500	5	10 to 40	N, SMA, 7/16 DIN	48
WA70	3	1000	10	10 to 40	N, 7/16 DIN	60

* Other attenuation values and connector configurations are available

Custom solutions at "off-the-shelf" prices

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA1 & WA2

DC – 12.4 GHz
DC – 18.0 GHz

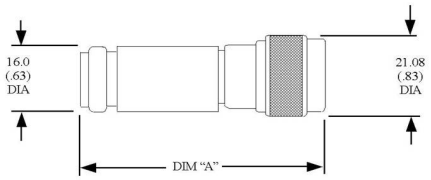
5 WATTS



Model WA1



Model WA2



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1: DC - 12.4 GHz.
WA2: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W Bidirectional in power.

Power Rating: 5 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly. 1 kilowatt peak (5 µsec pulse width; 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Model WA2 is also available in a calibrated attenuator set WAS-6 (3, 6, 10 and 20dB) with certificate of calibration.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA1	WA2
DC - 4.0	1.15	1.15
4.0 - 8.0	1.20	1.20
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA1	WA2
1, 2	0.4	0.5
3-9	0.3	0.3
10, 20	0.5	0.5
30, 40	0.75	1.0
50	0.75	1.25
60	1.0	1.50

Weight (Both Models):

1-30 dB .07 kg/ 2.6 oz.
31-60 dB .10 kg/ 3.6 oz.

Physical Dimensions:

Attenuation (dB)	Dim "A"
1 – 30	57.15 (2.25)
31 – 60	67.31 (2.70)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Fixed Coaxial Attenuator MODEL WA1W & WA2W

DC – 6.0 GHz
DC – 12.4 GHz
DC – 18.0 GHz

2 WATTS

Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1W/6: DC - 6.0 GHz.
WA1W/12: DC - 12.4 GHz.
WA2W: DC -18.0 GHz.

Nominal dB Values: 1 - 60 dB.

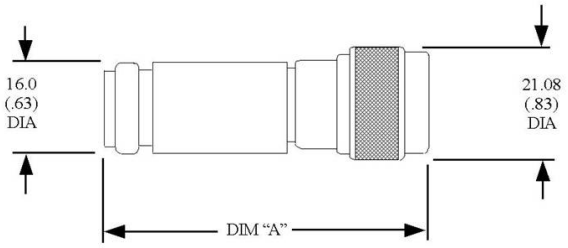
Power Sensitivity: < 0.005 dB/dB/W Bidirectional in power.

Power Rating: 2 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 watts @ 105 C. 250 watts peak (5 µsec pulse width; 0.4% duty cycle).

Temperature Range: -55°C to +125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA1W/6	WA1W/12	WA2W/18
1, 2	0.4	0.4	0.5
3-9	0.3	0.3	0.3
10, 20	0.5	0.5	0.5
30, 40	0.75	0.75	1.00
50	0.75	0.75	1.25
60	1.0	1.0	1.50



Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper female contact, passivated stainless steel male contact..

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA1W/6	WA1W/12	WA2W/18
DC - 4.0	1.15	1.15	1.15
4.0 - 8.0	1.20	1.20	1.20
8.0 -12.4	N/A	1.25	1.25
12.4-18.0	N/A	N/A	1.40

Weight (All Models):

1-30 dB	.07 kg/ 2.6 oz.
31-60 dB	.10 kg/ 3.6 oz.

Physical Dimensions:

Attenuation (dB)	Dim "A"
1 – 30	50.8 (2.00)
31-60	64.77 (2.55)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Fixed Coaxial Attenuator MODEL WA3C & WA4C

DC – 12.4 GHz
DC – 18.0 GHz **2 WATTS**



Features

Type SMA; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3C: DC - 12.4 GHz.
WA4C: DC - 18.0 GHz.

Nominal dB Values: 0 - 30 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C, 250 watts peak.

Temperature Range: -65°C to +125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3C	WA4C
0 - 6	0.3	0.3
7 - 20	0.5	0.5
21 - 30	0.75	0.75

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper female contacts Stainless steel male contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3H	WA4H
DC - 4.0	1.15	1.15
4.0 - 8.0	1.20	1.20
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1 - 12 dB	3.9 gm/ 0.14 oz.
13 - 30 dB	4.3 gm/ 0.15 oz.

Physical Dimensions:

Length:

Attenuation (dB)	Length
1 – 12	19.3 (0.76)
13 – 30	22.6 (0.89)

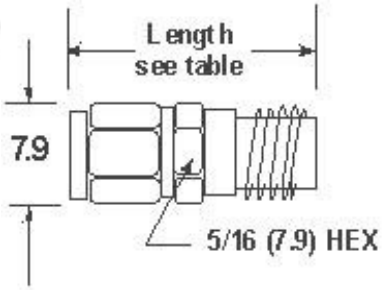
Diameter: 7.1 (0.28).

Note: Dimensions are given in mm (inches) and are ± 0.8 (0.03), unless otherwise specified.

Fixed Coaxial Attenuator MODEL WA3H & WA4H

DC – 12.4 GHz
DC – 18.0 GHz **2 WATTS**





Features

Type SMA; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3H: DC - 12.4 GHz.
WA4H: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C, 500 watts peak.

Temperature Range: -55°C to +125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3H	WA4H
3 - 6	0.3	0.3
1,2,7 - 12	0.3	0.5
20	0.5	0.7
30, 40	0.75	1.0
50, 60	1.00	1.50

Temperature Coefficient: < 0.0004 dB/dB/°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper female contacts Stainless steel male contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3H	WA4H
DC - 4.0	1.15	1.15
4.0 - 8.0	1.20	1.20
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1-12 dB	3.9 gm/ 0.14 oz.
13-25 dB	4.3 gm/ 0.15 oz.
26-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Length
1 – 12	22.35 (0.88)
13 – 25	24.38 (0.96)
26 – 30	26.92 (1.06)
31 – 60	34.54 (1.36)

Note: Dimensions are given in mm (inches) and are ± 0.8 (0.03), unless otherwise specified.

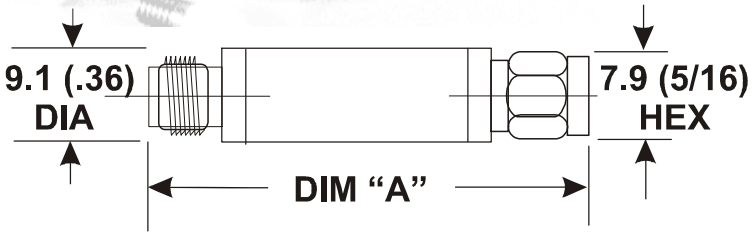
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA3M & WA4M

DC – 12.4 GHz
DC – 18.0 GHz **2 Watts**





Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Usable to 22 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3M: DC - 12.4 GHz.
WA4M: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C, 500 watts peak.

Temperature Range: -55°C to +125° C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3M	WA4M
1 - 2	0.3	0.5
3 - 6	0.3	0.3
7 - 10	0.3	0.5
20	0.5	0.7
30, 40	0.75	1.0
50, 60	1.00	2.00

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper (female) contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3M	WA4M
DC - 4.0	1.15	1.15
4.0 - 8.0	1.20	1.20
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1-12 dB	3.9 gm/ 0.14 oz.
13-20 dB	4.3 gm/ 0.15 oz.
21-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Dim "A"
1 – 12	31.24 (1.23)
13 – 20	33.27 (1.31)
21 – 30	35.31 (1.41)
31 – 60	43.43 (1.71)

Note: Dimensions are given in mm (inches). Dimensions are maximum unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA3T & WA4T

DC – 12.4 GHz
DC – 18.0 GHz **2 WATTS**



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: WA3T: DC - 12.4 GHz.
WA4T: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C, 500 watts peak.

Temperature Range: -55°C to +125° C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3T	WA4T
3 - 6	0.3	0.3
1,2,7 - 12	0.3	0.5
20	0.5	0.7
30, 40	0.75	1.0
50, 60	1.00	1.50

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper female contacts Stainless steel male contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3T	WA4T
DC - 4.0	1.15	1.15
4.0 - 8.0	1.20	1.20
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1-12 dB	3.9 gm/ 0.14 oz.
13-25 dB	4.3 gm/ 0.15 oz.
26-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Length
1 – 12	22.35 (0.88)
13 – 25	24.38 (0.96)
26 – 30	26.92 (1.06)
31 – 60	34.54 (1.36)

Note: Dimensions are given in mm (inches) and are ± 0.8 (0.03), unless otherwise specified.

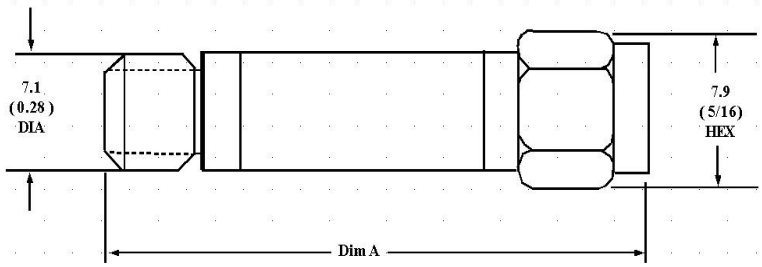
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA3 & WA4

DC – 12.4 GHz
DC – 18.0 GHz **2 WATTS**





Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3: DC - 12.4 GHz.
WA4: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75° C and 0.5W at +125° C, 500 watts peak.

Temperature Range: -55°C to +125° C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3	WA4
1 - 6	0.3	0.3
7 - 12	0.3	0.5
20	0.5	0.7
30, 40	0.75	1.0
50, 60	1.00	1.50

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3	WA4
DC - 4.0	1.15	1.15
4.0 - 8.0	1.20	1.20
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1-12 dB	3.9 gm/ 0.14 oz.
13-20 dB	4.3 gm/ 0.15 oz.
21-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Dim "A"
1 – 12	31.24 (1.23)
13 – 20	33.27 (1.31)
21 – 30	35.31 (1.41)
31 – 60	43.43 (1.71)

Note: Dimensions are given in mm (inches). Dimensions are maximum unless otherwise specified.

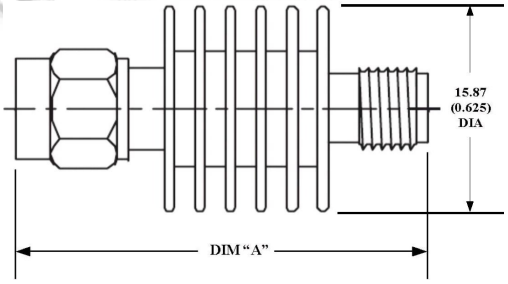
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA7

DC – 18.0 GHz 5 WATTS





Features

Stainless steel M/F, M/M, F/F SMA connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Compact design for one of the lowest size/power ratios available. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 1- 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 5 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation(dB)	Accuracy ± dB
1,2,10,20	0.5
3 - 9	0.3
30, 40	1.0
50	1.25
60	1.5

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.15
4.0 – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.40

Weight:

1 – 30 dB 11 g (0.36 oz).
31 – 60 dB 18 g (0.41 oz).

Physical Dimensions:

Attenuation (dB)	Dim A
1 - 30	30.5 ± 1.3 (1.20 ± .05)
31 - 60	38.1 ± 1.3 (1.50 ± .05)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

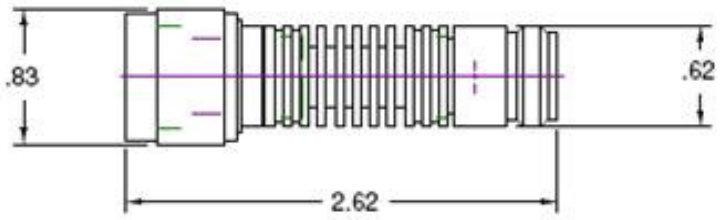
WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA8

DC – 18.0 GHz 10 WATTS





Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -18.0 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W: Bidirectional in power.

Power Rating: 10 watts average, 1 KW peak. Full power from -55°C to +25°C: De-rated linearly to 0 W at +125° C.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1,2,10	0.5
3,6	0.3
20	0.5
30	1.0
50	1.25
60	1.50

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.30
12.4 – 18.0	1.35

Length:
67.30 (2.62).

Weight:
.074 kg/ 2.6 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

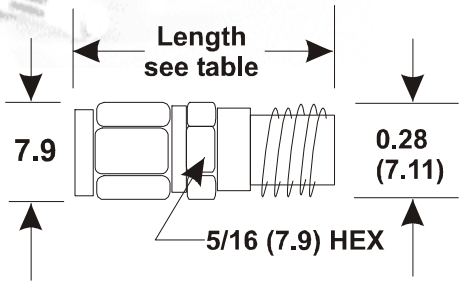
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA9

DC – 26.5 GHz 2 WATTS





Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. **Usable to 30 GHz.**

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz.

Nominal dB Values: 1 - 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average, 500 watts peak to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C.

Temperature Range: -55°C to +125° C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
3	0.50
6	0.60
10	0.80
20, 30	1.00
40, 50, 60	2.00

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 - 8.0	1.20
8.0 - 12.4	1.25
12.4 - 18.0	1.35
18.0 - 26.5	1.50

Weight:

1-12 dB	3.9 gm/ 0.14 oz.
13-25 dB	4.3 gm/ 0.15 oz.
26-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Length
1 – 12	22.35 (0.88)
13 – 25	24.38 (0.96)
26 – 30	26.92 (1.06)
31 – 60	34.54 (1.36)

Calibrated Attenuator Set (WAS-19): Model WA9 is also available in Calibrated Attenuator Set which includes four different attenuators (3, 6, 10, 20 dB). Refer to Attenuator Sets data sheet for specifications.

Note: Dimensions are given in mm (inches) and are ± 0.8 (0.03), unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

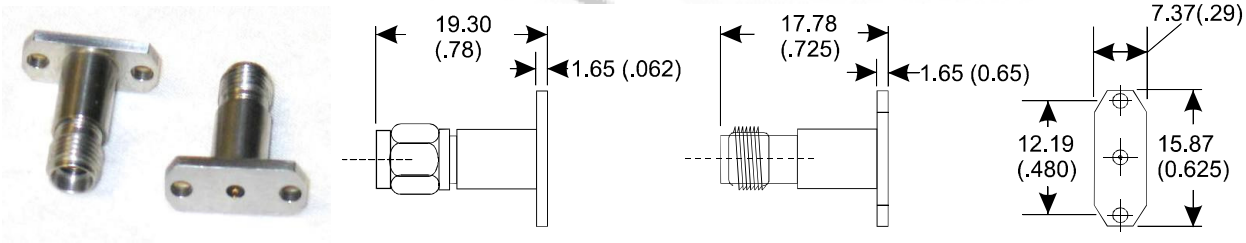
Specification Subject to change without notice

Fixed Coaxial Attenuator Flange Mount

MODEL WA12

DC – 18.0 GHz

2 WATTS



Features

2 hole flange mount.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 18.0 GHz.

Nominal dB Values: 0 – 12 dB.

Input Power: 2 watts average, 250watts peak to 25°C ambient temperature, de-rated linearly to 0.5 watts at + 125°C, (5µsec pulse width 0.5% duty cycle).

Temperature Coefficient: < 0.0004 dB/dB/°C

Temperature Range: -55°C to + 125°C.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 - 12.4	1.25
12.4 - 18.0	1.50

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
0 - 9	0.3
10 - 12	0.5

Connectors: SMA passivated stainless steel connectors per MIL-STD-348. Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

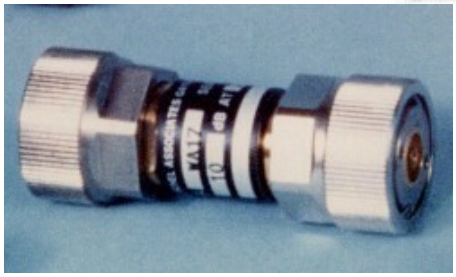
Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

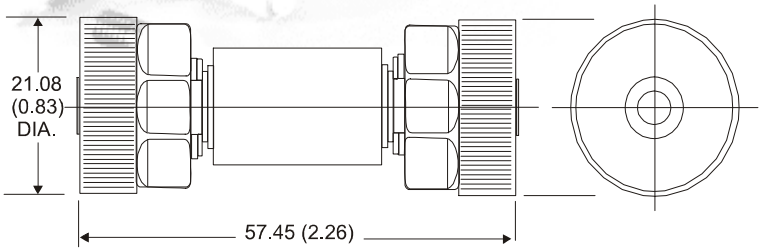
Weight: 1 oz.

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

Fixed Coaxial Attenuator MODEL WA17

DC – 18.0 GHz 5 WATTS





Features

Precision 7mm, meets or exceeds requirements of IEEE STD 287 and mates with all conforming connectors.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 1- 60 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 5 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 0.5 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1 – 9	0.30
10 – 20	0.50
30, 40, 50	0.75
60	1.00

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.10
4.0 – 12.4	1.15
12.4 – 18.0	1.20

Weight:

1 – 30 dB 0.07 kg / 2.5 oz.
31 – 60 dB 0.10 kg / 6 oz.

Physical Dimensions:

Length:

Attenuation (dB)	Length
1 – 30	50.8 (2.0)
31 – 60	57.5 (2.3)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

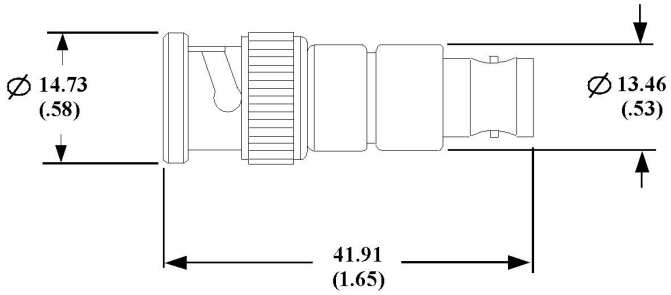
Fixed Coaxial Attenuator BNC Connectors

MODEL WA18/6

DC – 6.0 GHz

2 WATTS





Features

Available attenuation values from 1 – 30dB. BNC Connectors mate nondestructively with MIL-PRF-39012 connectors. Optimized for broadband wireless applications.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz.

Nominal dB Values: 1-30 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average, 1kilowatt peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0 watts at 125°C.

Temperature Range: -55°C to +125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA18/6
1 - 6	0.4
7 - 30	0.9

Temperature Coefficient: < 0.0004 dB/dB/°C

Construction: Passivated stainless steel body with Nickel plated brass connectors. Gold plated beryllium copper female contact, stainless steel male contact.

Calibration: Insertion Loss and VSWR performed across frequency range.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA18/6
DC - 4.0	1.25
4.0 - 6.0	1.30

Weight (Both Models):
1-30 dB .10 kg/ 3.6 oz

Physical Dimensions:

Attenuation (dB)	Length
1 – 30	41.91(1.65)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator
BNC Connectors

Model WA19/6

DC – 6.0 GHz

5 WATTS



Features

Available attenuation values from 1 - 30dB. BNC connectors mate nondestructively with MIL-PRF-39012 connectors. Optimized for broadband wireless applications.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz

Nominal dB values: 1 - 30 dB.

Power Sensitivity: <0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 watts average, 1 kilowatt peak. Maximum rated average power to 25° C ambient temperature de-rated linearly to 0 watts at 125° C.

Temperature Range: -55° C to +125° C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA19/6
1 – 6	0.4
7– 30	0.9

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Passivated stainless steel body with Nickel plated brass connectors. Gold plated beryllium female contact, stainless steel male contact.

Calibration: Insertion Loss and VSWR performed across frequency range.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA19/6
DC - 4.0	1.25
4.0 - 6.0	1.30

Weight:

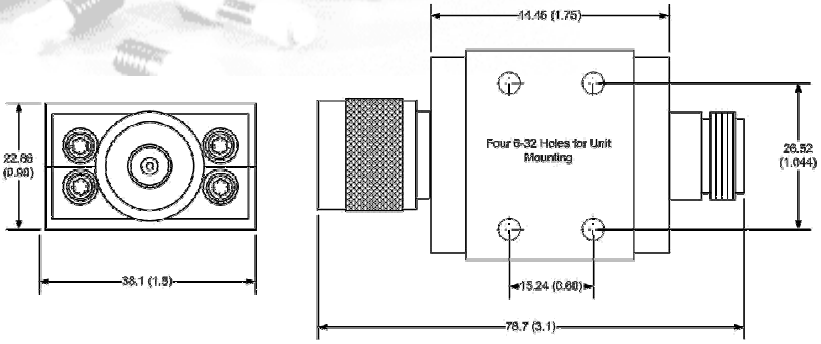
1-30 dB .10 kg/ 3.6 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Fixed Coaxial Attenuator Model WA21 & WA22
Low-Profile Mountable

DC – 4.0 GHz WA21 **25 Watts**
DC – 8.5 GHz WA22 **25 Watts**





Features

Designed to meet environmental requirements of MIL-DTL-3933. Conductive Cooling. Flat base with mounting holes

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA21 DC - 4.0 GHz.
WA22 DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 25 watts average, 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle) with case temperature held to +100°C maximum using conductive heat sink.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB			
	DC - 4.0 GHz		4.0 - 8.5 GHz	
	WA21	WA22	WA21	WA22
3,6 10,20 30	0.3 0.3 0.6	0.3 0.3 0.6	-- -- --	0.60 0.60 1.00
40	0.8	0.8	--	1.50

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.2
4.0 – 8.5	1.3

Connectors: Type N, SMA, and TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Add –LIM after connector option for Low Intermediation option. Example: WA21-XX-XX-LIM

Weight:
Type N .17 kg/ 6 oz.

Physical Dimensions:

Length:

Connector Type	DIM "A"
Type N	78.7 (3.1)
SMA	71.1 (2.8)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

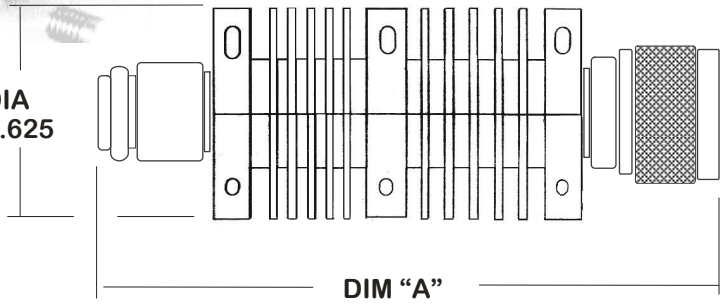
Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA23

DC – 4.0 GHz **50 WATTS**

Bi-directional





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet environmental requirements of MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 - 40 dB (50 dB unidirectional version also available).

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 50 watts average to 25°C ambient temperature, de-rated linearly to 2.5 watts at 125° C. 5 kilowatt peak power (5 µsec pulse width; 0.5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
3,6,10,20	0.4
30,40	0.6

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20

Physical Dimensions:

Length:

Connector Type	DIM "A"
SMA	101.09 (3.98)
Type N	111.76 (4.37)

Weight: .28 kg/ 10 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

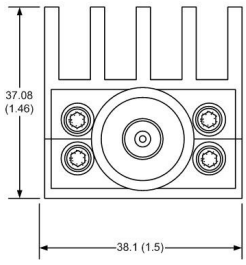
Specification Subject to change without notice

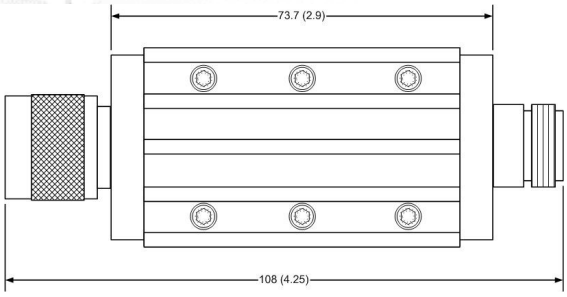
Fixed Coaxial Attenuator MODEL WA23B

DC – 4.0 GHz 50 WATTS

Bi-directional







Features

Designed to comply with MIL-DTL-3933. Bidirectional in power. Natural Convection Cooling. Flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 4.0 GHz.

Nominal dB Value: 3 – 40 dB (50 dB unidirectional version also available).

Power Sensitivity: < 0.005 dB/dB x W

Power: 50W CW average bi-directional to 25°C; de-rated linearly to 2.5 W at 125°C. Peak power of 5Kw; 5 µsec pulse width; 0.5% duty cycle.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
3,6,10,20	0.4
30,40	0.6

Temperature Range: -55°C to 125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20

Physical Dimensions:

Length:

Connector Type	Length
SMA	114.3 (4.50)
Type N	112.5 (4.43)

Weight: .28 kg/10 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

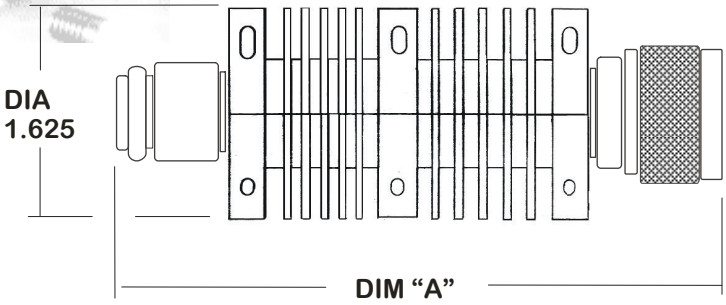
Specification
Subject to change
without notice

Fixed Coaxial Attenuator MODEL WA24

DC – 8.5 GHz
Bi-directional

50 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet environmental requirements of MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB (50 dB unidirectional version also available).

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 50 watts average to 25°C ambient temperature, de-rated linearly to 2.5 watts at 125° C. 5 kilowatt peak power (5 µsec pulse width; 0.5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC – 4.0 GHz	4.0 – 8.5 GHz
3,6,10,20	0.4	0.75
30,40	0.6	1.00

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 - 8.5	1.30

Physical Dimensions:

Length:

Connector Type	DIM "A"
SMA	101.09 (3.98)
Type N	111.76 (4.37)

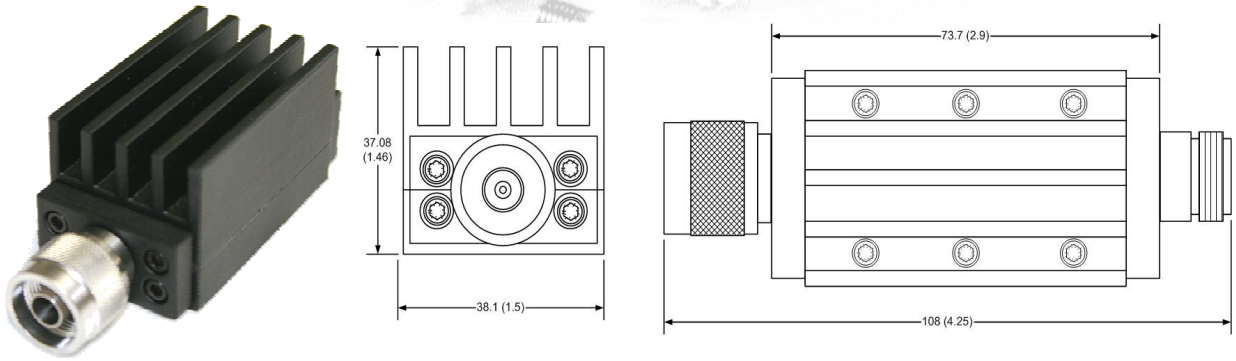
Weight: .28 kg/ 10 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Fixed Coaxial Attenuator MODEL WA24B

DC – 8.5 GHz **50 WATTS**

Bi-directional



Features

Designed to comply with MIL-DTL-3933. Bidirectional in power. Natural Convection Cooling. Flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 8.5 GHz.

Nominal dB Value: 3 – 40 dB (50 dB unidirectional version also available).

Power Sensitivity: < 0.005 dB/dB/W.

Power: 50W CW average bi-directional to 25°C; de-rated linearly to 2.5 W at 125°C. Peak power of 5Kw; 5 µsec pulse width; 0.5% duty cycle.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC – 4.0 GHz	4.0 – 8.5 GHz
3,6,10,20	0.4	0.75
30,40	0.6	1.00

Temperature Range: -55°C to 125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 - 8.5	1.30

Physical Dimensions:

Length:

Connector Type	Length
SMA	114.3 (4.50)
Type N	112.5 (4.43)

Weight: .28 kg/10 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

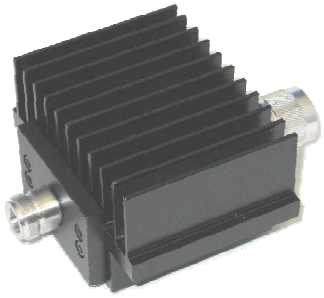
Specification Subject to change without notice

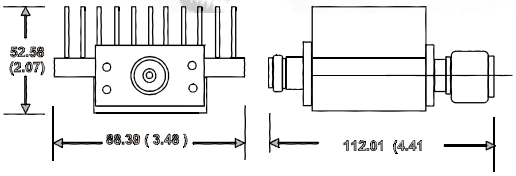
Fixed Coaxial Attenuator High Power

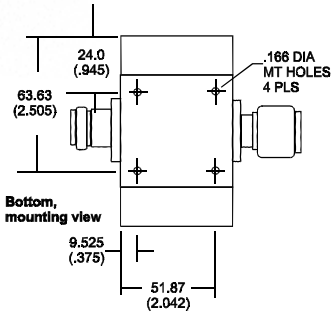
MODEL WA29

DC – 8.5 GHz

75 WATTS







Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Unidirectional in power.

Power Rating: 75 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 4.0 GHz	4.0 - 8.5 GHz
3,6,10,20	0.4	0.75
30,40	0.6	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contact, stainless steel male contact.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Weight:

Type N	1.5 kg/ 3.3 lb.
SMA	1.3 kg/ 3.0 lb.
DIN 7/16	1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	112.01 (4.41)
SMA	97.41 (3.84)

Width: **89.0 (3.5)**

Height: **54.0 (2.1)**

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

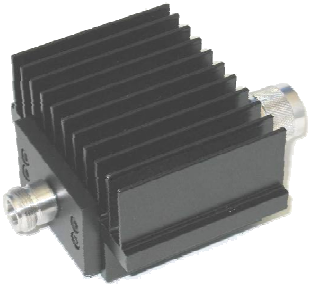
Specification Subject to change without notice

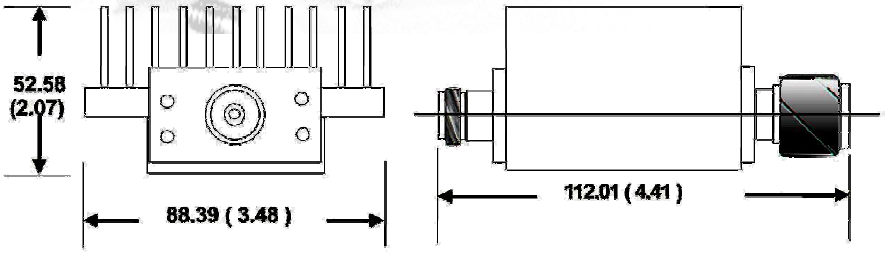
Fixed Coaxial Attenuator High Power

MODEL WA30

DC – 4.0 GHz

100 WATTS





Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-C-9012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Unidirectional in power.

Power Rating: 100 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
3,6,10,20	0.4
30, 40	0.6

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contact, stainless steel male contact.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20

Weight:

Type N	1.5 kg/ 3.3 lb.
SMA	1.3 kg/ 3.0 lb.
DIN 7/16	1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	112.01 (4.41)
SMA	97.41 (3.84)

Width: **89.0 (3.5).**

Height: **54.0 (2.1).**

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

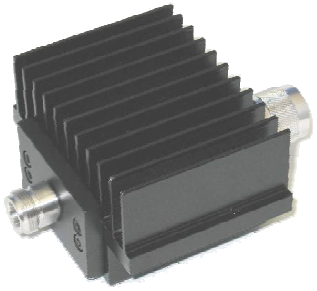
Specification Subject to change without notice

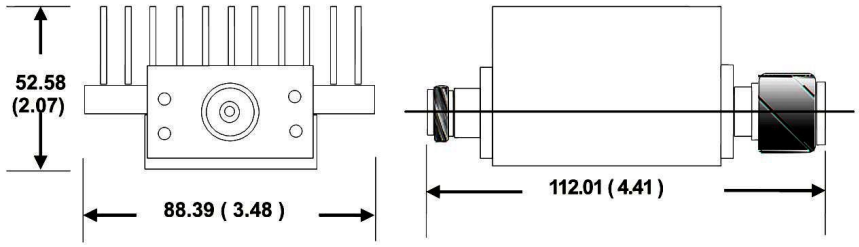
Fixed Coaxial Attenuator High Power

MODEL WA31

DC – 8.5 GHz

100 WATTS





Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-C-9012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Unidirectional in power.

Power Rating: 100 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 4.0 GHz	4.0 - 8.5 GHz
3,6,10,20	0.4	0.75
30, 40	0.6	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Weight:

Type N	1.5 kg/ 3.3 lb.
SMA	1.3 kg/ 3.0 lb.
DIN 7/16	1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	112.01 (4.41)
SMA	97.41 (3.84)

Width: **89.0 (3.5)**

Height: **54.0 (2.1)**

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

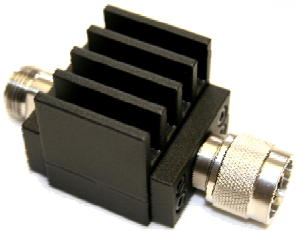
WEB: http://www.WeinschelAssociates.com

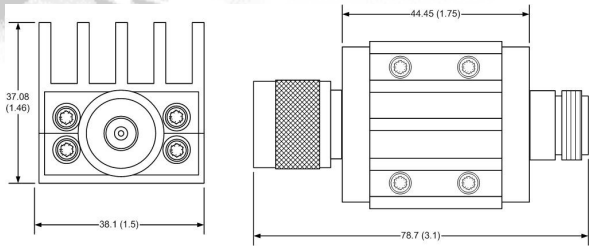
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA33B

DC – 8.5 GHz 25 WATTS





Features

Designed to meet environmental requirements of MIL-DTL-3933.

- Low Intermodulation option available on 10, 20, 30, and 40dB.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 25 watts average to 25°C ambient temperature, de-rated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Atten. (dB)	Accuracy ± dB			
	DC - 4.0 GHz		4.0 - 8.5 GHz	
	WA33B	WA33B-LIM	WA33B	WA33B-LIM
3,6	0.3	--	0.6	--
10,20	0.3	0.4	0.6	0.7
30	0.6	0.7	1.0	1.20
40	0.8	1.0	1.5	1.30

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Add –LIM after connector option for Low Intermodulation option. Example: WA33-XX-XX-LIM

Weight:

Type N .17 kg/ 6 oz.

Physical Dimensions:

Connector Type	Length
Type N	81.53 (3.21)
SMA	71.12 (2.80)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

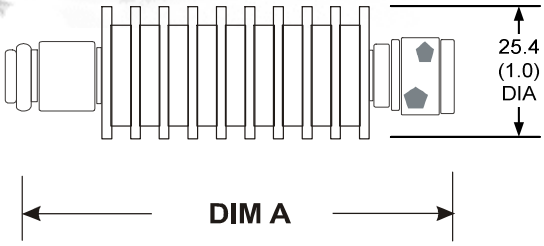
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA33L

DC – 8.5 GHz 20 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0005 dB/dB x W; Bidirectional in power.

Power Rating: 20 watts average to 25°C ambient temperature, derated linearly to 2.0 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 8.5 GHz
3,6,10,20,30	0.6
40	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 - 8.5	1.30

Weight:

Type N	.17 kg / 6 oz.
DIN 7/16	.18 kg / 7 oz.

Physical Dimensions:

Length:

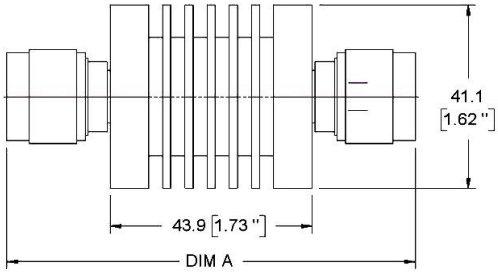
Connector Type	DIM "A"
Type N	78.23 (3.08)
DIN 7/16	106.68 (4.80)
SMA	71.12 (2.80)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Fixed Coaxial Attenuator MODEL WA33

DC – 8.5 GHz 25 WATTS





Features

Designed to meet environmental requirements of MIL-DTL-3933.

- Low Intermodulation option available on 10, 20, 30, and 40dB.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 25 watts average to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Atten. (dB)	Accuracy ± dB			
	DC - 4.0 GHz		4.0 - 8.5 GHz	
	WA33	WA33-LIM	WA33	WA33-LIM
3,6 10,20 30	0.3 0.3 0.6	-- 0.4 0.7	0.6 0.6 1.0	-- 0.7 1.20
40	0.8	1.0	1.5	1.30

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 – 8.5	1.30

Connectors: Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Add –LIM after connector option for Low Intermodulation option. Example: WA33-XX-XX-LIM

Weight:

Type N	.17 kg/ 6 oz.
DIN 7/16	.18 kg / 7 oz.

Physical Dimensions:

Connector Type	DIM "A"
Type N	81.03 (3.19)
DIN 7/16	106.68 (4.80)
SMA	71.12 (2.80)

Length:

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

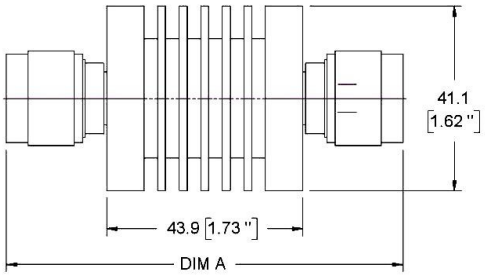
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA34

DC – 4.0 GHz 25 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet environmental requirements of MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0005 dB/dB/W; Bidirectional in power.

Power Rating: 25 watts average to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
3,6,10,20,30	0.6
40	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.0	1.10
2.0 - 4.0	1.20

Weight:

Type N	.17 kg/ 6 oz.
DIN 7/16	.18 kg / 7 oz.

Physical Dimensions:

Length:

Connector Type	DIM "A"
Type N	81.03 (3.19)
DIN 7/16	106.68 (4.80)
SMA	71.12 (2.80)

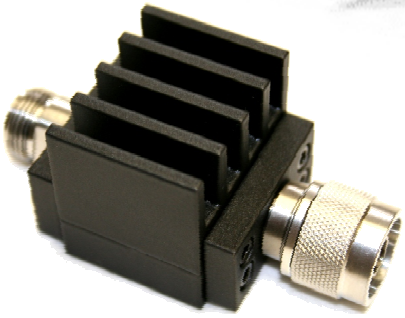
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

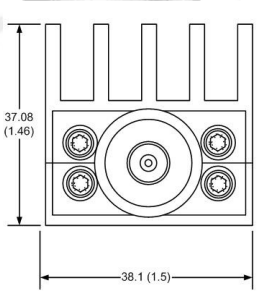
WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

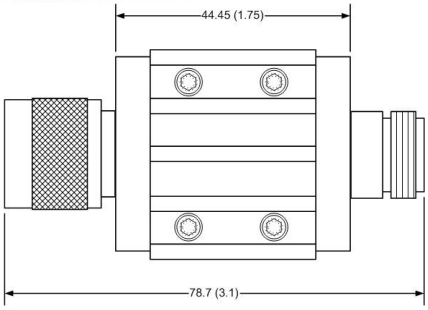
Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA34B

DC – 4.0 GHz **25 WATTS**







Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0005 dB/dB/W; Bidirectional in power.

Power Rating: 25 watts average to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
3,6,10,20,30	0.6
40	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.0	1.10
2.0 - 4.0	1.20

Weight:

Type N	.17 kg/ 6 oz.
DIN 7/16	.18 kg / 7 oz.

Physical Dimensions:

Length:

Connector Type	Length
Type N	81.53 (3.21)
DIN 7/16	106.68 (4.80)
SMA	71.12 (2.80)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES

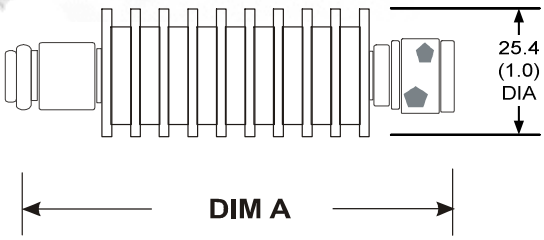
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA34L

DC – 4.0 GHz 20 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0005 dB/dB/W; Bidirectional in power.

Power Rating: 20 watts average to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
3,6,10,20,30	0.6
40	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.0	1.10
2.0 - 4.0	1.20

Weight:

Type N .17 kg/ 6 oz.
7/16 .18 kg / 7 oz.

Physical Dimensions:

Length:

Connector Type	DIM "A"
Type N	78.23 (3.08)
DIN 7/16	106.68 (4.80)
SMA	71.12 (2.80)

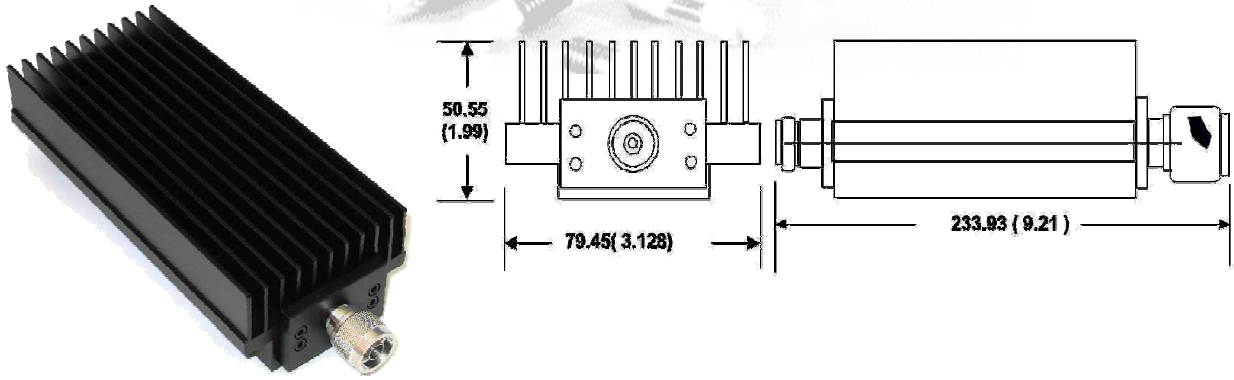
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Fixed Coaxial Attenuator High Power

MODEL WA35

DC – 8.5 GHz

250 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 250 watt CW/ 5KW peak. Maximum rated average power to 25°C ambient temperature, derated linearly to 25 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC - 8.5 GHz
10,20,30	0.75
40	1.0

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.30
4.0 – 8.5	1.45

Weight: 1.28 kg/ 2.75 lbs.

Length: 233.93 (9.21).

Width: 79.45 (3.128).

Height: 50.55 (1.99).

Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

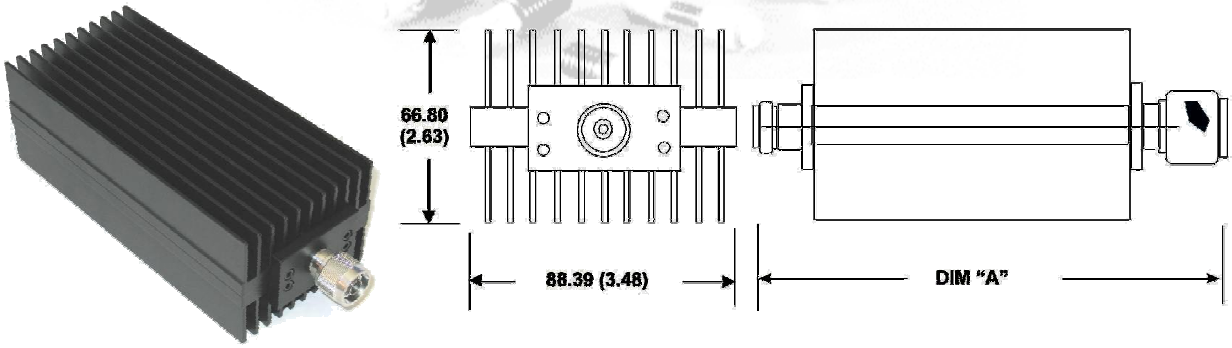
Specification Subject to change without notice

Fixed Coaxial Attenuator High Power

MODEL WA36

DC – 8.5 GHz

300 WATTS



Features

Type N or 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 300 watt CW/ 5KW peak. Maximum rated average power to 25°C ambient temperature, derated linearly to 25 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.30
4.0 – 8.5	1.45

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC - 8.5 GHz
10,20,30	0.75
40	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Weight: 1.28 kg/ 2.75 lbs.

Length: 233.93 (9.21).

Width: 79.45 (3.13).

Height: 50.55 (1.99).

Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

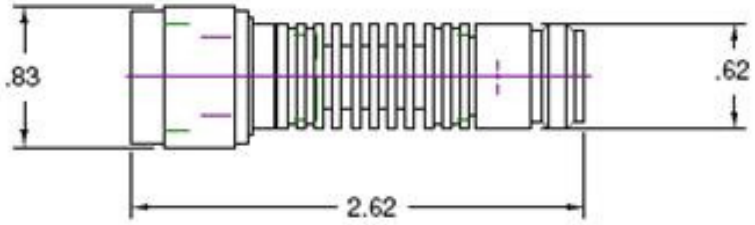
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA37

DC – 8.5 GHz 10 WATTS





Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 1 – 30 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 10 watts average, 1 KW peak. Full power from -55°C to +25°C ambient, de-rated linearly to 1 Watt at +125° C. Peak power rated for 5 µsec pulse width; 0.5% duty cycle.

Temperature Range: -55°C to +125°C.

Temperature Coefficient:< 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1, 2, 10	0.5
3, 6	0.3
20	0.7
30	0.8

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 – 8.5	1.20

Length: 67.3 (2.62).

Weight: .085 kg/ 3 oz.

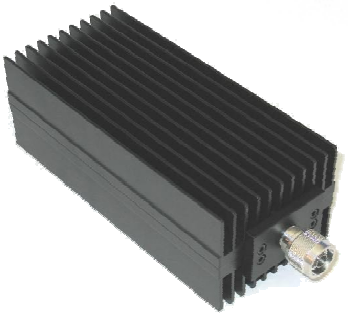
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

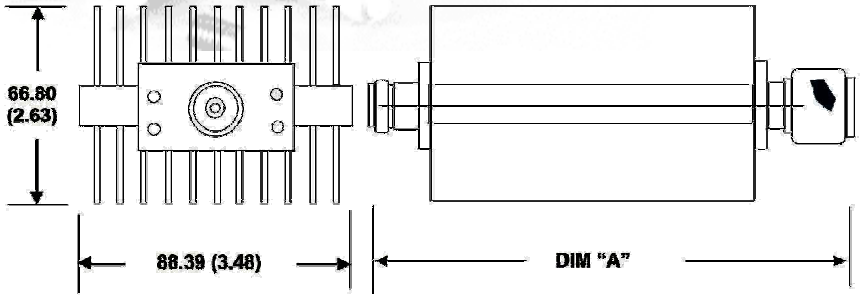
Fixed Coaxial Attenuator High Power

MODEL WA38

DC – 5.0 GHz

300 WATTS





Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 300 watt CW/ 10KW peak. Maximum rated average power to 25°C ambient temperature, derated linearly to 25 watts at 125° C. 10 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 2.0 GHz	2.0 - 5.0 GHz
10,20,30	0.4	0.75
40	0.5	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.0	1.25
2.0 - 5.0	1.45

Weight: 1.28 kg/ 2.75 lbs.

Length: 233.93 (9.21).

Width: 79.45 (3.13).

Height: 50.55 (1.99).

Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

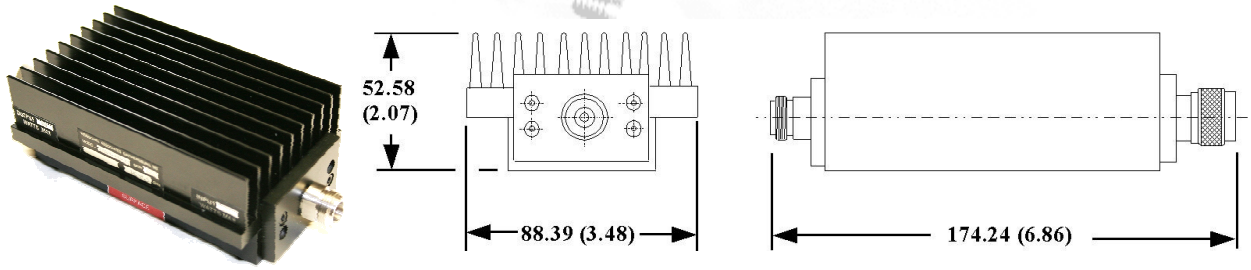
Specification Subject to change without notice

Fixed Coaxial Attenuator High Power

MODEL WA39

DC – 4.0 GHz

150 WATTS



Features

Type N, DIN 7/16, or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Unidirectional in power.

Power Rating: 150 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Value & Deviations:

Attenuation (dB)	Accuracy ± dB DC – 4.0 GHz
3,6,10,10,30	0.4
40	0.5

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25

Weight:

Type N	1.5 kg/ 3.3 lb.
DIN 7/16	1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	174.24 (6.86)
DIN 7/16	226 (8.5)
SMA	183 (7.2)

Width: 89.0 (3.5) (max).

Height: 54.0 (2.1) (max).

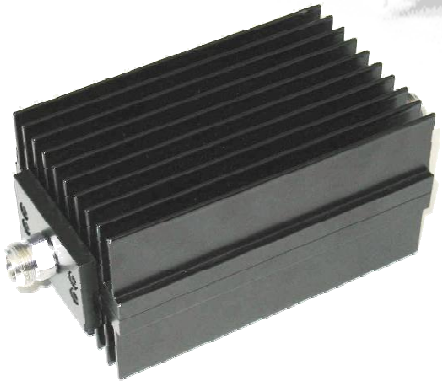
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

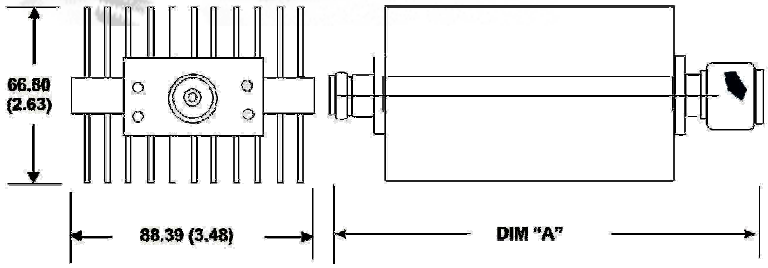
Fixed Coaxial Attenuator High Power

MODEL WA40

DC – 2.5 GHz

150 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 2.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W.

Power Rating: 150W CW / 10 KW peak; Unidirectional. Full power from -55°C to +25°C. Derated linearly to 15 watts at 125°C. 10 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C

Standard Nominal Value & Deviations:

Attenuation (dB)	Accuracy ± dB DC – 2.5 GHz
3,6,10,10,30,40	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.5	1.10

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Physical Dimensions & Weight:

Connector Type	Dim "A"	Weight kg/oz.
N SMA DIN 7/16	174.24 (8.86) 189.89 (7.47) 265.68 (10.46)	.85/30 .79/28 1.02/36

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

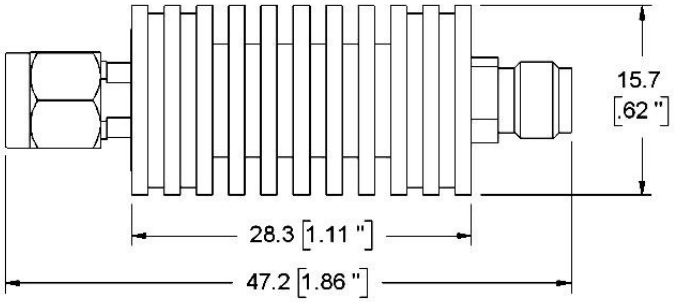
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA41

DC – 18.0 GHz 10 WATTS





Features

SMA stainless steel M/F SMA connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 1 - 30 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 10W CW / 1 KW peak. Full power from -55°C to +25°C. Derated linearly to 0 watts at 125°C.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1, 2, 10	0.5
3, 6	0.3
20	0.7
30	1.0

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

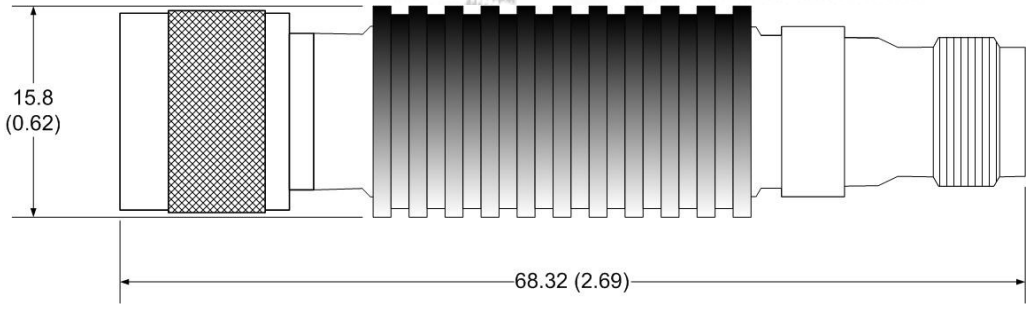
Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.30
12.4 – 18.0	1.35

Weight:
.028 kg/ 1 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Fixed Coaxial Attenuator MODEL WA41T

DC – 18.0 GHz 10 WATTS



Features

TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 1 - 30 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 10W CW / 1 KW peak. Full power from -55°C to +25°C. Derated linearly to 0 watts at 125°C.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1, 2, 10	0.5
3, 6	0.3
20	0.7
30	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 8.0	1.20
8.0 – 12.4	1.35
12.4-18.0	1.45

Weight:
.056 kg/ 2 oz.

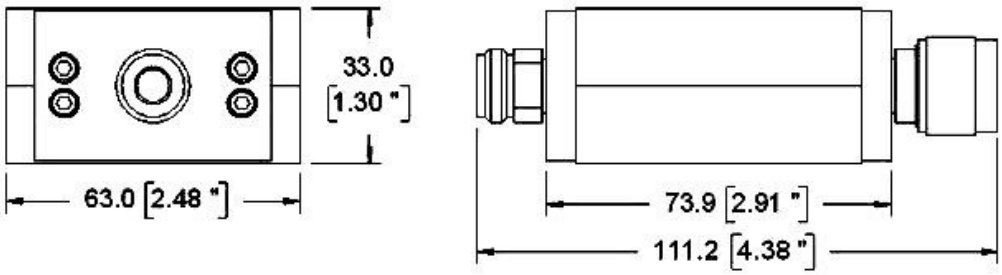
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Fixed Coaxial Attenuator
Low-Profile Mountable

Model WA42

DC – 2.5 GHz

150 Watts



Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 2.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W.

Power Rating: 150W CW / 10 KW peak; Unidirectional. Peak power of 5Kw; 5 µsec pulse width; 0.5% duty cycle, with case temperature held to +100°C maximum using conductive heat sink.

Temperature Range: -55°C to +100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
3 – 40	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.5	1.10

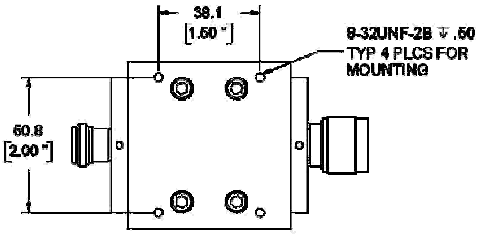
Construction: Aluminum alloy body with passivated stainless steel connectors.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Physical Dimensions:

Connector Type	Length	Weight kg/oz
N Type	174.24 (8.86)	.85/30
SMA	189.89 (7.47)	.79/28
DIN 7/16	265.68 (10.46)	1.02/36

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified



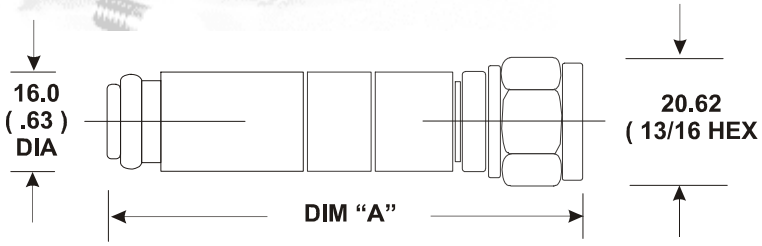
Fixed Coaxial Attenuator Precision

MODEL WA44

DC –18.0 GHz

5 WATTS





Features

Precision N-Type stainless steel connectors with hex coupling nut per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency: DC - 18.0 GHz.

PowerRating: 5W CW / 1kW peak. Full power from -55°C to +25°C.Derated linearly to 0 watts at 125°C.

Power Sensitivity: <0.005 dB /dB/W; Bidirectional

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1 - 9	0.3
10, 20	0.5
30, 40	1.0
50, 60	1.5

Physical Dimensions:

Attenuation (dB)	Length
1 – 30	74.42 (2.93)
31 – 60	84.58 (3.33)

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB /dB/°C.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 - 12.4	1.20
12.4 - 18.0	1.25

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Stainless steel barrels with Type N stainless steel male and female connectors to mate nondestructively with connectors per MIL-PRF-39012 and MIL-STD-348A.

Weight:

1 to 30 dB: Net 0.10 kg (3.5 oz.)
31 to 60 dB: Net 0.13 kg (4.5 oz.)

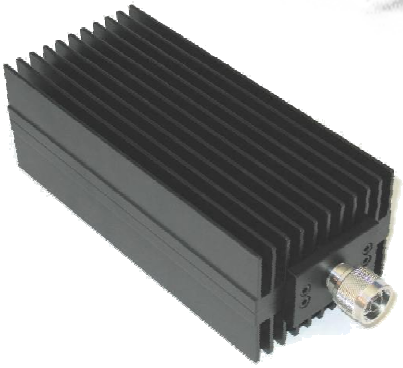
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

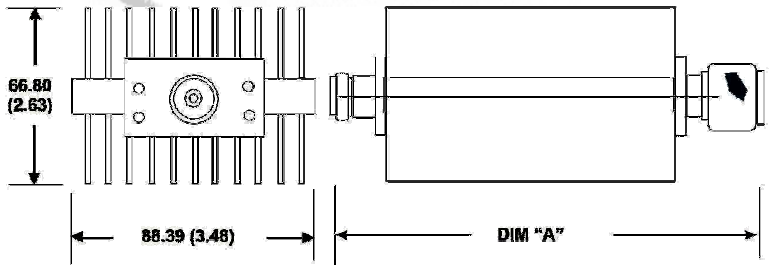
Fixed Coaxial Attenuator High Power

MODEL WA45

DC – 2.5 GHz

250 WATTS





Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 2.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W.

Power Rating: 250W CW / 10 Kw peak; Unidirectional. Full power from -55°C to +25°C.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C

Attenuation (dB)	Accuracy ± dB
	DC – 2.5 GHz
3,6,10,10,30,40	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.5	1.10

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Physical Dimensions & Weight:

Connector Type	Dim "A"	Weight kg/oz
Type N DIN 7/16	235.71 (9.28) 276.35 (10.88)	1.54 kg/ 3.4 lbs 1.72 kg/ 3.8 lbs

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

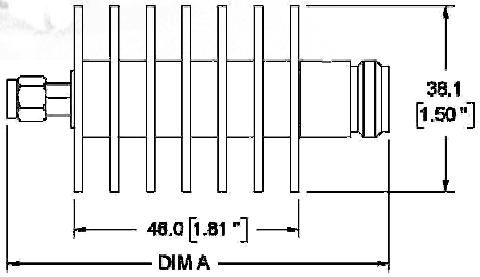
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA46
High Power - High Frequency

DC – 18.0 GHz 25 WATTS
Bidirectional





Features

Designed to meet environmental requirements of MIL-DTL-3933. Low Intermodulation option available on 10, 20, 30, and 40 dB.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0006 dB/dB/W; Bidirectional in power.

Power Rating: 25W CW / 1kw peak. Maximum rated average power to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 1.25% duty cycle).

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA46	WA46-LIM	
	DC – 18.0 GHz	DC– 8.0 GHz	8.0 – 18.0 GHz
3, 6	0.50	--	--
10	0.50	0.5	+1.0/-0.0
20	0.75	0.5	+1.0/-0.0
30, 40	1.00	0.5	+1.0/-0.0

Note: Dimensions are given in mm (inches) and are maximum unless otherwise specified.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. High power input is unidirectional: Input connector optional; Female if not specified.

* Add –LIM after connector option for Low Intermodulation option.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.35

Weight:

Type N	0.11 kg/ 4 oz.
SMA	0.08 kg/ 2.7 oz.

Physical Dimensions:

Length:

Connector	Dimension A
Type N	83.8 (3.3)
SMA	73.7 (2.9)

Diameter: 38.1 (1.5).

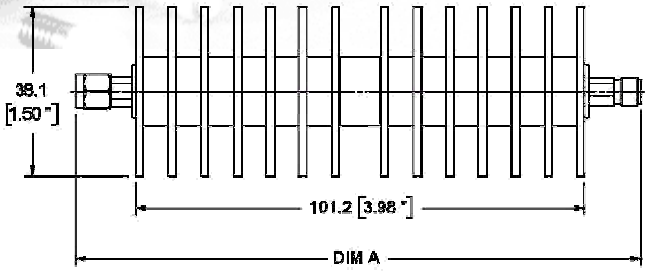
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA47
High Power - High Frequency

DC – 18.0 GHz 50 WATTS
Bidirectional





Features

Designed to meet MIL-DTL-3933 environmental specification. Low Intermodulation option in 10, 20, 30, and 40dB models.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -18.0 GHz.

Nominal dB Values: 6 - 40 dB.

Power Sensitivity: < 0.0003 dB/dB/W; Bidirectional in power.

Power Rating: 50W CW/ 1 KW peak to 25°C ambient temperature, derated linearly to 10 watts at 125°C, 1 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA47	WA47-LIM	
	DC – 18.0 GHz	DC-8 GHz	8–18 GHz
6	0.75	--	--
10	0.50	0.75	+1.5/-0.5
20	0.75	0.75	+1.5/0.5
30, 40	1.00	0.75	+1.5/-0.5

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. High power input is unidirectional: Input connector optional; Female if not specified.

*Add –LIM for Low Intermodulation option after connector option. Example: WA47-dB-XX-LIM

Maximum VSWR:

Frequency (GHz)	VSWR 6 dB	VSWR 10, 20,30,40 dB
DC – 8.0	1.25	1.20
8.0 – 12.4	1.35	1.25
12.4 – 18.0	1.45	1.35

Weight:

Type N 0.21 kg / 7.5 oz.
SMA 0.17 kg / 6 oz.

Physical Dimensions:

Length:

Connector	Dimension A
Type N	119.4 (4.7)
SMA	109.2 (4.3)

Diameter: 38.1 (1.5)

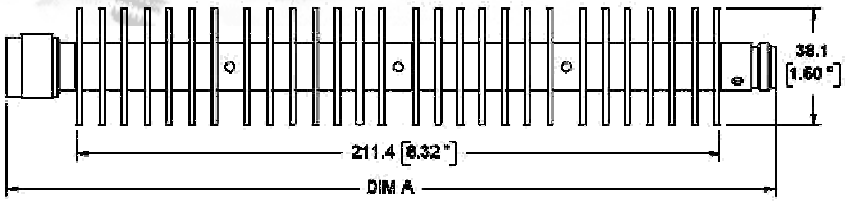
WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA48
High Power - High Frequency

DC –18.0 GHz 100 WATTS





Features

Designed to meet MIL-DTL-3933 environmental specification. Low Intermodulation option available.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -18.0 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.00015 dB/dB/W; Unidirectional in power.

Power Rating: 100 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 10 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA48	WA48-LIM	
	DC – 18.0 GHz	DC-8.0 GHz	8.0–18.0 GHz
10	1.25	1.00	+3.0/-0.0
20	0.75	1.00	+3.0/-0.0
30, 40	1.00	1.00	+3.0/-0.0

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. High power input is unidirectional: Input connector optional; Female if not specified.

* Add –LIM for Low Intermodulation option after connector option. Example: WA48-dB-XX-LIM

Maximum VSWR:

Frequency (GHz)	VSWR 10 dB	VSWR 20,30,40 dB	WA48-LIM
DC – 8.0	1.40	1.25	1.40
8.0 – 12.4	1.40	1.35	1.45
12.4 – 18.0	1.55	1.45	1.45

Weight:

Type N	0.36 kg / 13 oz.
SMA	0.28 kg / 10 oz.

Physical Dimensions:

Length:

Connector	Dimension A
Type N	256.6 (10.1)
SMA	246.4 (9.7)

Diameter: 38.1 (1.5)

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

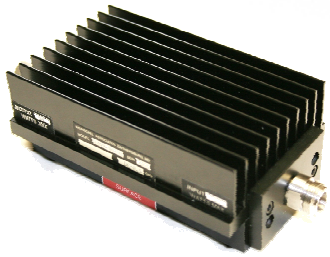
Specification Subject to change without notice

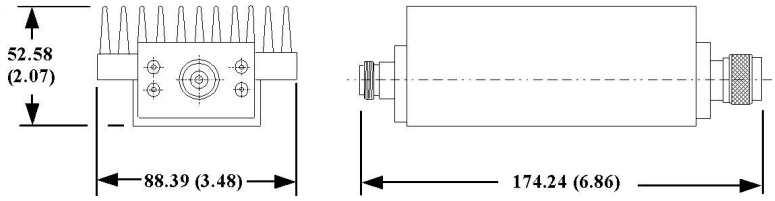
Fixed Coaxial Attenuator High Power

MODEL WA49

DC – 8.5 GHz

150 WATTS





Features

Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position. Low Intermodulation option available.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 150 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values/ Deviations:

Attenuation (dB)	Accuracy ± dB DC - 8.5 GHz	
	WA49	WA49-LIM
3,6	0.75	----------
10,20	0.75	1.25
30	0.75	1.75
40	1.0	1.75

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts.

Connectors: Type N, SMA, and DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Add –LIM for Low Intermodulation option after connector option.
Example: WA49-dB-XX-LIM

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 – 8.5	1.35

Weight:

Type N 1.5 kg/ 3.3 lb.
DIN 7/16 1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	174.24 (6.86)
DIN 7/16	226 (8.5)

Width: 89.0 (3.5) Max

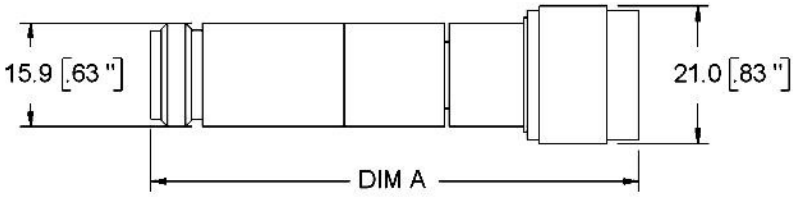
Height: 54.0 (2.1) Max

Note: Dimensions are given in mm (inches) unless otherwise specified.

Fixed Coaxial Attenuator MODEL WA50

DC – 3.0 GHz 2 WATTS





Specifications

Nominal Impedance: 50 ohms.

Frequency: DC to 3.0 GHz.

Standard Nominal Values and Deviations:

Standard Nominal Value (dB)	Deviation		
	From Nominal At DC (± dB)	From DC	
		2 GHz (± dB)	3 GHz (± dB)
1 thru 5	0.02	0.1	0.2
6 thru 10	0.05	0.1	0.2
20 thru 50	0.10	0.15	0.3

Maximum VSWR:

DC: 50 ± 1 ohms
1.0 GHz: 1.15
3.0 GHz 1.20

Power Rating:

1 to 50 dB: 2 watts average, 1kW peak.

Physical Dimensions:

Attenuation (dB)	Dim "A" Max
1 – 30	76.2 (3.0)
31 – 50	88.9 (3.5)

Temperature Range: -30°C to +70°C (no derating)

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost. GHz.

Accuracy of Calibration:

Fre-quency	VSWR	Insertion Loss	
		1 40 dB	50 dB
DC	1%	005 dB / 10 dB	0.02 dB
1 GHz	2%	dB or 0.1 dB/ 10 dB, whichever is greater.	
2 & 3 GHz	4%		

Construction: Stainless steel barrels. Type N stainless steel male and female connectors to mate nondestructively with connectors per MIL-PRF-39012 and MIL-STD-348A.

Weight:
1 to 30 dB: Net 0.10 kg (3.6 oz.)
31 to 50 dB: Net 0.13 kg (4.5 oz.)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

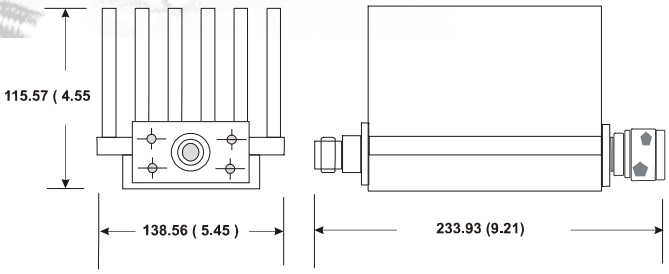
Fixed Coaxial Attenuator High Power

MODEL WA51

DC – 8.5 GHz

500 WATTS





Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 500 watt CW/ 5KW peak. Maximum rated average power to 25°C ambient temperature, derated linearly to 25 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC - 8.5 GHz
10,20,30	0.75
40	1.0

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 – 8.5	1.45

Weight: 4.1 kg / 9.0 lbs.

Width: 139.7 (5.5)

Height: 116.9 (4.6)

Length:

Connector	Length
Type N	297 (11.7)
DIN 7/16	338 (13.3)

Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

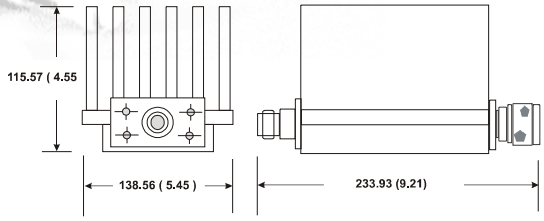
Fixed Coaxial Attenuator High Power

MODEL WA53

DC – 2.5 GHz

500 WATTS





Features

Designed to meet MIL-DTL-3933 environmental specifications. Unit may be mounted in a horizontal or vertical position. Convection cooled, full power rating without forced air cooling.

Low Intermodulation option; 10, 20, 30, and 40dB models.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -2.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 500 watts average. Maximum rated average power to from –55°C to 35°C ambient temperature, de-rated linearly to 50 watts at 125°C. 10-kilowatt peak (5 µsec pulse width; 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB DC - 2.5GHz	
	WA53	WA53 LIM
3 6 10	0.50 1.00 1.00	N/A N/A 1.20
20,30,40	0.50	1.20

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Connectors: Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA53	WA53-LIM
DC – 2.5 GHz	1.10	1.15

Weight: 4.1 kg / 9.0 lbs.

Width: 139.7 (5.5)

Height: 116.9 (4.6)

Length:

Connector	Length
Type N	297 (11.7)
DIN 7/16	338 (13.3)

Note: Dimensions are given in mm (inches) unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator 2.92 mm Connectors

MODEL WA54

DC – 40.0 GHz **2 WATTS**





Features

Designed to meet MIL-DTL-3933 environmental specifications.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz.

Nominal dB Values: 3 - 30 dB.

Power Sensitivity: < 0.01 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average, 200 watts peak to 25°C ambient temperature, derated linearly to 0.1 watts at 100°C.

Connectors: Type 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specifications.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 26.5	26.5 - 40.0
3, 6	0.50	1.00
10, 20	1.00	1.00
30	2.00	2.00

Temperature Range: -55°C to +100°C.

Temperature Coefficient: < 0.001 dB/dB/°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper female contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.25
26.5 - 40.0	1.45

Physical Dimensions:

Connector Option	Dim "A"
54-XX-12 (F/M)	36.07 (1.42)
54-XX-11 (F/F)	34.80 (1.37)
54-XX-22 (M/M)	37.34 (1.47)

Note: Dimensions are given in mm (inches) and are maximum unless otherwise specified.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

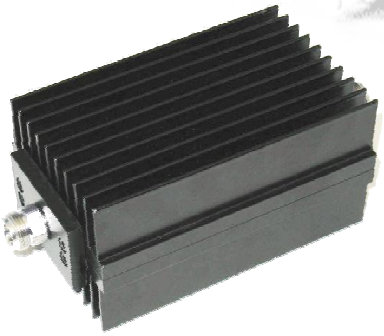
Specification Subject to change without notice

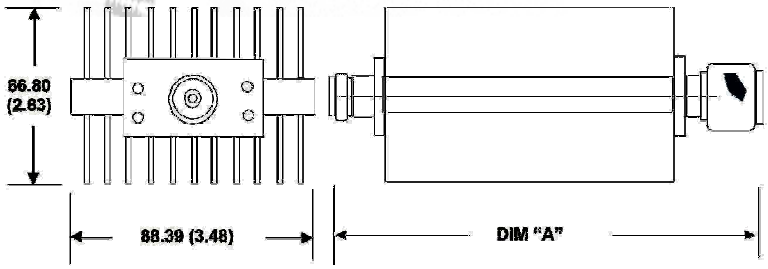
Fixed Coaxial Attenuator High Power

MODEL WA57

DC – 5.0 GHz

150 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Nominal dB Values: 3 - 40 dB

Standard Nominal Values and Deviations:

Attenuation (dB)	Deviation ± dB DC - 5.0 GHz	
	WA57	WA57-LIM
3*, 6	1.25	N/A
10, 20	1.25	2.00
30, 40	1.50	3.00

Maximum VSWR:

Frequency (GHz)	Input	Output
DC - 2.0 (1.5*)	1.10	1.20 (1.10*)
2.0 - 5.0	1.15	1.20

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Power Sensitivity: < 0.0001 dB/dB/W.

Power Rating: 150W CW / 10 KW peak; Unidirectional. Full power from -55°C to +25°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Physical Dimensions:

Connector Type	Dim "A"	Weight kg/oz
Type N	174.24 (8.86)	.85/30
SMA	189.89 (7.47)	.79/28
DIN 7/16	265.68 (10.46)	1.02/36

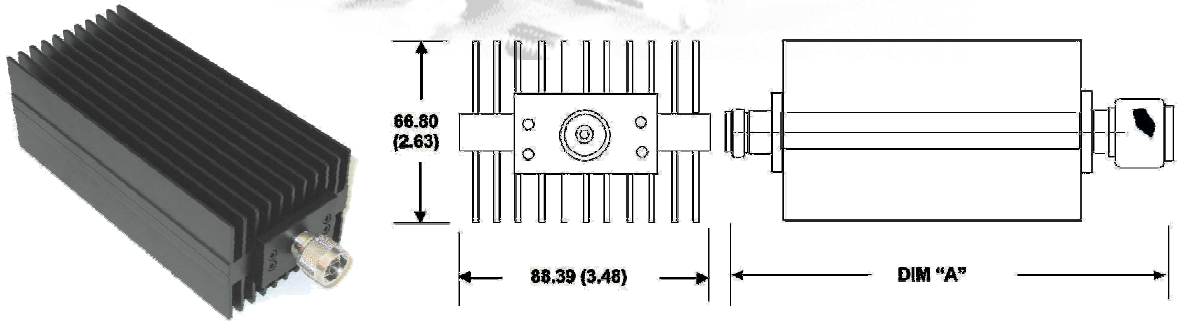
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Fixed Coaxial Attenuator High Power

MODEL WA58

DC – 5.0 GHz

250 WATTS



Features

Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Low Intermodulation Option in 10, 20, 30, and 40dB models.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W.

Power Rating: 250W CW / 10 KW peak; Unidirectional. Full power from -55°C to +25°C.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.0	1.20
2.0 - 5.0	1.25

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Connectors: Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Add –LIM for Low Intermodulation option after connector option.
Example: WA58-dB-XX-LIM

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB DC - 5.0 GHz	
	WA58	WA58-LIM
3,6	1.50	N/A
10,20	1.50	2.00
30,40	1.75	3.00

Physical Dimensions:

Connector Type	Dim "A"	Weight kg/lb
Type N	235.71 (9.28)	1.54 / 3.4
DIN 7/16	276.35 (10.88)	1.72 / 3.8

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

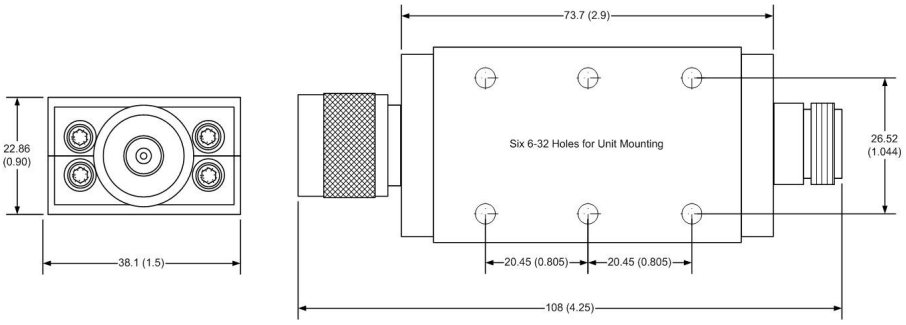
Fixed Coaxial Attenuator
Low-Profile Mountable

MODEL WA59

DC – 2.5 GHz

100 WATT





Features

Designed to comply with MIL-DTL-3933.

Conductive Cooling

Flat base with mounting holes

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 2.5 GHz.

Nominal dB Value: 3 – 40 dB.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC - 2.5 GHz
3 - 40	0.70

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.5	1.20

Power: 100W average unidirectional, peak power of 10KW (5 µsec pulse width; 0.5% duty cycle) with case temperature held to +100°C maximum using conductive heat sink.

Construction: Black Aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper male/female contacts.

Power Sensitivity: < 0.0005 dB/dB/W.

Temperature Range: -55°C to 125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Weight: .14 kg / 5 oz.

Length:

Connector Type	Length
Type N	108.5 (4.25)
SMA	120.65 (4.75)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

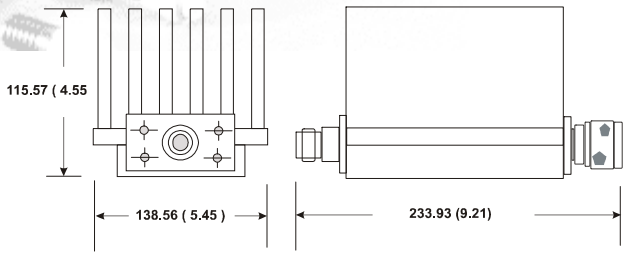
Fixed Coaxial Attenuator High Power

MODEL WA60

DC – 5.0 GHz

500 WATTS





Features

Designed to meet MIL-DTL-3933 environmental specifications. Unit may be mounted in a horizontal or vertical position. Convection cooled, full power rating without forced air cooling. Low Intermodulation option; 10, 20, 30,and 40dB models.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 500 watts average. Maximum rated average power to from –55°C to 35°C ambient temperature, derated linearly to 50 watts at 125°C. 10-kilowatt peak (5 µsec pulse width; 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB DC - 5.0GHz	
	WA60	WA60 LIM
3 6 10	0.50 1.00 1.00	N/A N/A 1.20
20,30,40	0.50	1.20

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Connectors: Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA60	WA60-LIM
DC – 2.5	1.15	1.20
2.5 – 5.0	1.35	1.40

Weight: 4.1 kg / 9.0 lbs.

Width: 139.7 (5.5)

Height: 116.9 (4.6)

Length:

Connector	Length
Type N	297 (11.7)
DIN 7/16	338 (13.3)

Note: Dimensions are given in mm (inches) unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

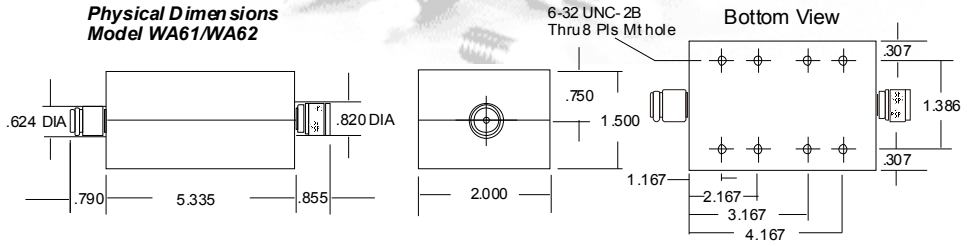
WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator Model WA61 & WA62
Low-Profile Mountable

DC – 4.0 GHz WA61 **150 Watts**
DC – 8.5 GHz WA62 **150 Watts**



Features

Designed to meet MIL-DTL-3933 environmental specification. Conduction cooled.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: WA61: DC - 4.0 GHz.
WA62: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.0005 dB/dB/W; Unidirectional in power.

Power Rating: 150 watts average, 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle) with case temperature held to +100°C maximum using conductive heat sink.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB			
	DC - 4.0 GHz		4.0 - 8.5 GHz	
	WA61	WA62	WA61	WA62
3,6 10,20 30	0.4 0.4 0.4	0.4 0.4 0.4	0.75 0.75 0.75	0.75 0.75 0.75
40	0.5	0.5	1.00	1.00

Construction: Black Aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper male/female contacts.

Connectors: Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 – 8.5	1.35

Weight:

Type N	1.5 kg/ 3.3 lb.
DIN 7/16	1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	174.24 (6.86)
DIN 7/16	226.0 (8.5)

Width: 50.8 (2.0).

Height: 38.1 (1.5).

Note: Dimensions are given in mm (inches) unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

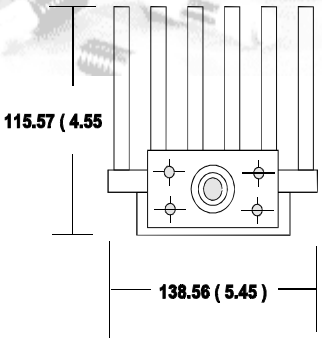
Fixed Coaxial Attenuator High Power

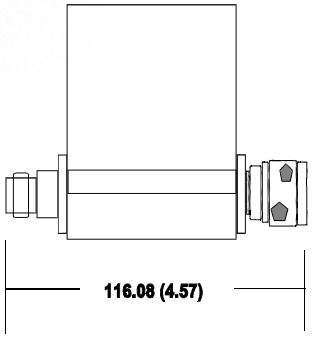
MODEL WA65

DC – 2.5 GHz

150 WATTS







Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 2.5 GHz.

Nominal dB Values: 6 - 30 dB.

Power Sensitivity: < 0.0003 dB/dB/W; Unidirectional in power.

Power Rating: 150 watt CW/ 10KW peak (5 µsec pulse width; 1.5% duty cycle). Maximum power into output port is 20 watts average.

Temperature Range: -55°C to 100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
3,6,10,20,30	1.00

Construction: Black aluminum alloy body with passivated stainless steel connectors. Female gold plated beryllium copper contacts, stainless steel male contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 2.5	1.20

Physical Dimensions:

Length: 116.08 (4.57).

Width: 138.56 (5.45).

Height: 115.57 (4.55).

Weight: .86 kg / 1.9 lbs.

Note: Dimension are given in mm (inches) and are maximum unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

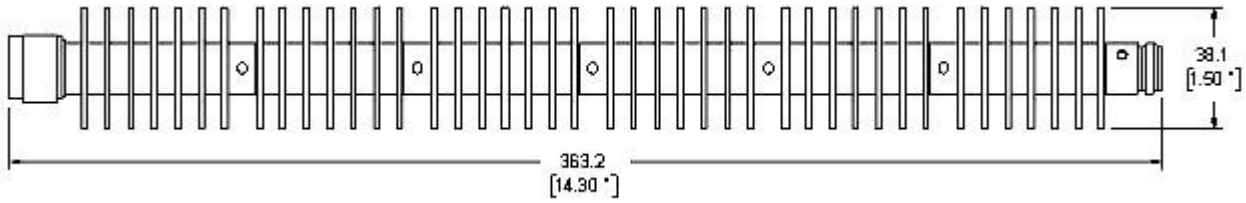
WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA66
High Power - High Frequency

DC – 18 GHz **150 WATTS**



Features

Designed to meet the environmental requirements of MIL-DTL-3933.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 18 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.00015 dB/dB/W; Unidirectional in power.

Power Rating: 150 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 10 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB DC – 18.0 GHz
10	2.00
20, 30, 40	1.50

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Connectors: Type N female/male connectors per MIL-STD-348 interface dimension, mate non-destructively with MIL-PRF-39012 connectors.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with stainless steel connectors; gold plated beryllium copper female contact and stainless steel male contacts.

Maximum VSWR:

Frequency (GHz)	VSWR 10 dB	VSWR 20,30,40 dB
DC – 18.0	1.90	1.50

Length:

Connector	Dimension A
Type N	363.5 (14.3)

Weight: 510 g/ 18 oz.

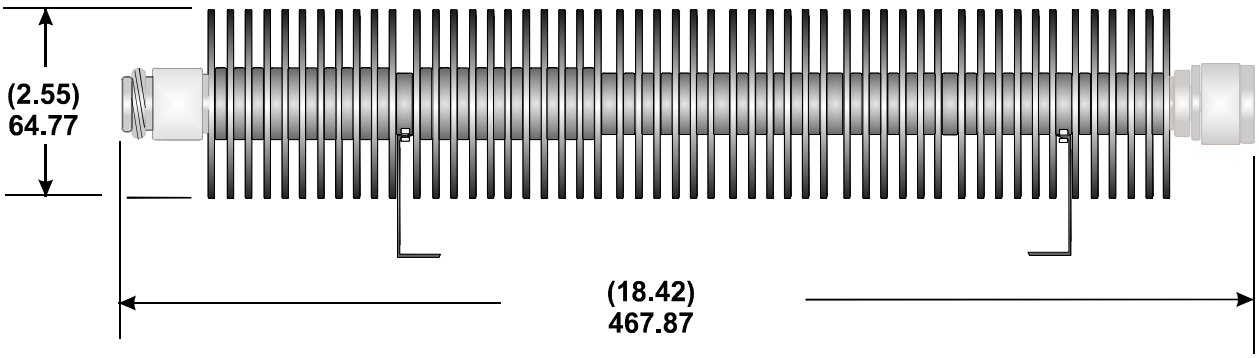
Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

Fixed Coaxial Attenuator
High Power - High Frequency

Model WA67

DC – 12.7 GHz

350 WATTS



Features

High power combined with high frequency response. Designed to meet the environmental requirements of MIL-DTL-3933. Convection cooling.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 12.7 GHz.

Nominal dB Values: 10, 20, and 30 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 350 watts average. Maximum rated average power @ 25°C ambient temperature, derated linearly to 10 watts at 100°C. (*Case temperature must be held to 100°C maximum*), 5 kilowatts peak (5 µsec pulse width; 3.5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 8.0 GHz	8.0 – 12.7 GHz
10	2.00	+6.00 / -0.00
20, 30	2.50	+ 5.00 / -0.00

Temperature Coefficient: < 0.0004 dB/dB/°C.

Temperature Range: -25° C to 100° C.

Connectors: Type N connectors per MIL-STD-348 interface dimensions mate nondestructively with MIL-PRF-39012 connectors.

Construction: Aluminum alloy body, stainless steel connectors, gold plated beryllium copper female contacts, stainless steel male contacts. Optional mounting stands.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.30
8.0—12.7	1.60

Weight: 123 g (44 oz).

Length: 467.87 (18.42).

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

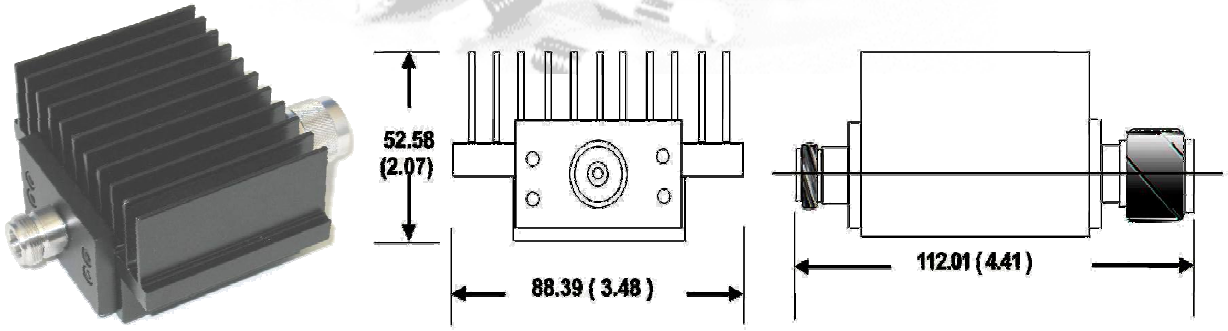
Specification Subject to change without notice

Fixed Coaxial Attenuator High Power

MODEL WA68

DC – 6.0 GHz

100 WATTS



Features

Type N, DIN 7/16 or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position. Mounting holes provided on bottom of unit.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz.

Nominal dB Values: 1 - 30 dB.

Power Sensitivity: < 0.0005 dB/dB/W; Unidirectional in power.

Power Rating: 100 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 10 watts at 125°C. 10 kilowatt peak (5 µsec pulse width; 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC - 6.0 GHz
1,2	1.20
3,6,10,20,30	1.25

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 6.0	1.30

Weight:

Type N	1.5 kg/ 3.3 lb.
DIN 7/16	1.7 kg/ 3.7 lb.

Physical Dimensions:

Length:

Connector	Length
Type N	112.1 (4.4)
DIN 7/16	139.7 (5.5)

Width: 89.0 (3.5).

Height: 54.0 (2.1).

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

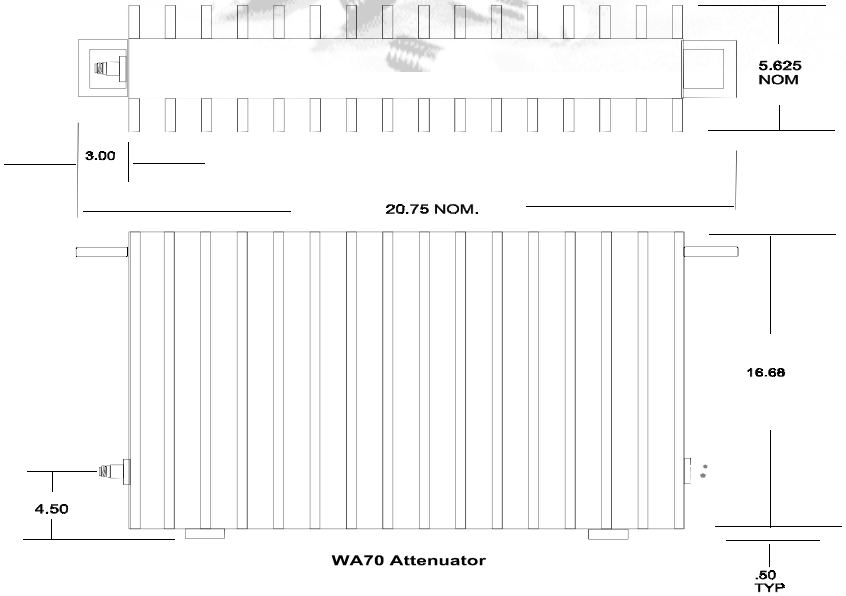
WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA70
Ultra-High Power

DC – 2.5 GHz (Usable to 3.0 GHz) 1000 WATTS



Features

Designed to meet environmental requirements of MIL-D-39030. Type N or DIN 7/16 connectors. Natural convection cooling (*Air flow should not be obstructed around unit*)

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 2.5 GHz.
Usable to 3.0 GHz.

Operating Position: Horizontal.

Nominal dB Value: 20, 30, 40dB.

Power Rating: 1,000 watts average to 25° C ambient temperature, derated linearly to 100 watts @ 125° C (5 µsec pulse width; 0.5% duty cycle). 10 kilowatt peak. Unidirectional in power.

Power Sensitivity: <0.0001 dB/dB/W.

Temperature: -55° C to +125° C.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Sensitivity: <0.0004 dB/dB/°C.

Connectors: Type N stainless steel mate non-destructively with MIL-PRF-39012 connector or DIN 7/16 connector, conforms to DIN 47223, IEC 169-4, VG 95250, CECC 22190.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.5	1.35

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy (dB)
	DC - 2.5 GHz
20, 30, 40	+0.5 / –1.5

Physical Dimensions:

Length	527 / (20.75) nom.
Width	143 / (5.625) nom.
Height	437 / (17.20) max.
Weight	20.41 kg/ 45 lbs

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

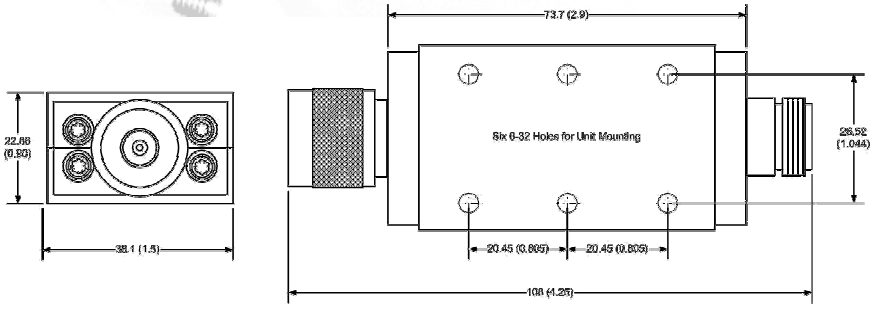
Fixed Coaxial Attenuator Low-Profile Mountable

MODEL WA71

DC – 4.0 GHz Bi-directional

50 WATTS





Features

Designed to comply with MIL-DTL-3933. Bidirectional in power. Conductive Cooling. Flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 4.0 GHz.

Nominal dB Value: 1 – 40 dB.

Power: 50W average bi-directional, Peak power of 5Kw; 5 µsec pulse width; 0.5% duty cycle, with case temperature held to +100°C maximum using conductive heat sink.

Power Sensitivity: < 0.005 dB/dB/W.

Temperature Range: -55°C to 125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 4.0 GHz
1 - 40	0.40

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Construction: Black Aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper male/female contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20

Weight: .14 kg/5 oz.

Physical Dimensions:

Length:

Connector	Length
Type N	120.7 (4.3)
SMA	104.2 (4.1)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

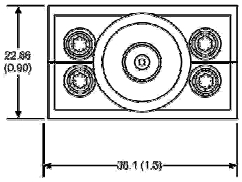
Fixed Coaxial Attenuator
Low-Profile Mountable

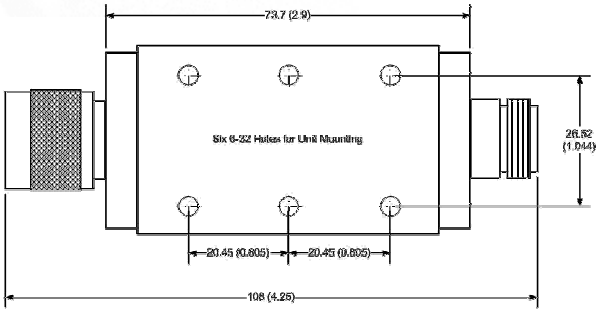
MODEL WA72

DC – 8.5 GHz
Bi-directional

50 WATT







Features

Designed to comply with MIL-DTL-3933.

Bidirectional in power.

Conductive Cooling.

Flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 8.5 GHz.

Nominal dB Value: 1 – 40 dB.

Power: 50W CW average bi-directional to 25°C; Peak power of 5KW; 5 µsec pulse width; 0.5% duty cycle, with case temperature held to +100°C maximum using conductive heat sink.

Power Sensitivity: < 0.005 dB/dB/W.

Temperature Range: -55°C to 125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC – 4.0 GHz	4.0 – 8.5 GHz
1 - 40	0.40	0.75

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Construction: Black Aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper male/female contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Weight: .14 kg/5 oz.

Physical Dimensions:

Length:

Connector	Length
Type N	120.7 (4.3)
SMA	104.2 (4.1)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

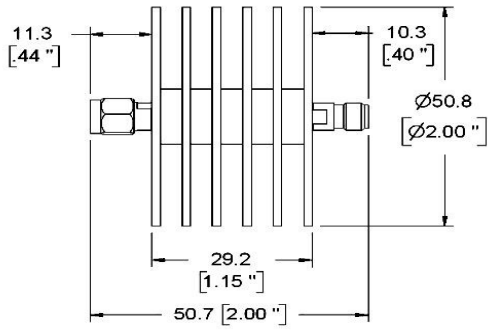
Fixed Coaxial Attenuator 3.5mm Connectors

MODEL WA74

DC – 26.5 GHz

25 WATTS





Features

Designed to meet MIL-DTL-3933 environmental specification. Compact construction to meet a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -26.5 GHz.

Nominal dB Values: 3 - 30 dB.

Power Sensitivity: < 0.0015 dB/dB/W.

Power Rating: 25W CW / 500W peak to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C, 500 watt peak (5 µsec pulse width; 2.5% duty cycle). Power rating into output is 10% of the average power rating.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 26.5 GHz
3	0.70
6, 10	1.00
20, 30	1.50

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Temperature Range: -55°C to +125°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Connectors: 3.5mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.25
18.0 – 26.5	1.30

Weight:

100g / 3.5 oz.

Physical Dimensions:

Length:

Connector	Length
3.5mm M/F	50.7 (2.00)

Diameter: **50.8 (2.00).**

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

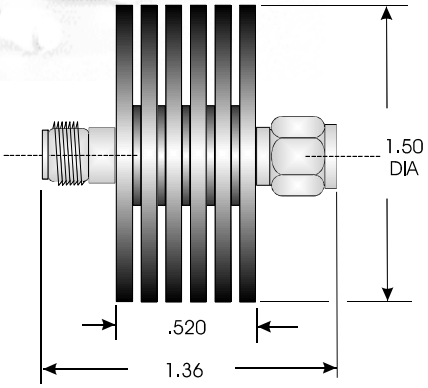
Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA75

DC – 40.0 GHz Bi-directional

5 WATTS





Features

► **Compact Construction –** Low size/power ratio.

► **Precision 2.92mm connectors.**

► **Flat Response.**

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 3, 6, 10, 20, 30 dB.

Power Rating: 5 watts average (bi-directional) to 25°C ambient temperature, derated linearly to 0 Watts @ 125°C. 200 watts peak (5 µsec pulse width; 1.25% duty cycle).

Power Sensitivity: <0.005 dB/dB/W.

Temperature Coefficient: <0.0004 db/dB/°C.

Temperature Range: -55°C to 125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC – 18.0 GHz	18.0 – 40.0 GHz
3	0.50	1.00
6, 10, 20, 30	0.80	1.50

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Connectors: 2.92mm (Male/Female) connectors – mate nondestructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors.

Construction: Black finned aluminum alloy body. Stainless steel connector body with gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.20
18.0 – 40.0	1.35

Physical Dimensions:

Length: 34.54 (1.36).

Diameter: 38.10 (1.50).

Weight: 0.06kg / 2.0 oz.

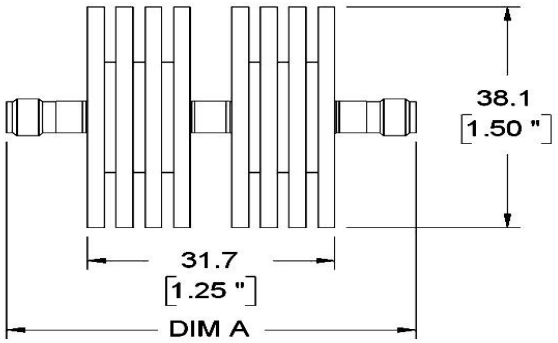
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA76

DC – 40.0 GHz 10 WATTS



Features

► **Compact Construction –** Low size/power ratio.

► **Precision 2.92mm connectors.**

► **Flat Response.**

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 6, 10, 20, 30 dB.

Power Rating: 10 watts average to 25°C ambient temperature, derated linearly to 0 Watts @ 125°C. 200 watts peak (5 µsec pulse width; 1.25% duty cycle).

Power Sensitivity: <0.005 dB/dB/W.

Temperature Coefficient: <0.0004 db/dB/°C.

Temperature Range: -55°C to 125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC – 18.0 GHz	18.0 – 40.0 GHz
6, 10, 20, 30	1.00	1.75

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Connectors: 2.92mm (Male/Female) connectors – mate nondestructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors.

Construction: Black finned aluminum alloy body. Stainless steel connector body with gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.25
18.0 – 40.0	1.40

Physical Dimensions:

Length:

Connector	Dimension A
2.92mm M/F	68.6 (2.7)
2.92mm M/M	71.1 (2.8)
2.92mm F/F	66.1 (2.6)

Diameter: 38.10 (1.50).

Weight: 145g (5 oz) maximum

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

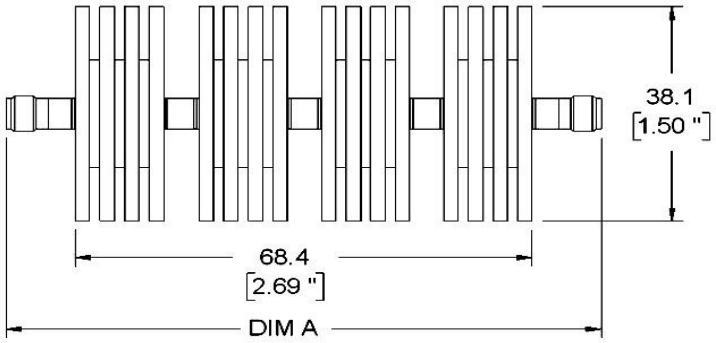
WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA89

DC – 40.0 GHz 20 WATTS



Features

► **Compact Construction –** Low size/power ratio.

► **Precision 2.92mm connectors.**

► **Flat Response.**

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 10, 20, 30 dB.

Power Rating: 20 watts average to 25°C ambient temperature, derated linearly to 0 Watts @ 125°C. 200 watts peak (5 µsec pulse width; 1.25% duty cycle).

Power Sensitivity: <0.005 dB/dB/W.

Temperature Coefficient: <0.0004 db/dB/°C.

Temperature Range: -55°C to 125°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC – 18.0 GHz	18.0 – 40.0 GHz
10, 20, 30	1.25	+2.5 / -0.0

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Connectors: 2.92mm (Male/Female) connectors – mate nondestructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors.

Construction: Black finned aluminum alloy body. Stainless steel connector body with gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.25
18.0 – 40.0	1.40

Physical Dimensions:

Length:

Connector	Dimension A
2.92mm M/F	106.7 (4.2)
2.92mm M/M	109.2 (4.3)
2.92mm F/F	104.2 (4.1)

Diameter: 38.10 (1.50).

Weight: 200g (7.1oz) maximum

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

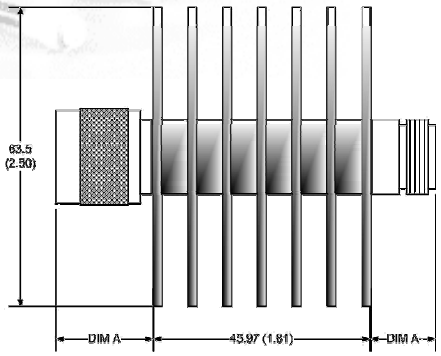
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA90
High Power - High Frequency

DC – 18.0 GHz 50 WATTS
Bi-directional





Features

Designed to meet MIL-DTL-3933 environmental specification. Compact construction to meet a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -18.0 GHz.

Nominal dB Values: 3 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 50W CW/ 1 KW peak to 25°C ambient temperature, derated linearly to 5 watts at 125°C, 1 kilowatt peak (5 µsec pulse width; 2.5% duty cycle).

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 18.0 GHz
3, 6, 10	0.50
20	0.75
30, 40	1.00

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Temperature Range: -55°C to +125°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.35

Weight:

Type N	0.18 kg/ 6.1 oz.
SMA	0.16 kg/ 5.7 oz.

Physical Dimensions:

Length:

Connector	Length
Type N	19.1 (0.75)
SMA	15.3 (0.6)

Diameter: 63.50 (2.50).

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES

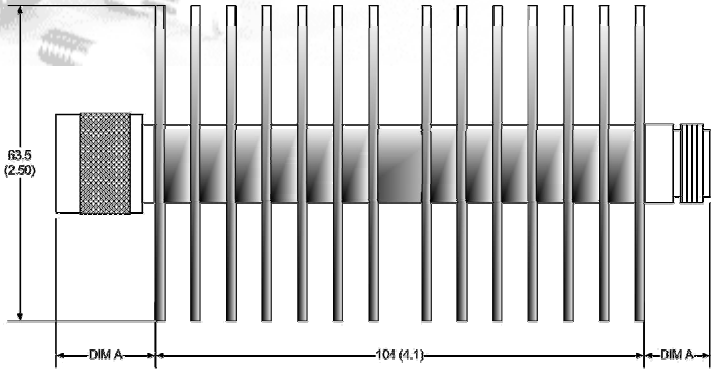
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator MODEL WA91
High Power - High Frequency

DC – 18.0 GHz **100 WATTS**





Features

High power combined with high frequency response to cover a wide range of design requirements. Designed to meet MIL-DTL-3933 environmental specifications.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC -18.0 GHz.

Nominal dB Values: 10 - 40 dB.

Power Sensitivity: < 0.005 dB/dB/W.

Power Rating: 100W CW/ 1 KW peak to 25°C ambient temperature, derated linearly to 10 watts at 125°C, 1 kilowatt peak (5 µsec pulse width; 2.5% duty cycle). Unidirectional in power.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 18.0 GHz
10	0.75
20	1.00
30, 40	1.20

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.35

Weight:

Type N	0.33kg / 12 oz.
SMA	0.30 kg / 10.5 oz.

Length:

Connector	Length
Type N	24.1 (0.95)
SMA	30.1 (1.23)

Diameter: 63.50 (2.50).

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

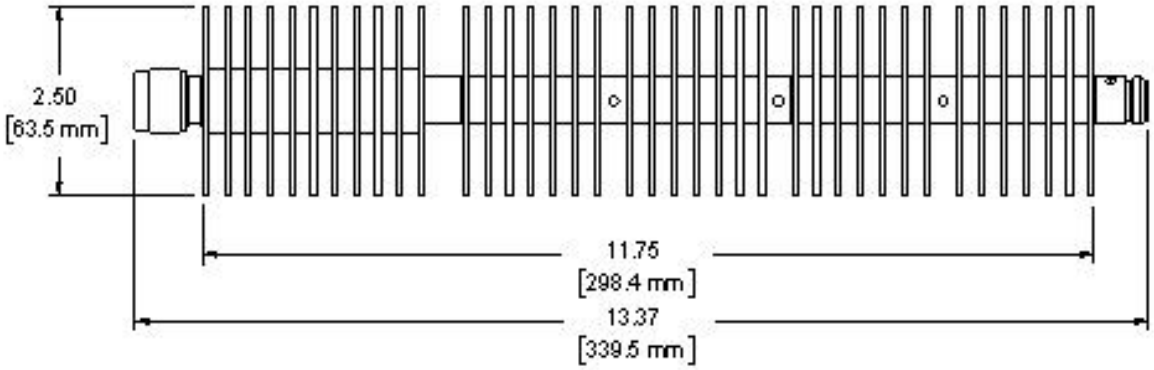
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Fixed Coaxial Attenuator
High Power - High Frequency

Model WA95

DC – 18.0 GHz **200 WATTS**



Features

High power combined with high frequency response to cover a wide range of design requirements. Designed to meet MIL-DTL-3933 environmental specifications.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 18.0 GHz

Nominal dB Values: 10, 20, 30, 40 dB.

Power Sensitivity: < 0.0001 dB/dB/W; Unidirectional in power.

Power Rating: 200 Watts CW/1 kW peak (5 µsec pulse width; 3.5% duty cycle) to 25°C ambient temperature, derated linearly to 20 watts at 100°C.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 8.0 GHz	8.0 – 18.0 GHz
10	1.50	+3.00 / -1.00
20, 30	2.00	+ 3.00 / -2.00
40	2.00	+ 3.00 / -2.00

Temperature Range: -55° C to 100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Connectors: Type N connectors per MIL-STD-348A interface dimensions mate nondestructively with MIL-PRF-39012 connectors.

Construction: Aluminum alloy body, stainless steel connectors, gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.50

Physical Dimensions:

Length: 339.5 (13.4)

Diameter: 63.50 (2.50).

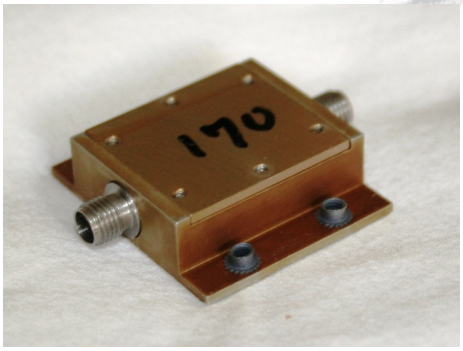
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

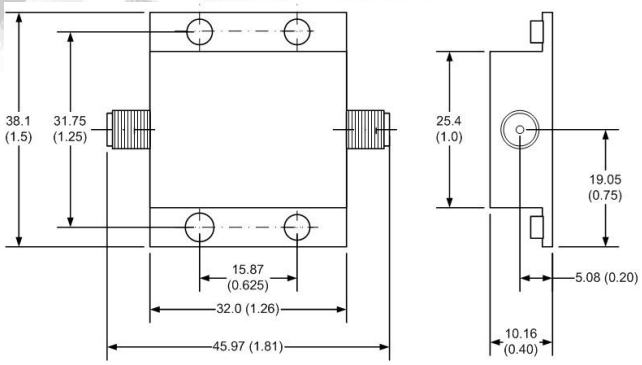
Fixed Coaxial Attenuator Low-Profile/Flange Mount

MODEL WA200271

DC – 3.0 GHz

10 WATTS





Features

SMA, stainless steel, F/F connectors per MIL-STD-348A, interface dimensions mate nondestructively per MIL-PRF-39012.

Designed and tested to meet the standards of MIL-DTL-3933. Additional dB values available upon request.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC – 3.0 GHz.

Power Sensitivity: < 0.0005 dB/dB/W; Bidirectional in power.

Power Rating (over temperature):

10 W CW
800 W pk, 33 microsec pulse width, 1% Duty Cycle.
1.8 kW pk, 1 microsec pulse width, .025% Duty Cycle.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	DC – 3.0 GHz
3	0.25

Temperature Range:

-65°C to +125°C, Storage.
-54°C to +95°C, Operating.

Temperature Coefficient: < 0.0004 dB/dB/°C

Construction: Gold Irridite aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR 3 dB
DC – 3.0	1.40

Weight: 0.14 kg/5 oz max.

Physical Dimensions:

45.97 x 38.1 x 10.16 mm.
1.81 x 1.50 x 0.40 inches.

Mounting: Flange mount with four (4) 4-40 self-clinching fasteners.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

COAXIAL TERMINATIONS

DC – 40.0 GHz **1—1000 WATTS**

Low Power Coaxial Terminations: 1 Watt to 25 Watts					
Model Number	**Frequency Range DC - (GHz)**	**Average Power (W)**	**Peak Power (kW)**	**Connectors and Mounting Notes**	**Page No.**
WA1401/3	3	1	0.25	SMA	73
WA1401/6	6	1	0.25	SMA	73
WA1401/12	12.4	1	0.25	SMA	73
WA1401/18	18	1	0.25	SMA	73
WA1402	40	1	0.25	SMA	74
WA1455/6	6	2	0.50	N, TNC	110
WA1406	12.4	2	0.50	SMA	75
WA1455/12	12.4	2	0.50	N, TNC	110
WA1408	18	2	1	SMA	75
WA1455	18	2	0.50	N, TNC	110
WA1409	26.5	2	0.50	SMA	76
WA1454	40	2	0.25	2.92 mm	109
WA1424/12	12.4	5	1	N, TNC	82
WA1424	18	5	1	N, TNC	82
WA1443	18	5	1	SMA	99
WA1475	40	5	0.20	2.92 mm	117
WA1425/12	12.4	10	1	N, TNC	83
WA1425	18	10	1	N, TNC	83
WA1419	18	10	1	SMA	77
WA1476	40	10	0.20	2.92 mm	118
WA1489	40	20	0.20	2.92 mm	119
WA1421/4	4	25	5	N, SMA, Low-Profile Mountable	78
WA1421	8.5	25	5	N, SMA, Low-Profile Mountable	78
WA1434	4	25	5	N, SMA, 7/16 DIN	93
WA1434B	4	25	5	N, SMA, Square Body Mountable	94
WA1452	4	25	5	N, SMA, 7/16 DIN	107
WA1433	8.5	25	5	N, SMA, 7/16 DIN	91
WA1433B	8.5	25	5	N, SMA, Square Body Mountable	92
WA1427	10	25	5	N, SMA, 7/16 DIN	86
WA1446	18	25	1	N, SMA, TNC	102
WA1444	26.5	25	0.50	3.5 mm	100

* Other configurations are available

Custom solutions at "off-the-shelf" prices

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

COAXIAL TERMINATIONS

DC – 40.0 GHz **1—1000 WATTS**

Medium Power Coaxial Terminations: 50 Watts to 150 Watts					
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Peak Power (kW)	Connectors and Mounting Notes	Page No.
WA1423	4	50	5	N, SMA	80
WA1423B	4	50	5	N, SMA, Square Body Mount	81
WA1471	4	50	5	N, SMA, Low-Profile Mountable	115
WA1426	8.5	50	5	N, SMA, 7/16 DIN	84
WA1426B	8.5	50	5	N, SMA, Square Body Mount	85
WA1472	8.5	50	5	N, SMA, Low-Profile Mountable	116
WA1447	18	50	1	N, SMA, TNC	103
WA1490	18	50	1	N, SMA, TNC	120
WA1422	4	75	5	N, SMA	79
WA1429	8.5	75	5	N, SMA, 7/16 DIN	88
WA1430	4	100	5	N, SMA, 7/16 DIN	89
WA1431	8.5	100	5	N, SMA, 7/16 DIN	90
WA1448	18	100	1	N, SMA, TNC	104
WA1491	18	100	1	N, SMA	121
WA1428	2.5	150	10	N, SMA, 7/16 DIN	87
WA1439	2.5	150	5	N, SMA, 7/16 DIN	98
WA1449	8.5	150	5	N, SMA, 7/16 DIN	105
WA1465	2.5	150	10	N, 7/16 DIN	113

High Power Coaxial Terminations: 250 Watts to 1000 Watts					
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Peak Power (kW)	Connectors and Mounting Notes	Page No.
WA1445	2.5	250	10	N, SMA, 7/16 DIN	101
WA1458	5	250	10	N, SMA, 7/16 DIN	111
WA1435	8.5	250	5	N, SMA, 7/16 DIN	95
WA1438	5	300	5	N, SMA, 7/16 DIN	97
WA1436	8.5	300	5	N, SMA, 7/16 DIN	96
WA1453	2.5	500	10	N, SMA, 7/16 DIN	108
WA1460	5	500	10	N, SMA, 7/16 DIN	112
WA1451	8.5	500	5	N, SMA, 7/16 DIN	106
WA1470	3	1000	10	N, 7/16 DIN	114

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

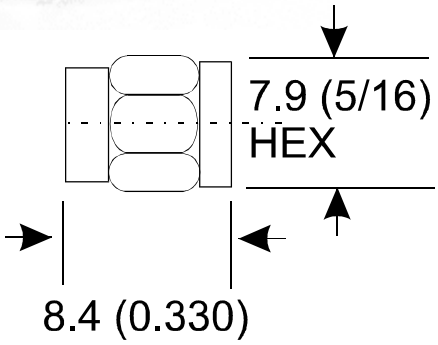
Specification Subject to change without notice

TERMINATION MODEL WA1401

DC – 3.0 GHz WA1401/3
DC – 6.0 GHz WA1401/6
DC – 12.4 GHz WA1401/12
DC – 18.0 GHz WA1401/18

1 WATT





Features

Type SMA male connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Subminiature size and light weight.

Specifications

Nominal Impedance: 50 ohms

Frequency Range:

WA1401/3	DC – 3.0 GHz
WA1401/6	DC – 6.0 GHz
WA1401/12	DC – 12.4 GHz
WA1401/18	DC – 18.0 GHz

Power Rating: 1 watts average, 250 watts peak (maximum rated average power to 25° C ambient temperature, de-rated linearly to 0.0 watts at 125° C.

Temperature Range: -55°C to +125°C.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Passivated stainless steel body and connectors. Stainless steel or gold-plated beryllium copper male contact.

Physical Dimensions:

Length: 8.4 (0.330)

Weight: 3.0 gm/ .11 oz.

Maximum VSWR:

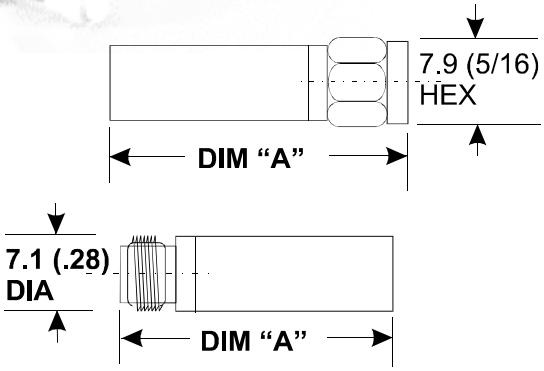
Frequency (GHz)	VSWR
DC – 4.0	1.05
4.0 – 8.0	1.10
8.0 – 12.4	1.15
12.4 – 18.0	1.20

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1402

DC – 40.0 GHz 1 WATT





Features

Type 2.92mm male/female (Type K) connectors, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 40.0 GHz

Power Rating: 1 watts average, 250 watts peak (maximum rated average power to 25° C ambient temperature, de-rated linearly to 0.1 watts at 125° C (5µsec pulse width 0.2 % duty cycle).

Temperature Range: -55°C to +125°C.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 40.0	1.20

Physical Dimensions:

Length:

Connector Type	DIM "A"
Female -1 Male -2	20.32 (.80) 19.05 (.75)

Weight: 4.9 gm/ .14 oz.

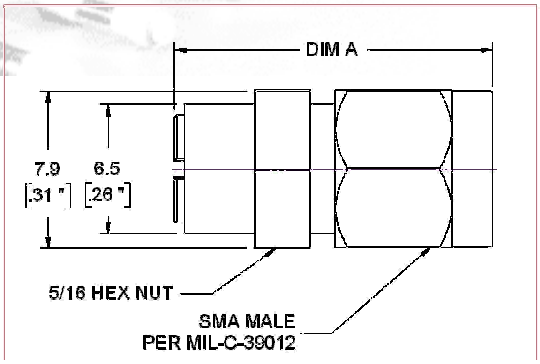
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION MODEL WA1406A & WA1408A

DC – 12.4 GHz WA1406A
DC – 18.0 GHz WA1408A

2 WATTS





Features

Type SMA connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: WA1406A DC - 12.4 GHz
WA1408A DC - 18.0 GHz

Power Rating: 2 watts average, 500 watts peak (maximum rated average power to 25° C ambient temperature, de-rated linearly to 0.5 watt at 125° C).

Temperature Range: -55°C to +125°C.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Passivated stainless steel body and connectors. Gold-plated beryllium copper female contact, stainless steel or gold-plated beryllium copper male contact.

Weight: 4.9 gm/ 14 oz

Physical Dimensions:

Length:

Connector Type	DIM "A"
SMA Female -1 SMA Male -2	23.62 (.93) 23.11 (.91)

Maximum VSWR:

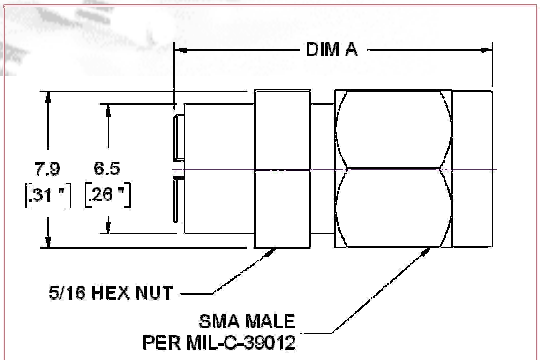
Frequency (GHz)	VSWR
DC – 4.0	1.15
4.0 – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0 (WA1408A)	1.25

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1409

DC – 26.5 GHz 2 WATTS





Features

Type SMA Male connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 26.5 GHz

Power Rating: 2 watts average, 500 watts peak (maximum rated average power to 25° C ambient temperature, de-rated linearly to 0.5 watt at 125° C).

Temperature Range: -55°C to +125°C.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Passivated stainless steel body and connectors. Gold-plated beryllium copper female contact, stainless steel or gold-plated beryllium copper male contact.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.15
4.0 – 8.0	1.20
8.0 – 18.0	1.25
18.0 – 26.5	1.40

Physical Dimensions:

Length:

Connector Type	DIM "A"
SMA Male -2	23.11 (.91)

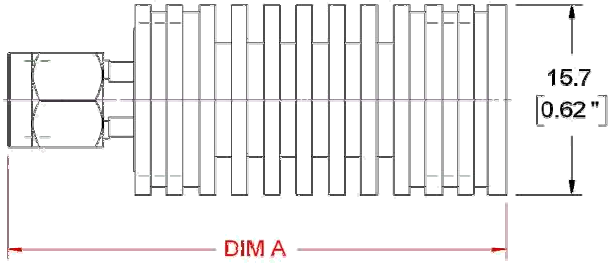
Weight: 4.9 gm/ 14 oz

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1419

DC – 18.0 GHz 10 WATTS





Model WA1419-2 Shown

Features

Stainless steel M/F SMA connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Compact design for one of the lowest size/power ratios available. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Power Rating: 10 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 0.05% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Maximum VSWR

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.30
12.4 – 18.0	1.35

Weight:

0.014 kg/ 5 oz.

Physical Dimensions:

Length:

Connector	Dimension A
WA1419-1	39.4 (1.55)
WA1419-2	41.4 (1.63)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

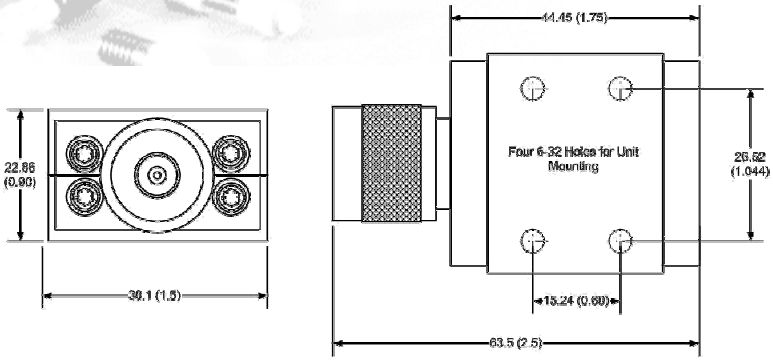
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

TERMINATION Model WA1421/4 & WA1421
Low-Profile Mountable

DC—4.0 GHz WA1421/4 **25 Watts**
DC—8.5 GHz WA1421 **25 Watts**





Features

Designed to meet environmental requirements of MIL-DTL-39030. Conductive cooling.

Specifications

Nominal Impedance: 50 ohms

Frequency Range:

WA1421/4 DC - 4.0 GHz
WA1421 DC - 8.5 GHz

Power Rating: 25 watts average, 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle) with case temperature held to +100°C maximum using conductive heat sink.

Temperature Range: -55°C to +125°C

Temperature Coefficient: < 0.0004 dB/dB/°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Connectors: Type N or SMA, stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Weight:

Type N .17 kg/ 6 oz.

Physical Dimensions:

Length:

Connector Type	Length
Type N	78.7 (3.1)
SMA	71.1 (2.8)

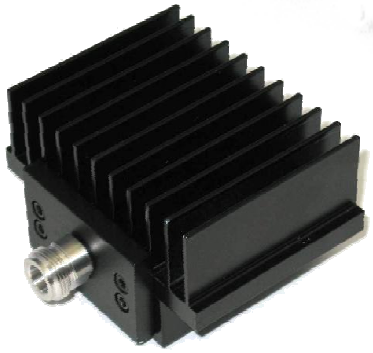
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

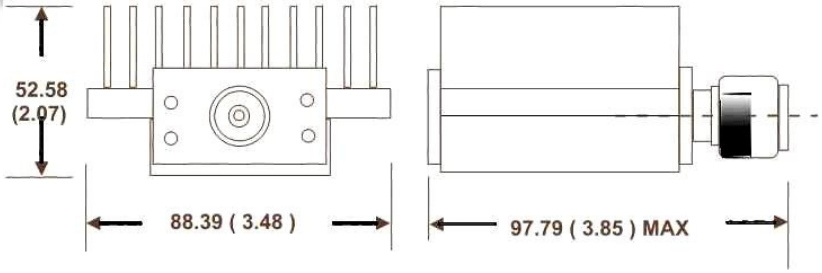
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

TERMINATION MODEL WA1422

DC – 4.0 GHz 75 WATTS





Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specifications. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Power Rating: 75 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contact, stainless steel or gold-plated beryllium copper male contact.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Physical Dimensions:

Length:

Connector	Length
Type N	97.79 (3.85)
SMA	89.31 (3.52)

Width: 89.0 (3.5)

Height: 53.0 (2.1)

Weight:

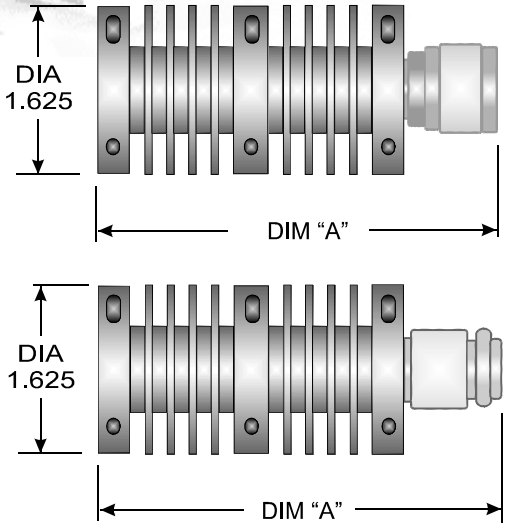
Type N	1.5 kg/ 3.3 lb.
SMA	1.3 kg/ 3.0 lb.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION MODEL WA1423

DC – 4.0 GHz 50 WATTS





Features

Designed to comply with MIL-DTL-39030

Natural Convection Cooling

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Power: 50W CW average to 25°C; de-rated linearly to 2.5 W at 125°C. Peak power of 5KW; 5µsec pulse width; 0.5% duty cycle.

Temperature Range: -55°C to 125°C

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Connectors: Type N, SMA, or DIN 7/16; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20

Weight: .28 kg/10 oz.

Physical Dimensions:

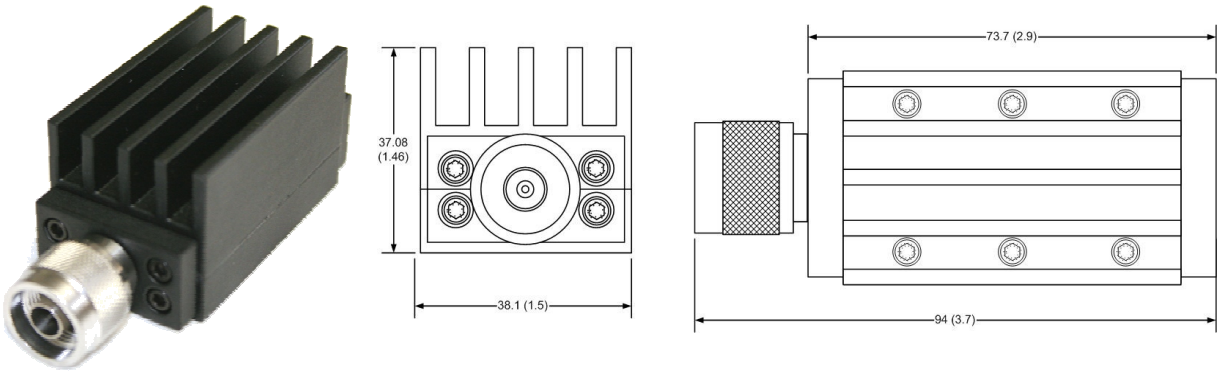
Length:

Connector Type	DIM "A"
Type N Female –3 Type N Male –4	90.17 (3.55) 96.98 (3.818)
SMA Female –1 SMA Male –2	85.80 (3.378) 89.76 (3.534)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION MODEL WA1423B

DC – 4.0 GHz 50 WATTS



Features

Designed to comply with MIL-A-39030

Natural Convection Cooling

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Power: 50W CW average to 25°C; de-rated linearly to 2.5 W at 125°C. Peak power of 5KW; 5µsec pulse width; 0.5% duty cycle.

Temperature Range: -55°C to 125°C

Connectors: Type N, SMA, or TNC; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20

Weight: .28 kg/10 oz.

Physical Dimensions:

Length:

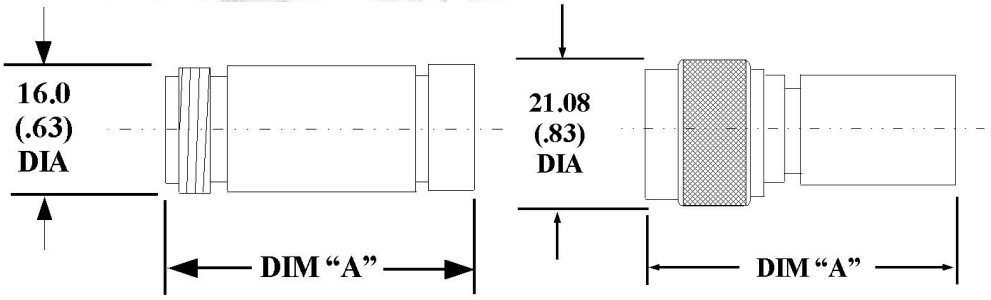
Connector Type	Length
Type N Female –3 Type N Male –4	90.1 (3.5) 94.0 (3.7)
SMA Female –1 SMA Male –2	85.80 (3.3) 89.76 (3.5)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION MODEL WA1424

DC – 12.4 GHz WA1424/12
DC – 18.0 GHz WA1424 **5 WATTS**





Model WA1424-3 & WA1424-4

Features

Type N or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range:

WA1424/12:	DC - 12.4 GHz
WA1424:	DC - 18.0 GHz

Power Rating: 5 watts average power to 25°C ambient temperature, de-rated linearly to 0 watts at 125°C. 5 kilowatts peak (5 µsec pulse width; 0.05% duty cycle). 1 kilowatts peak (5 µsec pulse width; 0.25% duty cycle).

Temperature Range: -55°C to +125°C

Temperature Coefficient: < 0.0004 dB/dB/°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Weight:

1424-3	.06 kg/ 2.0 oz.
1424-4	.06 kg/ 2.0 oz.
1424-5	.06 kg/ 2.2 oz.
1424-6	.06 kg/ 2.2 oz.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.0	1.03
2.0 – 4.0	1.05
4.0 – 8.0	1.15
8.0 – 12.4	1.30
12.4 – 18.0	1.35

Physical Dimensions:

Length:

Connector	Dim "A"
1424-3 N(f)	40 (1.6)
1424-4 N(m)	45 (1.8)
1424-5 TNC(f)	45 (1.8)
1424-6 TNC(m)	48 (1.9)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

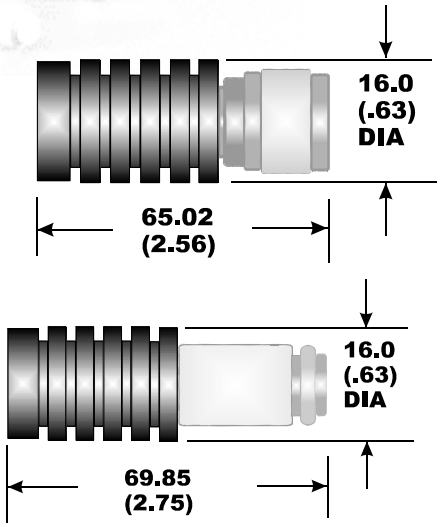
Specification Subject to change without notice

TERMINATION MODEL WA1425

DC – 12.4 GHz WA1425/12
DC – 18.0 GHz WA1425

10 WATTS





WA1425-4 Shown

Features

Type N, TNC, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range:

WA1425/12:	DC - 12.4 GHz
WA1425:	DC - 18.0 GHz

Power Rating: 10 watts average, 1 kilowatt peak (5 µsec pulse width; 1.5% duty cycle). Full power from -50°C to +25°C; derated linearly to 0.5 W at +125° C.

Temperature Range: -55°C to +125°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.0	1.03
2.0 – 4.0	1.05
4.0 – 8.0	1.15
8.0 – 12.4	1.30
12.4 – 18.0	1.35

Physical Dimensions:

Length:

DIN 7/16 male & female 79.25 (3.12)

Weight: .11 kg/ 4 oz

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

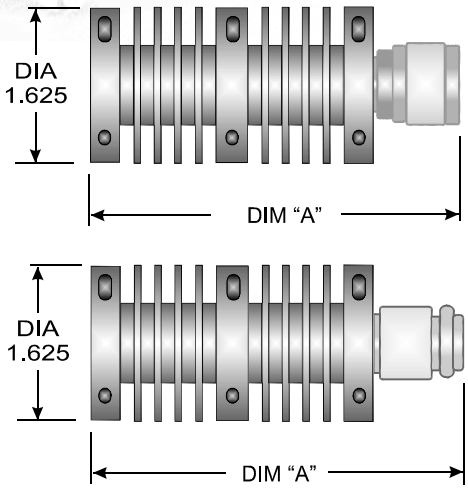
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1426

DC – 8.5 GHz 50 WATTS





Features

Type N, SMA, or DIN 7/16 DIN connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Power: Full power (50 W) from -55°C to +25°C. Derated linearly to 2.5 W at +125°C. 5 kilowatts peak power.

Temperature Range: -55°C to +125°C.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper male and female contacts.

Weight: .28 kg/ 10 oz

Physical Dimensions:

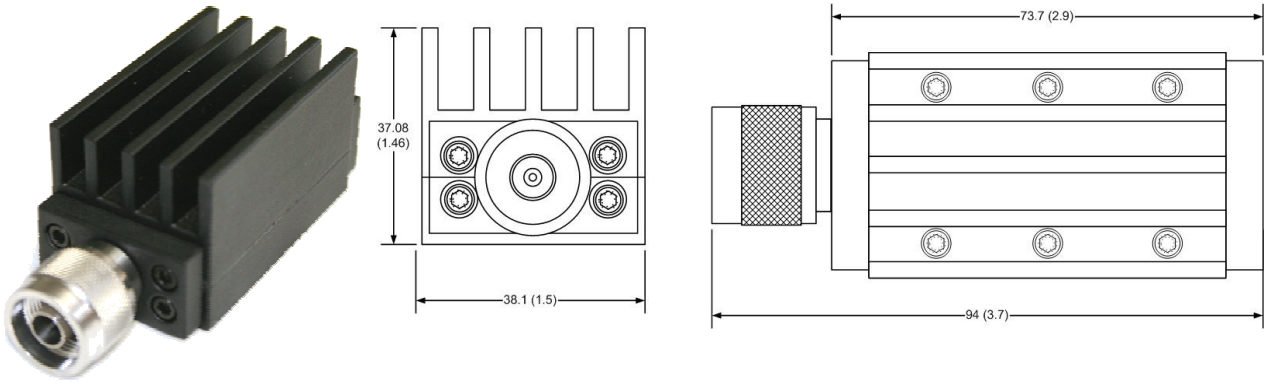
Length:

Connector Type	DIM "A"
Type N Female –3 Type N Male –4	90.17 (3.55) 96.98 (3.818)
SMA Female –1 SMA Male –2	85.80 (3.378) 89.76 (3.534)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1426B

DC – 8.5 GHz 50 WATTS



Features

Type N, SMA or TNC connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Power: Full power (50 W) from -55°C to +25°C. Derated linearly to 2.5 W at +125°C. 5 kilowatts peak power.

Temperature Range: -55°C to +125°C.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.20
4.0 – 8.5	1.30

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper male and female contacts.

Weight: 0.28 kg/ 10 oz

Physical Dimensions:

Length:

Connector Type	Length
Type N Female -3	88.90 (3.22)
Type N Male -4	97.03 (3.7)

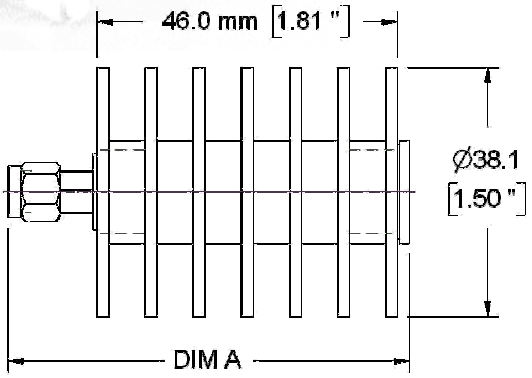
Mounting: Six, 6-32 mounting holes on base.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1427

DC – 10.0 GHz 25 WATTS





Features

Type N, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 10.0 GHz

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0	1.10
4.0 – 10.0	1.15

Weight: .17 kg/ 6 oz

Physical Dimensions:

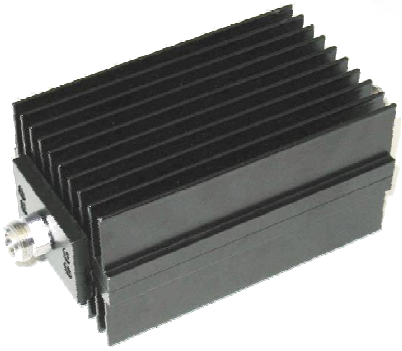
Length:

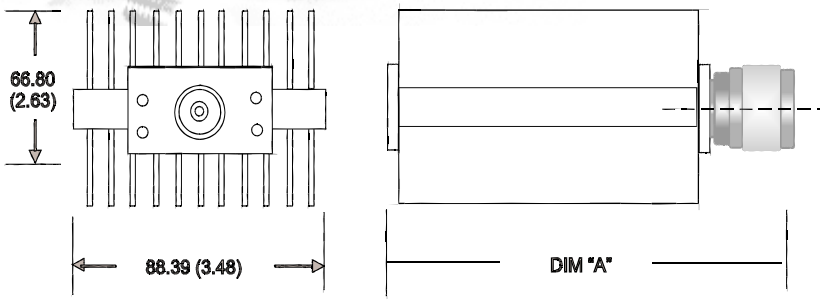
Connector Type	DIM "A"
Type N Female -3 Type N Male -4	60.99 (2.4) 68.57 (2.7)
SMA Female -1 SMA Male -2	58.43 (2.3) 60.99 (2.4)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1428

DC – 2.5 GHz 150 WATTS





Model WA1428-3 shown

Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 2.5 GHz

Power Rating: 150W CW / 10 KW peak. Full power from -55°C to +25°C; derated linearly to 15 Watts at 125°C.

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 1.5	1.10
1.5 - 2.5	1.20

Physical Dimensions:

Length and Weight:

Connector Type	Dim "A"	Weight kg/lb
N F WA1428-3	144.78 (5.70)	1.13/2.5
N M WA1428-4	152.90 (6.02)	1.13/2.5
7/16 F WA1428-8	177.80 (7.00)	1.22/2.7
7/16 M WA1428-9	178.82 (7.04)	1.25/2.75

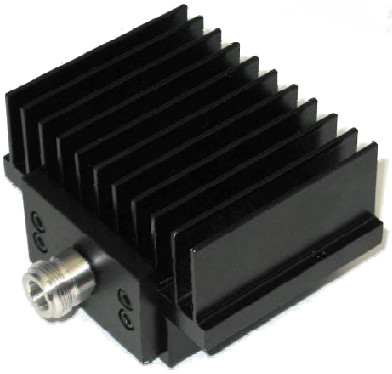
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

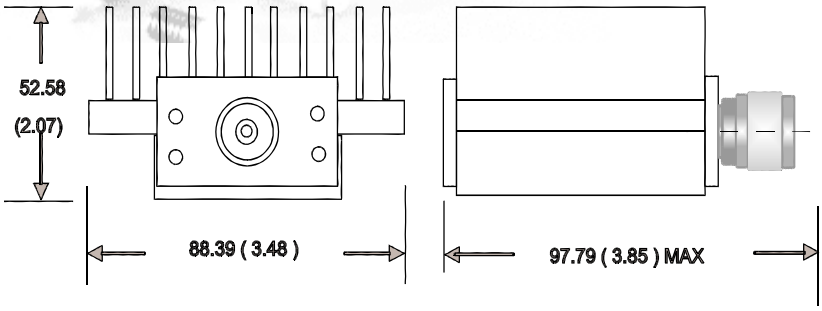
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1429

DC – 8.5 GHz 75 WATTS





Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Unit may be mounted in any position.

Specifications

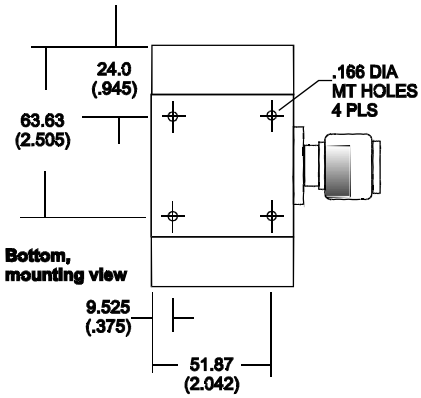
Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Power Rating: 75 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 10 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Mounting Holes:



Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold-plated beryllium copper female contact, stainless steel or gold-plated beryllium copper male contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 - 8.5	1.30

Length:

Connector	Length
Type N	97.79 (3.85)
SMA	89.31 (3.52)

Width: 89.0 (3.5)

Height: 53.0 (2.1)

Weight:

Type N	1.5 kg/ 3.3 lb
SMA	1.3 kg/ 3.0 lb

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

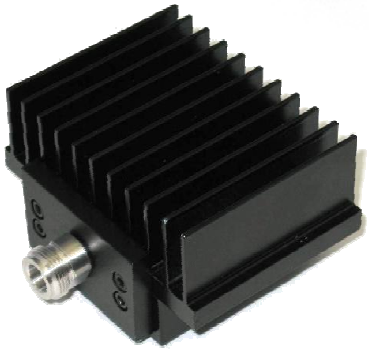
WEINSCHEL ASSOCIATES

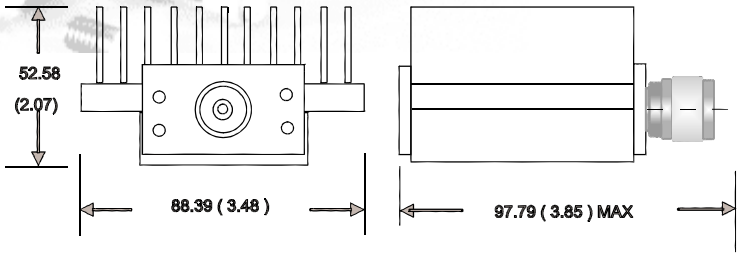
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1430

DC – 4.0 GHz 100 WATTS





Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0GHz

Power Rating: 100 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 10 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contact, stainless steel male contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N	1.5 kg/ 3.3 lb.
SMA	1.3 kg/ 3.0 lb.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20

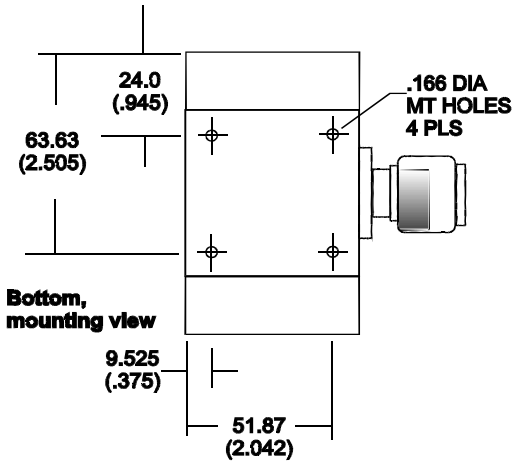
Physical Dimensions:

Length: 97.79 (3.85)

Height: 52.58 (2.07)

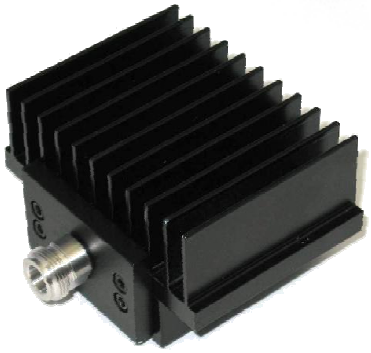
Width: 88.39 (3.48)

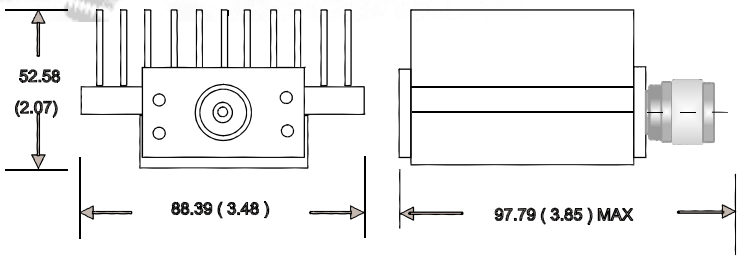
Note: Dimensions are given in mm (inches) and are maximum, Unless otherwise specified.



TERMINATION MODEL WA1431

DC – 8.5 GHz 100 WATTS





Features

Type N, SMA or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Power Rating: 100 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 10 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contact, stainless steel or gold-plated beryllium copper male contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N	1.5 kg/ 3.3 lb
SMA	1.3 kg/ 3.0 lb

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 - 8.5	1.30

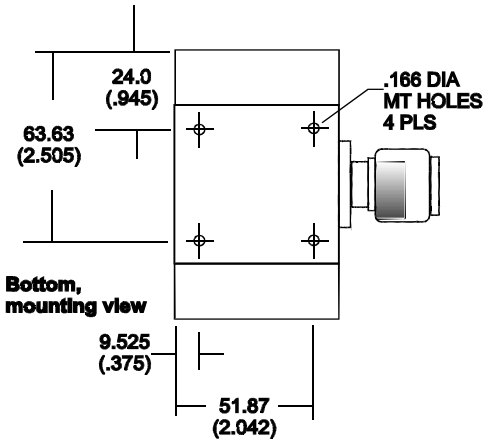
Physical Dimensions:

Length: 97.79 (3.85)

Height: 52.58 (2.07)

Width: 88.39 (3.48)

Note: Dimensions are given in mm (inches) and are maximum, Unless otherwise specified.



WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

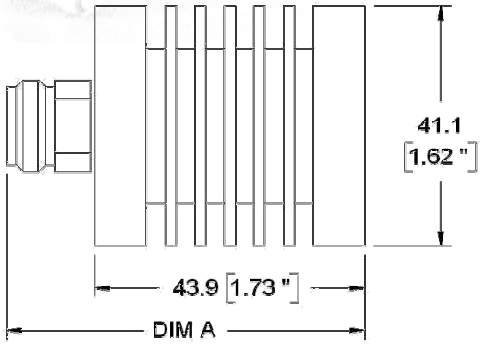
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1433

DC – 8.5 GHz 25 WATTS





Model WA1433-1 Shown

Features

Type N, SMA or 7/16 DIN stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -8.5 GHz

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 1.5 watts at 125° C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 – 8	1.30

Physical Dimensions:

Length:

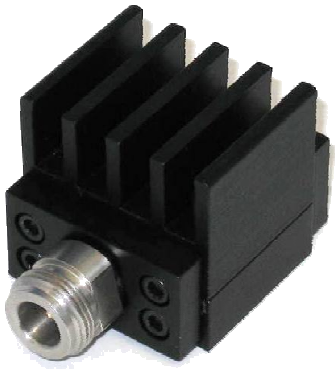
Connector Type	Dimension "A"
Type N Female -3 Type N Male -4	60.99 (2.4) 68.57 (2.7)
SMA Female -1 SMA Male -2	58.43 (2.3) 60.99 (2.4)

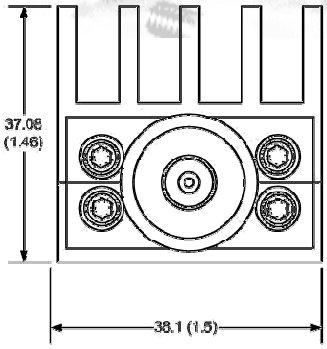
Weight: 0.17 kg/ 6 oz

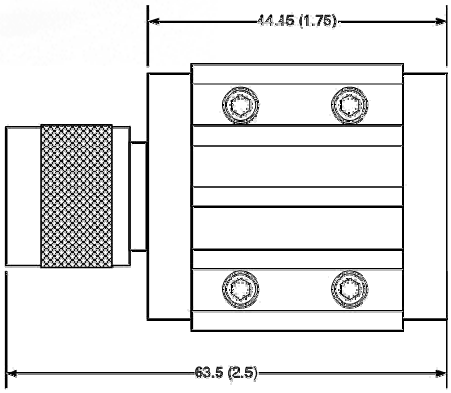
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1433B

DC – 8.5 GHz 25 WATTS







Features

Type N, SMA, or 7/16 DIN stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -8.5 GHz

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 1.5 watts at 125° C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20
4.0 - 8	1.30

Physical Dimensions:

Length:

Connector Type	Length
Type N Female -3 Type N Male -4	60.9 (2.4) 63.5 (2.5)
SMA Female -1 SMA Male -2	58.4 (2.3) 60.9 (2.4)

Weight: 0.17 kg/ 6 oz

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified .

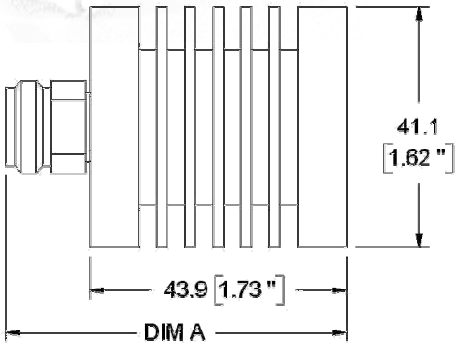
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

TERMINATION MODEL WA1434

DC – 4.0 GHz 25 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 1.5 watts at 125° C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20

Physical Dimensions:

Length:

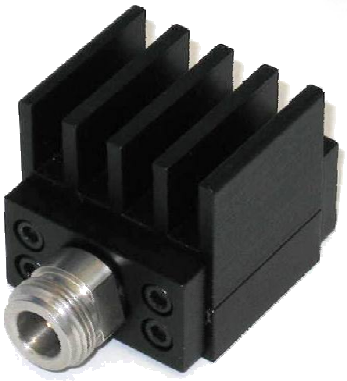
Connector Type	Dimension "A"
Type N Female -3 Type N Male -4	60.99 (2.4) 68.57 (2.7)
SMA Female -1 SMA Male -2	58.43 (2.3) 60.99 (2.4)

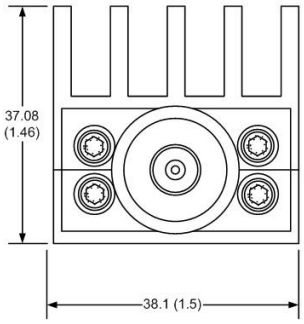
Weight: 0.17 kg/ 6 oz

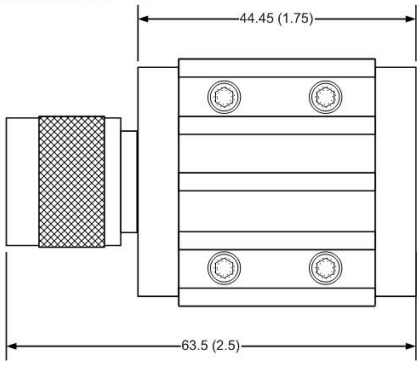
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1434B

DC – 4.0 GHz 25 WATTS







Features

Type N, SMA, or TNC stainless steel connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 1.5 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.20

Physical Dimensions:

Length:

Connector Type	Length
Type N Female -3 Type N Male -4	60.9 (2.4) 63.5 (2.5)
SMA Female -1 SMA Male -2	58.43 (2.3) 60.99 (2.4)

Weight: 0.17 kg/ 6 oz

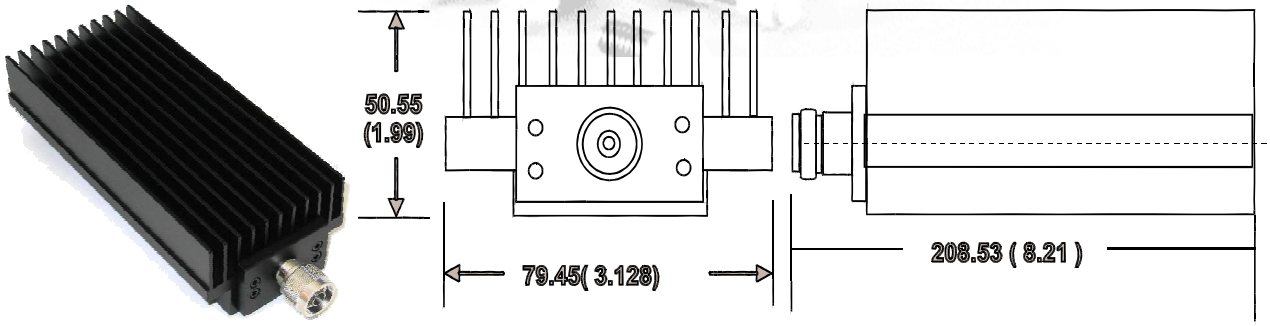
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1435

DC – 8.5 GHz 250 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Other connector configurations available.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Power Rating: 250 watt CW/ 5KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Intermodulation (WA1435-X-LIM only): Reflected IM3 = -100 dBc, nominal, with two input signals with an average power of +43 dBm each.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Range: -55°C to +125°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.30
4.0 - 8.5	1.45

Physical Dimensions:

Length: 208.53 (8.21)

Width: 79.45 (3.128)

Height: 50.55 (1.99)

Weight: 1.28 kg/ 2.75 lbs

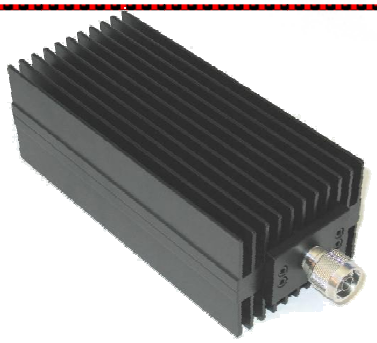
Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

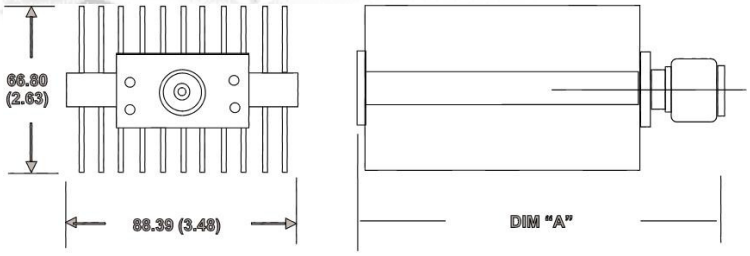
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

TERMINATION MODEL WA1436

DC – 8.5 GHz 300 WATTS





Features

Type N and 7/16 DIN stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Power Sensitivity: < 0.0001 dB / dB x W Unidirectional in power.

Power Rating: 300 watt CW/ 5KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 25 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Temperature Coefficient: < 0.0004 dB/dBx°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed at DC, 2.0, 4.0, and 8.5 GHz. All calibration data is available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 4.0 4.0 – 8.5	1.30 1.45

Weight: 1.28 kg/ 2.75 lbs.

Length: 233.93 (9.21)

Width: 79.45 (3.13)

Height: 50.55 (1.99)

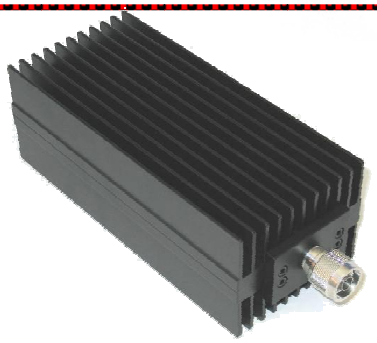
Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

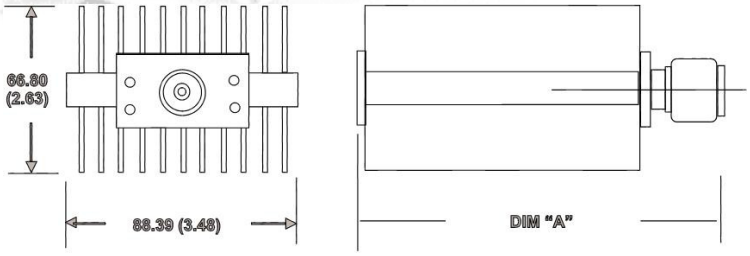
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1438

DC – 5.0 GHz 300 WATTS





Features

Type N and 7/16 DIN stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 5.0 GHz

Power Sensitivity: < 0.0001 dB/dBxW Unidirectional in power.

Power Rating: 300 watt CW/ 10KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 25 watts at 125° C. 10 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dBx°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: Insertion Loss and VSWR performed at DC, 2.0, 4.0, and 5.0 GHz. All calibration data is available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.0 2.0 – 5.0	1.15 1.25

Weight: 1.28 kg/ 2.75 lbs.

Length: 233.93 (9.21)

Width: 79.45 (3.13)

Height: 50.55 (1.99)

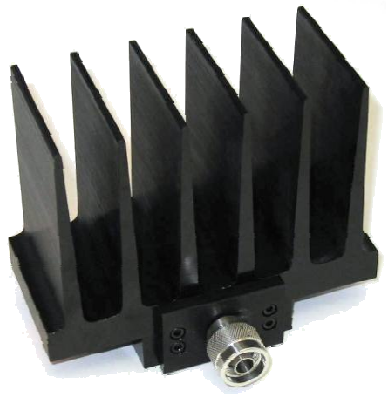
Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

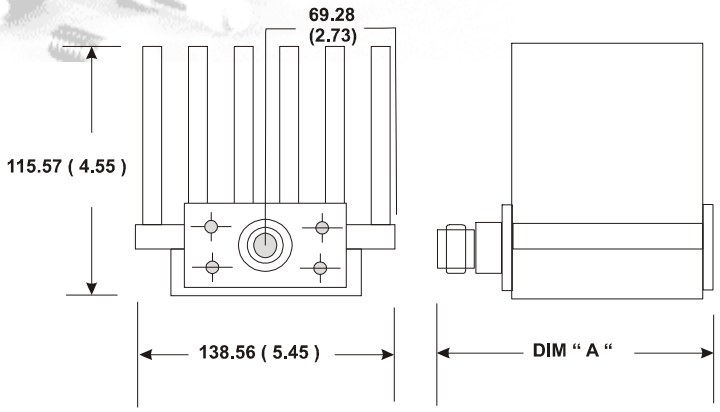
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

TERMINATION MODEL WA1439

DC – 2.5 GHz **150 Watts**





Features

Stainless Steel Type N or 7/16 DIN M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 2.5 GHz

Operation: Horizontal or Vertical

Maximum VSWR: 1.20

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Power Rating: 150 watt maximum rated average power to 25°C ambient temperature, mounted horizontally or vertically, (*with unobstructed air flow for natural convection cooling*) de-rated linearly to 0 watts at 125°C, 10 kilowatt peak (5 µsec pulse width; .75% duty cycle).

Temperature Range: Full power from -55°C to 100°C, Case temperature. -55°C to 125°C

Construction: Passivated stainless steel connectors with black fined aluminum body. Gold plated beryllium copper female contacts or passivated stainless steel male contacts.

Weight:

Type N	.91 Kg/ 2 lbs.
7/16 DIN	1.0 Kg/ 2.2 lbs.

Physical Dimensions: Connector Options

Connector	Dimension "A"
Type N Male (-4) Type N Female (-3)	96.6 (3.8) 88.9 (3.5)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

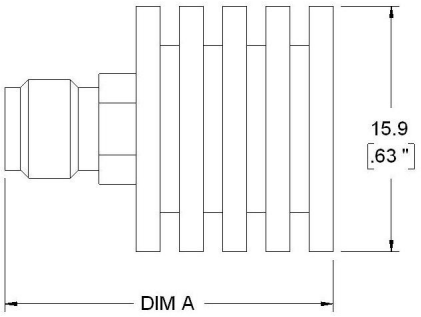
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1443

DC – 18.0 GHz **5 WATTS**





Features

Stainless steel Male or Female SMA connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Compact design for one of the lowest size/power ratios available. Designed to meet MIL-DTL-39030 environmental specifications. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Power Rating: 5 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 0.05% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Calibration: VSWR performed across frequency range. Option 890 or custom calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.20

Weight: 10 g (0.35 oz)

Physical Dimensions:

Length:

Connector Option	Length Dim. A
SMA Male (-2)	23.2 (0.91)
SMA Female (-1)	20.9 (0.82)

Width: 16.0 (0.63)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

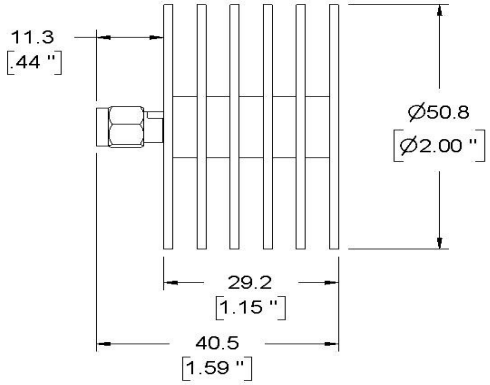
TERMINATION
3.5mm Connector

MODEL WA1444

DC – 26.5 GHz

25 WATTS





Features

Stainless steel Male or Female 3.5mm connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Compact design for one of the lowest size/ power ratios available. Designed to meet MIL-DTL-39030 environmental specifications. Unit may be mounted in any position. Optional 2.92mm connector available.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 26.5 GHz.

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, derated linearly to 2.5 watts at 125°C. 500 watts peak (5 µsec pulse width; 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Connectors: 3.5mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 26.5	1.25

Weight: 100 g (3.53 oz)

Physical Dimensions:

Length:

Connector Option	Length
3.5mm Male (-2)	40.5 (1.59)
3.5mm Female (-1)	39.5 (1.55)

Width: 50.8 (2.00)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

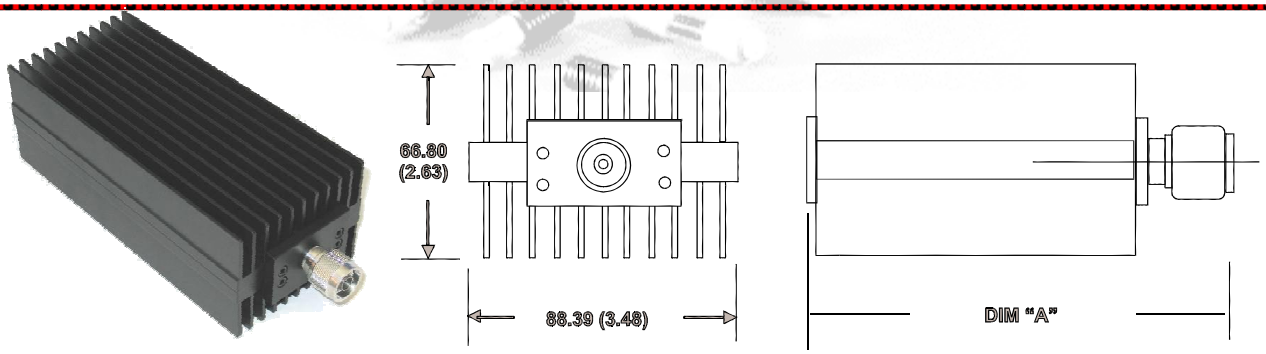
WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1445

DC – 2.5 GHz 250 WATTS



Features

Type N, 4.1 stainless steel M/F, or DIN 7/16 DIN connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 2.5 GHz

Power Rating: 250 watt CW/ 10KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 15 watts at 125°C. 10 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black finned aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper female contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.5	1.10

Weight: 1.5 kg/ 3.5 lbs.

Connectors: Type N; stainless steel connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Dimension "A": 212.09 (8.350)

Height: 66.80 (2.63)

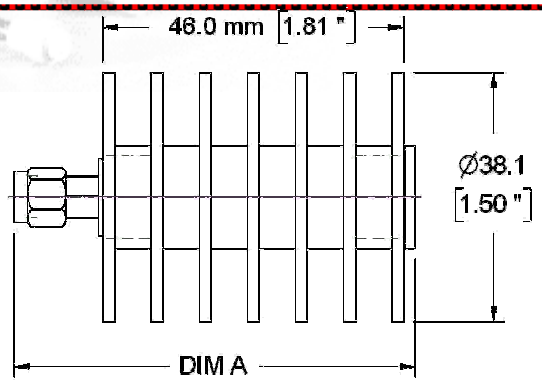
Width: 88.39 (3.48)

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

TERMINATION MODEL WA1446

DC –18.0 GHz 25 WATTS





Features

Type N or SMA stainless steel M or F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-3933 environmental specifications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Power Rating: 25W CW/ 1 KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 10 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black finned aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper female contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR

GHz	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.35

Weight: (Max)

Type N	0.18 kg/ 6 oz.
SMA	0.12 kg/ 4 oz.

Physical Dimensions:

Length:

Connector	Dimension A
Type N male	81.53 (3.21)
Type N female	82.30 (3.24)
SMA male	87.38 (3.44)
SMA female	84.07 (3.31)

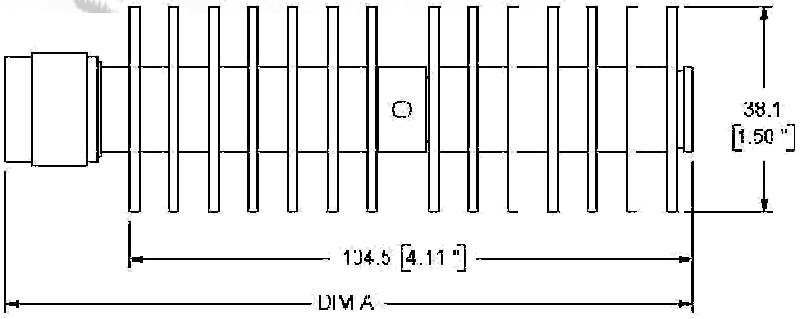
Diameter: 41.40 (1.63)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1447

DC –18.0 GHz 50 WATTS





Features

Type N or SMA stainless steel M or F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Power Rating: 50W CW/ 1 KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 10 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black finned aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper female contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.35

Weight: (Max)

Type N	0.18 kg/ 6 oz
SMA	0.12 kg/ 4 oz

Physical Dimensions:

Length:

Connector	Dimension A
Type N male	128.3 (5.05)
Type N female	121.9 (4.80)
SMA male	118.1 (4.65)
SMA female	116.9 (4.60)

Diameter: 38.1 (1.50)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1448

DC – 18.0 GHz 100 WATTS



Features

Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-39030 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 18.0 GHz

Power Rating: 100 watt maximum rated average power to 25°C ambient temperature, mounted horizontally, de-rated linearly to 10 watts at 125°C. 1 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Passivated stainless steel connectors with black fined aluminum body. Gold plated beryllium copper contacts or passivated stainless steel male contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N Male	.32 kg/ 11.0 oz
Type N Female	.31 kg/ 10.7 oz
SMA Male	.26 kg/ 9.0 oz
SMA Female	.26 kg/ 9.0 oz

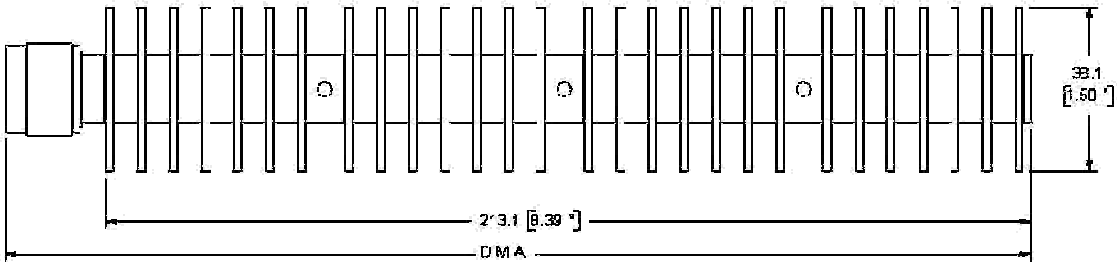
Physical Dimensions:

Connector	Dimension "A"
Type N Male	236.3 (9.30)
Type N Female	231.2 (9.10)
SMA Male	228.6 (9.00)
SMA Female	227.3 (8.95)

Maximum VSWR:

Frequency (GHz)	VSWR	
	Type N	SMA
DC – 8.0	1.25	1.25
8.0 – 12.4	1.30	1.35
12.4 – 18.0	1.45	1.45

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.



WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

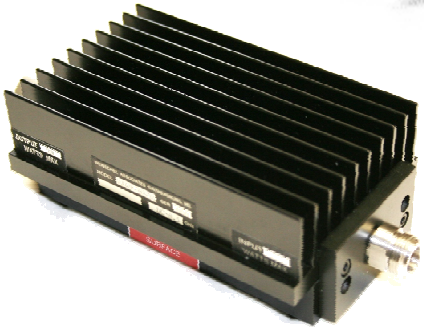
WEB: http://www.WeinschelAssociates.com

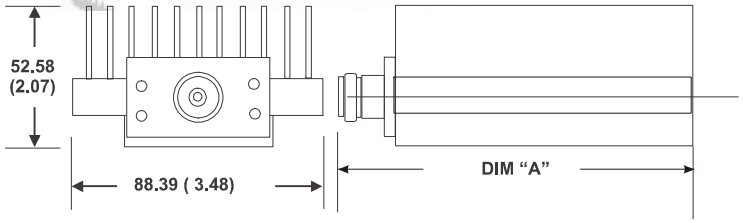
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

TERMINATION MODEL WA1449

DC – 8.5 GHz 150 WATTS





Features

Type N, SMA, or DIN 7/16 stainless steel connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-A-39030 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -8.5 GHz

Power Rating: 150 watt CW/ 5KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 15 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 – 8.5	1.35

Weight: 1.41 kg/ 3.1 lbs

Length: 151.13 (5.95) type N female
159.25 (6.27) type N male

Width: 88.39 (3.48)

Height: 52.58 (2.07)

Note: Dimensions are given in mm (inches) and are maximum ± .05 in., unless otherwise specified.

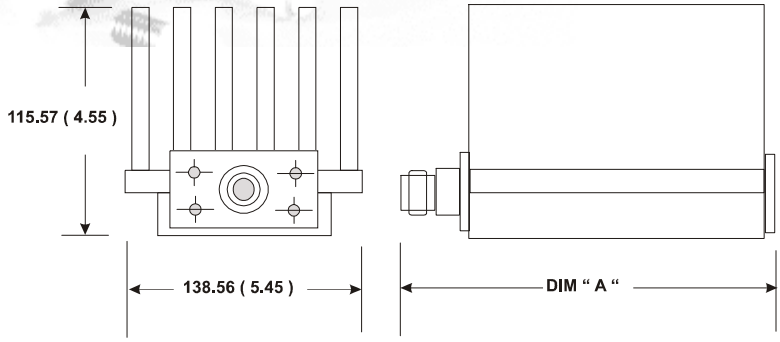
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1451

DC – 8.5 GHz 500 WATTS





Features

Stainless Steel Type N, or 7/16 DIN connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Useable to 10 GHz.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Operation: Horizontal or Vertical

Power Rating: 500 watt maximum rated average power to 25°C ambient temperature, mounted horizontally, de-rated linearly to 50 watts at 125°C, 5 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 – 8.5	1.35

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel connectors with black fined aluminum body. Gold plated beryllium copper or passivated stainless steel contacts.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N	3.64 Kg/ 8 lbs.
DIN 7/16	3.72 Kg/8.2 lbs.

Physical Dimensions:

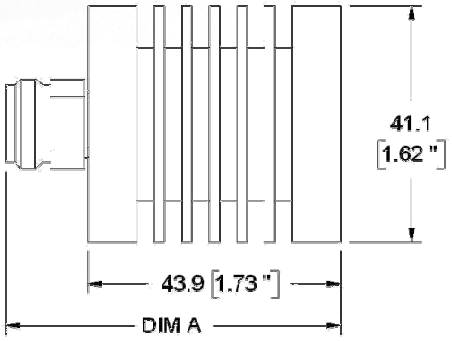
Connector	Dimension "A"
Type N Male	281.94 (11.10)
Type N Female	273.81 (10.78)
7/16 DIN Female	291 (11.6)
7/16 DIN Male	311 (12.3)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION MODEL WA1452

DC – 4.0 GHz 25 WATTS





Features

Type N, SMA, and 7/16 DIN stainless steel male/ female connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Power Rating: 25 watts average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 1.5 watts at 125°C. 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contact.

Maximum VSWR:

GHz	VSWR
DC - 2.0	1.10
2.0 – 4.0	1.20

Weight: .17 kg/ 6 oz

Physical Dimensions:

Length: DIM "A"

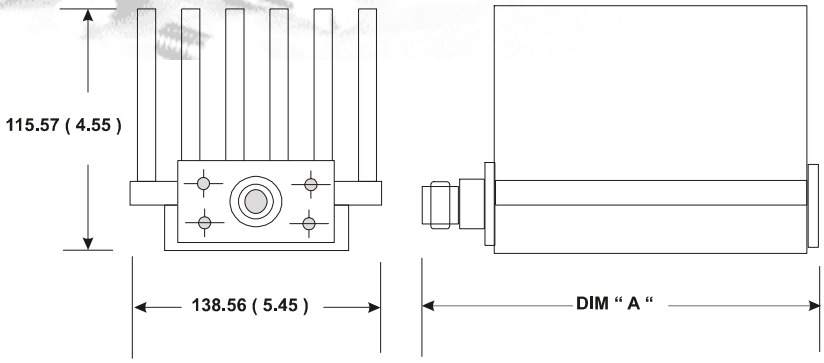
Connector Type	Dlimension "A"
Type N Female -3 Type N Male -4	60.99 (2.4) 68.57 (2.7)
SMA Female -1 SMA Male -2	58.43 (2.3) 60.99 (2.4)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1453

DC – 2.5 GHz 500 WATTS





Features

Stainless Steel Type N or 7/16 DIN connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 2.5 GHz

Operation: Horizontal or Vertical

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.5	1.10

Power Rating: 500 watt maximum rated average power to 25°C ambient temperature, mounted horizontally, de-rated linearly to 50 watts at 125°C, 10 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Passivated stainless steel connectors with black fined aluminum body. Gold plated beryllium copper contacts or passivated stainless steel male contacts.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N	3.64 Kg/ 8 lbs.
7/16 DIN	3.72 Kg/8.2 lbs.

Physical Dimensions:

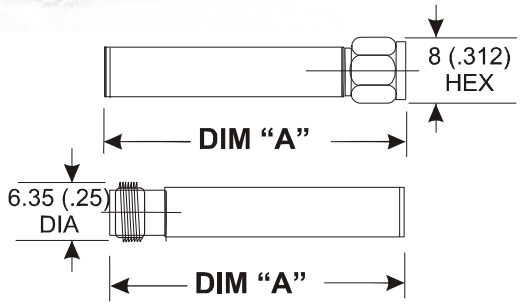
Connector	Dimension "A"
Type N Male	281.94 (11.10)
Type N Female	273.81 (10.78)
7/16 DIN Female	291 (11.6)
7/16 DIN Male	311 (12.3)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1454

DC – 40.0 GHz 2 WATTS





Features

Type 2.92 mm connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012 connectors. Designed to meet MIL-A-39030 environmental specifications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -40 GHz

Power Rating: 2 watts average, 200 watts peak (maximum rated average power to 25° C ambient temperature, de-rated linearly to 0.1 watts at +85° C.

Temperature Range: -55°C to +100°C

Maximum VSWR:

Frequency GHz	VSWR
DC – 26.5	1.25
26.5 – 40.0	1.45

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight: 4.9 gm/ .18 oz

Physical Dimensions:

Connector Type	Dimension A
2.92 mm Female -1 2.92 mm Male -2	24.9 (0.98) 25.4 (1.00)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

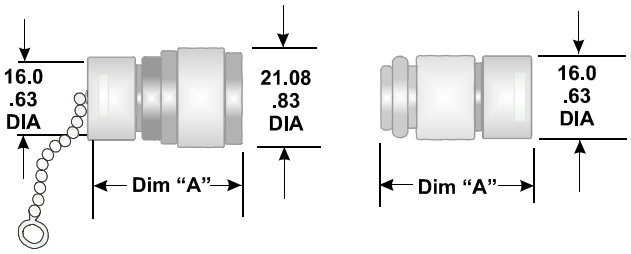
Specification
Subject to change
without notice

TERMINATION MODEL WA1455

DC – 6.0 GHz WA1455/6
DC – 12.4 GHz WA1455/12
DC – 18.0 GHz WA1455/18

2 WATT





Features

Type N male (-4) or female (-3) or type TNC male (-6) or female (-5) connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Excellent VSWR repeatability. Available with and without chain.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: WA1455/6 DC – 6.0 GHz
WA1455/12 DC – 12.4 GHz
WA1455/18 DC – 18.0 GHz

Power Rating: 2 watts average, 1 kilowatt peak (maximum rated average power to 25° C ambient temperature, de-rated linearly to 1.0 watts at 125° C.

Temperature Range: -55°C to +125°C.

Maximum VSWR:

Frequency GHz	VSWR (N-TYPE)	VSWR (TNC)
DC – 8.0	1.10	1.10
8.0 – 12.4	1.15	1.15
12.4 – 18.0	1.20	1.25

Construction: Passivated stainless steel body and connectors. Stainless steel male contact.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight: 110.0 gm/ 4 oz.

Physical Dimensions:

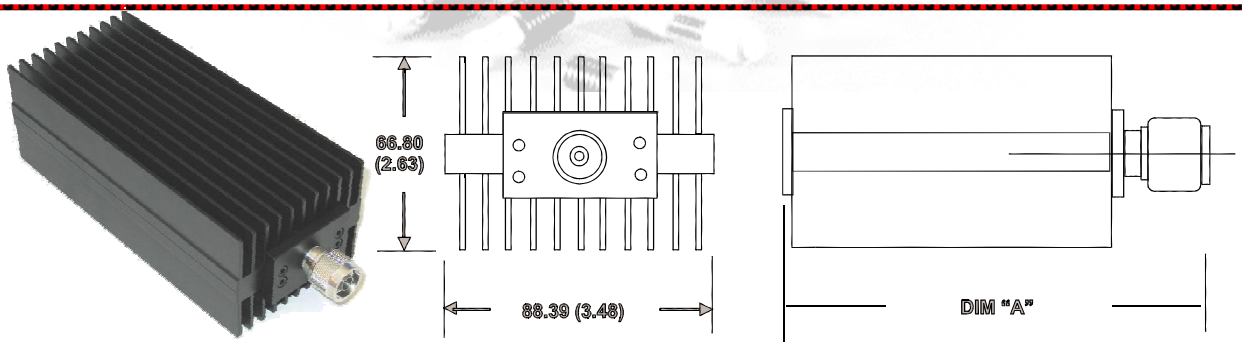
Length:

Model	Dimension A
WA1455-3	28.89 (1.14)
WA1455-4	32.89 (1.29)
WA1455-5	34.29 (1.35)
WA1455-6	35.56 (1.40)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION MODEL WA1458

DC – 5.0 GHz 250 WATTS



Features

Type N, SMA, or DIN 7/16 connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 5.0 GHz

Power Rating: 250 watt CW/ 10KW peak. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 25 watts at 125°C. 10 kilowatt peak (5 µsec pulse width; 1.5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black finned aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper female contact. Stainless steel male contact.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 2.5	1.10
2.5 – 5.0	1.20

Weight: 1.5 kg / 3.5 lbs.

Connectors: Type N; stainless steel connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Dimension A: 212.1 (8.35)

Height: 66.8 (2.63)

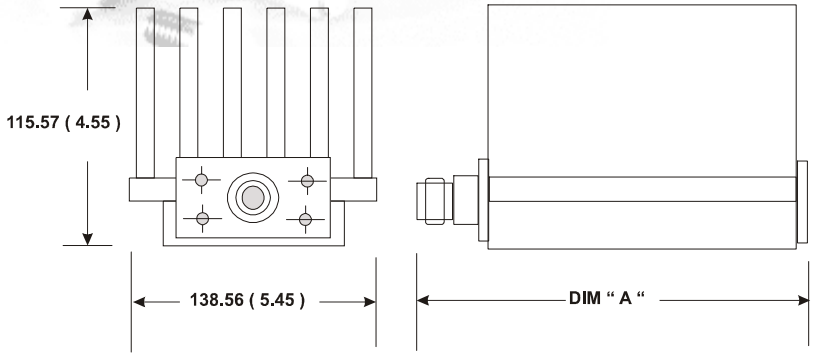
Width: 88.4 (3.48)

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

TERMINATION MODEL WA1460

DC – 5.0 GHz 500 WATTS





Features

Stainless Steel Type N or 7/16 DIN connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 5.0 GHz

Operation: Horizontal or Vertical

Maximum VSWR:

DC - 2.0 GHz: 1.15
2.0 - 5.0 GHz: 1.25

Power Rating: 500 watt maximum rated average power to 25°C ambient temperature, mounted horizontally, de-rated linearly to 50 watts at 125°C, 10 kilowatt peak (5 µsec pulse width; 5% duty cycle).

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Range: -55°C to +125°C

Construction: Passivated stainless steel connectors with black fined aluminum body. Gold plated beryllium copper contacts or passivated stainless steel male contacts.

Weight:

Type N	3.64 Kg/ 8 lbs.
7/16 DIN	3.72 Kg/8.2 lbs.

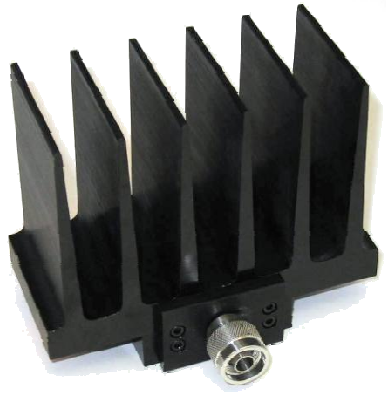
Physical Dimensions: N Type Connector

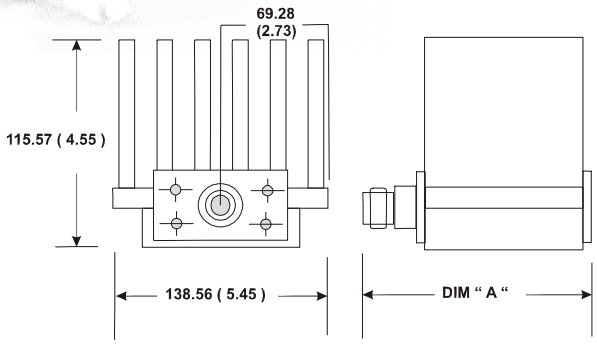
Connector	Dimension "A"
Type N Male (-4)	281.94 (11.10)
Type N Female (-3)	273.81 (10.78)
DIN 7/16 DIN Female (-8)	291 (11.6)
DIN 7/16 DIN Male (-9)	311 (12.3)
4.1F	279 (11.0)
4.1M	290 (11.4)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL WA1465

DC – 2.5 GHz 150 WATTS





Features

Stainless Steel Type N or 7/16 DIN M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC – 2.5 GHz

Operation: Horizontal or Vertical

Maximum VSWR: 1.20

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Power Rating: 150 watt maximum rated average power to 25°C ambient temperature, mounted horizontally or vertically, (*with unobstructed air flow for natural convection cooling*) de-rated linearly to 0 watts at 125°C, 10 kilowatt peak (5 µsec pulse width; .75% duty cycle).

Temperature Range: Full power from -55°C to 100°C, Case temperature. -55°C to 125°C

Construction: Passivated stainless steel connectors with black fined aluminum body. Gold plated beryllium copper female contacts or passivated stainless steel male contacts.

Weight:

Type N	.91 Kg/ 2 lbs.
7/16 DIN	1.0 Kg/ 2.2 lbs.

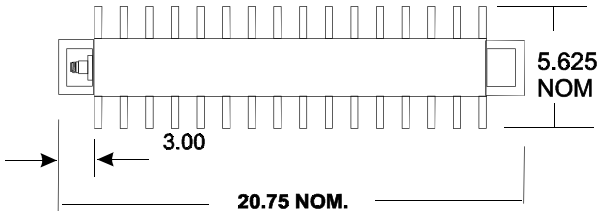
Physical Dimensions: Connector Options

Connector	Dimension "A"
Type N Male (-4) Type N Female (-3)	96.6 (3.8) 88.9 (3.5)

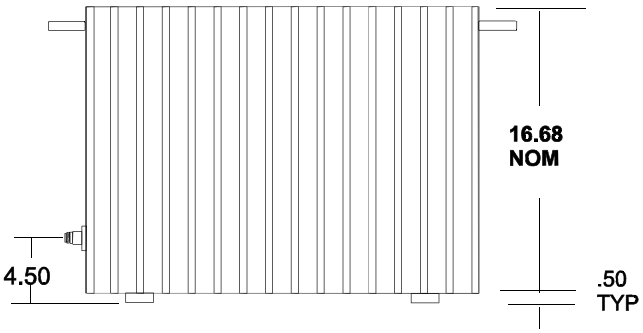
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

TERMINATION MODEL 1470

DC – 3.0 1000 WATTS



WA1470 Termination



Features

Designed to meet environmental requirements of MIL-D-39030.

High quality type N connectors

Natural convection cooling, No oil filling (*Air flow should not be obstructed around unit*)

Specifications

NOMINAL IMPEDANCE: 50 Ω

OPERATING POSITION: Horizontal; reduce 15% for vertical

CALIBRATION: VSWR performed across frequency range. Calibration test data available at additional cost.

MAXIMUM VSWR: 1.35

POWER RATING: 1,000 watts average
To 25° C ambient temperature, de-rated linearly to 100 watts @ 125° C; 10 kilowatt peak.

TEMPERATURE: -55° C to +125° C

CONNECTORS: Type N stainless steel mate nondestructively with MIL-PRF-39012 connector or 7/16 connector, conforms to DIN 47223, IEC 169-4, VG 95250, CECC 22190

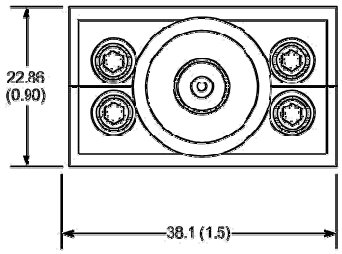
DIMENSIONS

Length	527 mm/ 20.75in nom.
Width	143 mm/ 5.625 in nom.
Height	437 mm/ 17.20 in max
Weight	20.41 kg/ 45 lbs

TERMINATION MODEL WA1471
Low-Profile Mountable

DC – 4.0 GHz **50 WATTS**





Features

Designed to comply with MIL-A-3933. Conductive Cooling.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 4.0 GHz

Temperature Range: -55°C to 125°C

Power: 50W CW average, 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle) with case temperature held to +100°C maximum using conductive heat sink.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Connectors: Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Construction: Aluminum alloy body with passivated stainless steel connectors.

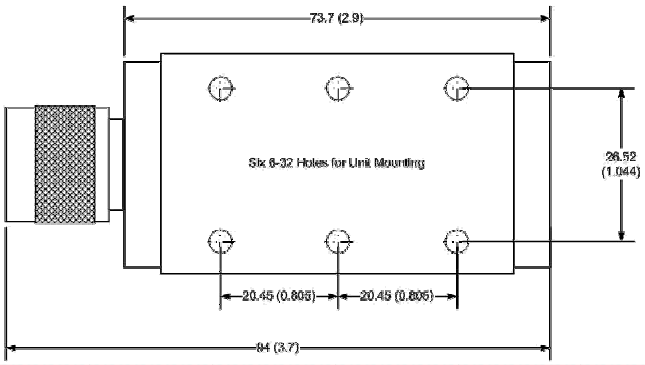
Maximum VSWR: 1.20

Physical Dimensions:

Connector Type	Length
Type N Female –3 Type N Male –4	108.0 (4.25)
SMA Female –1 SMA Male –2	120.65 (4.75)

Weight: .14 kg/5 oz.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.



WEINSCHEL ASSOCIATES

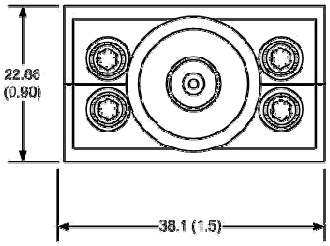
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1472
Low-Profile Mountable

DC – 8.5 GHz **50 WATTS**





Features

Designed to comply with MIL-A-3933. Conductive Cooling

Connectors: Type N, SMA, or DIN 7/16 stainless steel M/F connectors per MIL-STD-3448A, interface dimensions mate nondestructively with MIL-PRF-39012.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Physical Dimensions:

Connector Type	Length
Type N Female –3 Type N Male –4	108.0 (4.25)
SMA Female –1 SMA Male –2	120.65 (4.75)

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 8.5 GHz

Maximum VSWR: 1.30

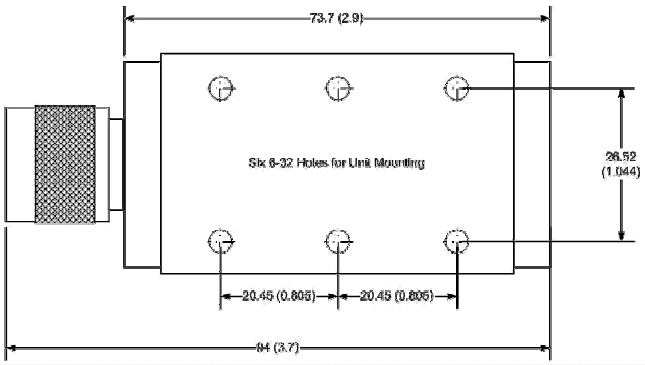
Power: 50W CW average, 5 kilowatt peak (5 µsec pulse width; 1.5% duty cycle) with case temperature held to +100°C maximum using conductive heat sink.

Temperature Range: -55°C to 125°C

Weight: .14 kg/5 oz.

Construction: Aluminum alloy body with passivated stainless steel connectors.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.



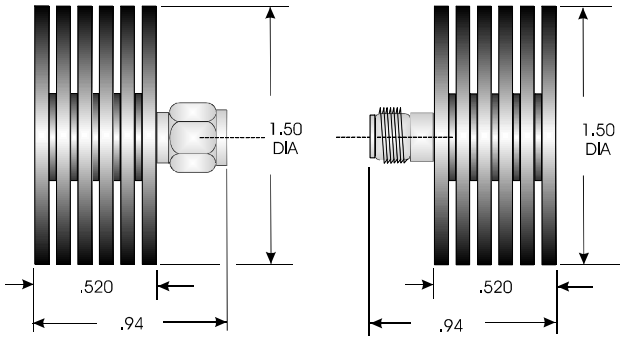
WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1475

DC – 40.0 GHz 5 WATTS





Model WA1475 shown with model WA54 attenuator

Features

- **Compact Construction –** Lowest size/power ratio.
- **Precision 2.92mm connectors.**
- **Flat Response.**

Specifications

Nominal Impedance: 50 Ohms

Frequency Range: DC to 40.0 GHz

Power Rating (mounted horizontally): 5 watts average **(bi-directional)** to 25°C ambient temperature, de-rated linearly to 0.5 Watt @ 125°C. 200 watts peak (5 µsec pulse width; 1.25% duty cycle).

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Range: -55°C to 125°C

Connectors: 2.92mm (Male/Female) connectors mate nondestructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors.

Construction: Stainless steel connector body with gold plated beryllium copper contacts.

Weight: 200g (7.0 oz.) maximum

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.20
18.0 - 40.0	1.35

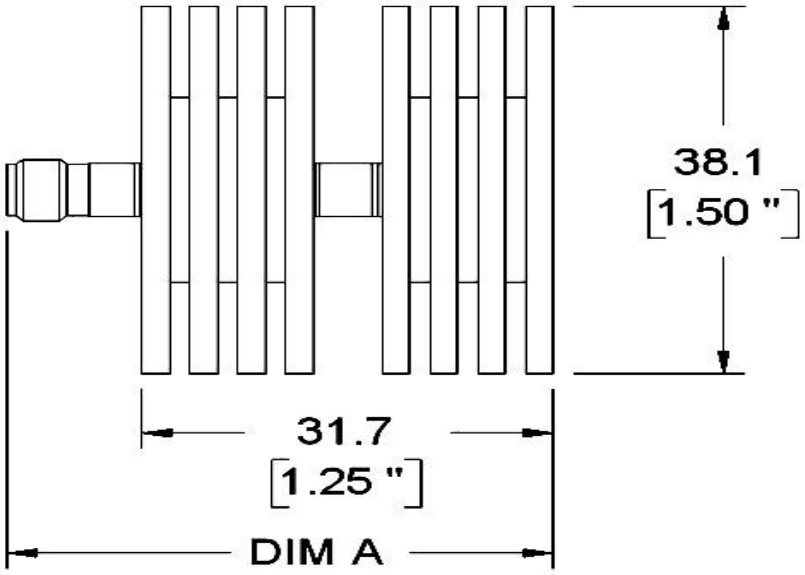
Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TERMINATION
High Frequency

MODEL WA1476

DC – 40.0 GHz

10 WATTS



Features

► **Compact Construction –** Lowest size/power ratio.

► **Precision 2.92mm connectors.**

► **Flat Response.**

Specifications

Nominal Impedance: 50 Ohms

Frequency Range: DC to 40.0 GHz

Power Rating (mounted horizontally): 10 watts average to 25°C ambient temperature, de-rated linearly to 0.5 Watt @ 125°C. 200 watts peak (5 µsec pulse width; 1.25% duty cycle).

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Range: -55°C to 125°C

Connectors: 2.92mm (Male/Female) connectors mate nondestructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors.

Construction: Stainless steel connector body with gold plated beryllium copper contacts.

Weight: **145**g (5oz.) maximum

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.25
18.0 – 40.0	1.40

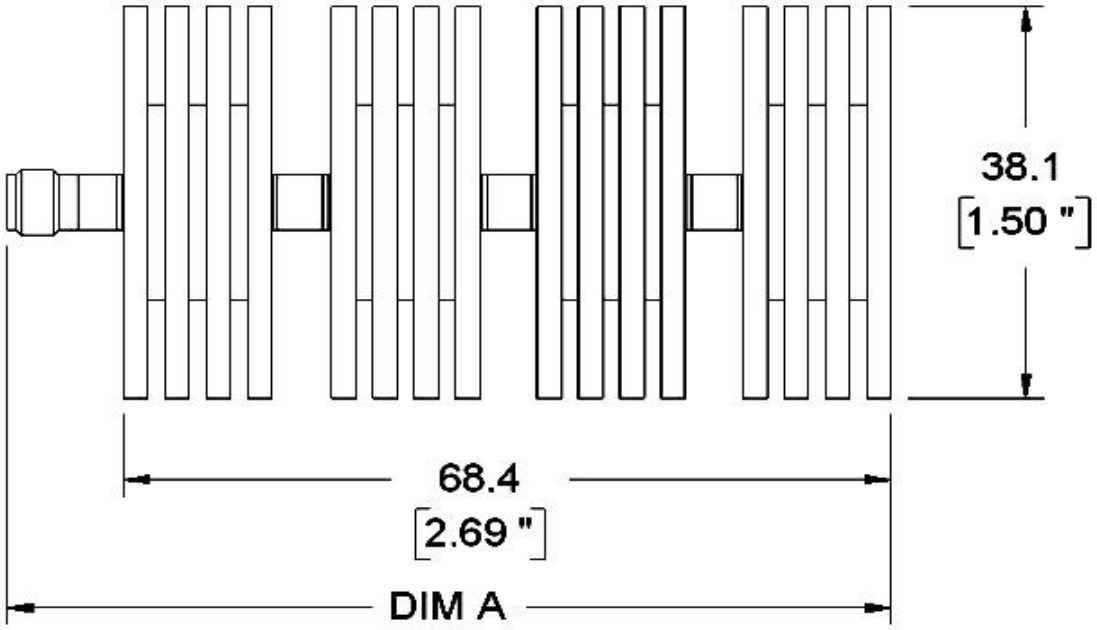
Note: Dimensions are given in mm (inches) and are maximum, Unless otherwise specified.

TERMINATION
High Frequency

MODEL WA1489

DC – 40.0 GHz

20 WATTS



Features

► **Compact Construction –** Lowest size/power ratio.

► **Precision 2.92mm connectors.**

► **Flat Response.**

Specifications

Nominal Impedance: 50 Ohms

Frequency Range: DC to 40.0 GHz

Power Rating (mounted horizontally): 20 watts average to 25°C ambient temperature, de-rated linearly to 0.5 Watt @ 125°C. 200 watts peak (5 µsec pulse width; 1.25% duty cycle).

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Temperature Range: -55°C to 125°C

Connectors: 2.92mm (Male/Female) connectors mate nondestructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors.

Construction: Stainless steel connector body with gold plated beryllium copper contacts.

Weight: 200g (7oz.) maximum

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 18.0	1.25
18.0 – 40.0	1.40

Note: Dimensions are given in mm (inches) and are maximum, Unless otherwise specified.

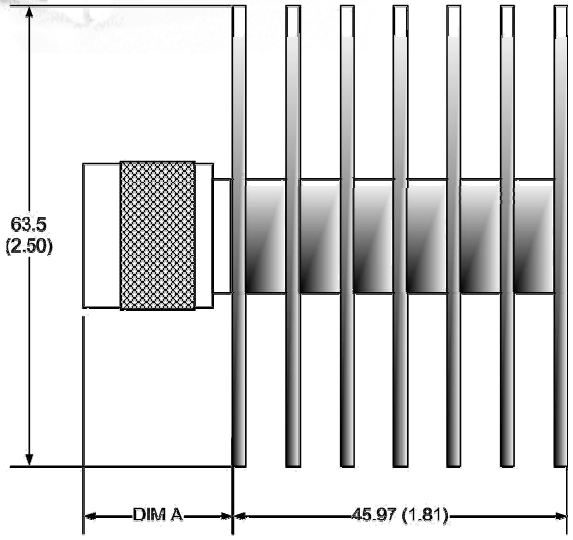
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1490
High Power-High Frequency

DC – 18.0 GHz **50 WATTS**





Features

Designed to meet MIL-A-39030 environmental specifications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Power Rating: 50W CW/ 1 KW peak to 25°C ambient temperature, de-rated linearly to 10 watts at 125°C, 1 kilowatt peak (5 µsec pulse width; 2.5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.15
8.0 – 12.4	1.20
12.4 – 18.0	1.30

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

* Note: TNC connector available upon request.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N	1.18 kg/ 4.1 oz.
SMA	1.25 kg/ 4.3 oz.

Physical Dimensions:

Length:

Connector	Dimension A
Type N (-3, -4)	24.1 (0.95)
SMA (-1, -2)	30.1 (1.23)

Diameter: **63.50 (2.50)**

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES

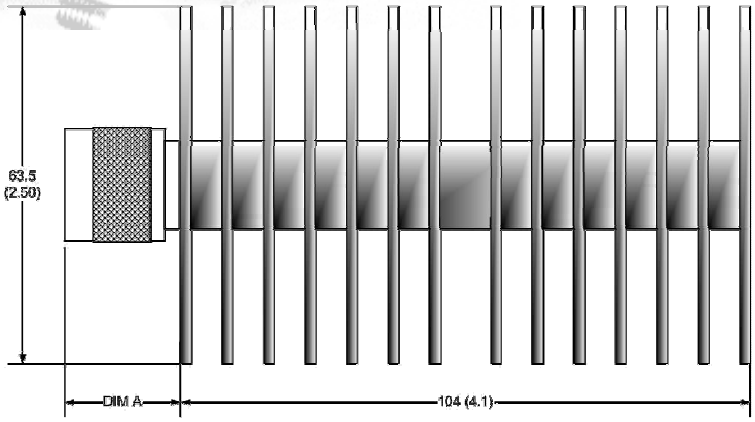
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION MODEL WA1491
High Power-High Frequency

DC – 18.0 GHz **100 WATTS**





Features

Designed to meet MIL-A-39030 environmental specifications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Power Rating: 100W CW/ 1 KW peak to 25°C ambient temperature, de-rated linearly to 10 watts at 125°C, 1 kilowatt peak (5 µsec pulse width; 2.5% duty cycle).

Temperature Range: -55°C to +125°C

Construction: Black finned aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC – 8.0	1.20
8.0 – 12.4	1.25
12.4 – 18.0	1.35

Connectors: Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

* Note: TNC connector available upon request.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Weight:

Type N	1.18 kg/ 4.1 oz.
SMA	1.25 kg/ 4.3 oz.

Physical Dimensions:

Length:

Connector	Dimension A
Type N (-3, -4)	24.1 (0.95)
SMA (-1, -2)	30.1 (1.23)

Diameter: 63.50 (2.50)

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified.

RESISTIVE POWER SPLITTERS AND DIVIDERS

DC – 40.0 GHz **1 WATTS**

Resistive Power Splitters

Usage: Use in RF and wireless applications where one of the two outputs are included in a leveling loop or used as a reference in a ratio system providing an output signal whose source impedance is matched to 50 ohms.

Features: Excellent amplitude tracking, low equivalent output SWR, unidirectional

Resistive Power Splitters							
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Maximum Insertion Loss (dB)	Amplitude Tracking (dB, max)	Phase Tracking (± deg)	Connectors	Page No.
WA1507R	4	1	6.5	0.15	4	SMA	130
WA1593	26.5	1	8.5	0.25	4	3.5 mm	131
WA1534	40	1	10.5	0.50	4	2.92 mm	132
PS-018	18	1	7.5	0.2	2	N	128
7PS-018	18	1	7.5	0.2	2	N (input), 7 mm	129

Resistive Power Dividers

Usage: Use in general RF and wireless applications where RF signals are to be either divided or combined.

Features: Excellent amplitude and phase tracking, bi-directional, isolated outputs

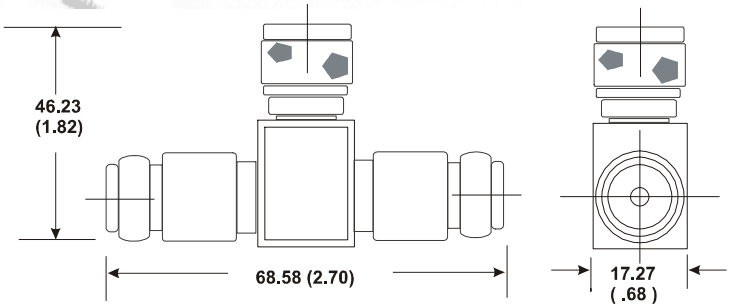
Resistive Power Dividers							
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Maximum Insertion Loss (dB)	Amplitude Tracking (dB, max)	Phase Tracking (± deg)	Connectors	Page No.
WA1549R	4	1	6.5	0.15	4	SMA	125
WA1506A	18	1	7.5	0.50	0	N	123
WA1515	18	1	7.5	0.50	0	SMA	124
WA1574	26.5	1	8.5	1.0	2	3.5 mm	126
WA1575	40	1	8.5	0.25	2	2.92 mm	127



Broadband Resistive Power Divider
MODEL WA1506A

DC-18.0 GHz **1 Watt**





Features

►Accurate Division and Low Frequency Sensitivity- The symmetry of output power between the two arms is excellent across the frequency range.

►High Stability- Low temperature and power coefficients ensure attenuator stability

►Calibration Data – Each divider is calibrated at four frequencies. Calibration data provided at additional cost.

►Matched Ports- Symmetrical 6 dB division permits any port to be used as input.

Specifications

Nominal Impedance: 50Ω

Frequency Range: DC to 18.0 GHz

AMPLITUDE & PHASE TRACKING (MAX.)	
Frequency (GHz)	**Tracking**
DC – 4.0	0.2 dB
4.0 – 10.0	0.4 dB
10.0 - 18.0	0.5 dB

MAXIMUM VSWR	
Frequency (GHz)	**VSWR**
DC – 10.0	1.25
10.0 - 18.0	1.35

Insertion Loss: (Between input & either output arm): 6 dB nominal, -0.2, +1.2 dB maximum to 10.0 GHz; +1.5 dB maximum to 18 GHz.

Maximum Input Power: 1.0 watt CW, 1 kilowatt peak (5μsec pulse width, 0.05 duty cycle)

Phase Tracking: ±2° nominal between output ports (with male connector as input and female connectors as outputs)

Number of Ports: 3 interchangeable for input and output

Power Coefficient: <0.005 dB/dB/W

Temperature Coefficient: <0.005 dB/dB/°C

Temperature Range: -55°c TO +125 °C

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts.

Connectors: Type N connectors per MIL-STD-348 interface nondestructively with MIL-PRF-39012 connectors.

Weight: .14kg (5 oz) maximum

Note: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

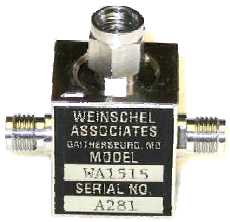
WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

Broadband Resistive Power Divider
MODEL WA1515

DC – 18.0 GHz **1 WATT**



AMPLITUDE & PHASE TRACKING (MAX.)	
Frequency (GHz)	**Tracking**
DC – 4.0	0 .2 dB
4.0 – 10.0	0.4 dB
10.0 – 18.0	0.5 dB

MAXIMUM VSWR		
Frequency (GHz)	**Output**	**Input**
DC – 10.0	1.25	1.25
10.0 – 18.0	1.35	1.35

Features

Lightweight Miniature package: High power capability

Close Tracking: Division is 6dB from matched ports

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 18.0 GHz

INSERTION LOSS: 6 dB nominal, -0.2 dB, +1.2 to 10.0 GHz, 1.5 to 18.0 GHz

MAXIMUM INPUT POWER: 1.0 watt CW, 1kw peak (5 µsec pulse width, 0.05 % duty cycle)

PHASE TRACKING: ±2° nominal between male input and female outputs.

TEMPERATURE RANGE: -55°C to +125 °C

TEMPERATURE COEFFICIENT: < 0.004 dB/dB/°C

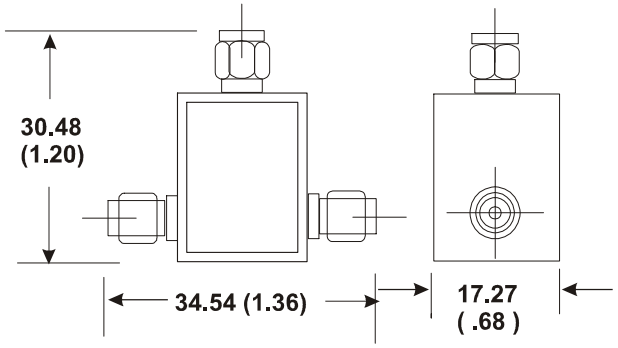
POWER COEFFICIENT: < 0.005 dB/dB/watt

CONTRUCTION: Nickel plated brass body; stainless steel connectors.

CONNECTORS: Male SMA port 1, (2) Female SMA ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional female SMA connectors are available on all ports. Reference P/N WA1515-1.

WEIGHT: 30 g (1 oz) maximum

PHYSICAL DIMENSIONS:



Broadband Resistive Power Divider
MODEL WA1549R

DC – 4.0 GHz **1 WATT**

Features

These resistive power dividers are intended for RF and wireless applications in which one of the outputs is included in a leveling loop or is used as a reference in a ratio system , for the purpose of providing an output signal whose source impedance is essentially matched to 50Ω. Some examples are:

►A dual channel insertion loss measuring system (ratio).

►A parallel IF substitution insertion loss measuring system (ratio or ALC loop).

►A precision power source (ration or ALC loop)

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 4.0 GHz

INSERTION LOSS: 6 dB nominal, 6.5 dB maximum (Between input and either output)

MAXIMUM INPUT POWER: 1.0 watt CW (Input connector only)

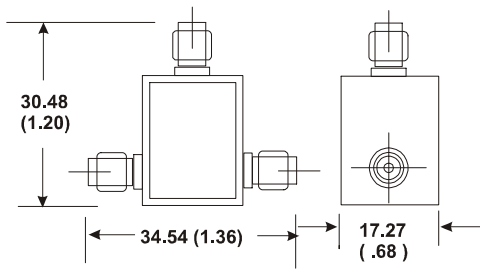
AMPLITUDE & PHASE TRACKING (MAX.)		
Frequency (GHz)	**Tracking**	
	Amplitude	Phase
DC – 4.0	< 0.15	< 4°

TEMPERATURE RANGE: -55°C to +125 °C

CONNECTORS: Female SMA connectors all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional male SMA connectors are available.

WEIGHT: 25 g (0.9 oz) maximum

PHYSICAL DIMENSIONS:



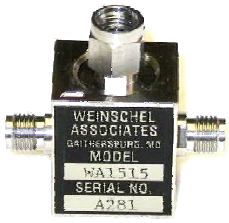
NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MAXIMUM VSWR:

Frequency (GHz)	Output	Input
DC – 4.0	1.25	1.25

Broadband Resistive Power Divider
MODEL WA1574

DC – 26.5 GHz **1 WATT**



AMPLITUDE & PHASE TRACKING (MAX.)		
Frequency (GHz)	**Tracking**	
	Amplitude	Phase
DC – 26.5	< 1.0	< 2 °

MAXIMUM VSWR	
Frequency (GHz)	**VSWR**
DC – 26.5	1.70

Features

Lightweight Miniature package: High power capability. These resistive power dividers are intended for RF and wireless applications in which the signal must be divided or combined.

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 26.5 GHz

INSERTION LOSS: 6 dB nominal, 8.5 dB maximum (between input and either output).

MAXIMUM INPUT POWER: 1.0 watt CW, 1kw peak (5 µsec pulse width, 0.05 % duty cycle, input connector only).

TEMPERATURE RANGE: -55°C to +125 °C

TEMPERATURE COEFFICIENT: < 0.004 dB/dB/°C

POWER COEFFICIENT: < 0.005 dB/dB/watt

CONTRUCTION: Nickel plated brass body; stainless steel connectors.

CONNECTORS: Male 3.5mm port 1, (2) Female 3.5mm ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional female 3.5mm connectors are available on all ports.

WEIGHT: 25 g (0.9 oz) maximum

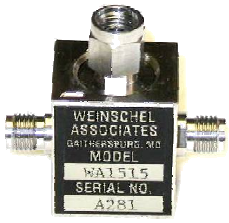
PHYSICAL DIMENSIONS:

Body Width: 10.2 (0.40)
Body Height: 15.2 (0.60) Square

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Broadband Resistive Power Divider
MODEL WA1575

DC – 40.0 GHz **1 WATT**



AMPLITUDE & PHASE TRACKING (MAX.)		
Frequency (GHz)	**Tracking**	
	Amplitude	Phase
DC – 40.0	< 0.25	< 2 °

MAXIMUM VSWR	
Frequency (GHz)	**VSWR**
DC – 40.0	1.70

Features

Lightweight Miniature package: High power capability. These resistive power dividers are intended for RF and wireless applications in which the signal must be divided or combined.

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 40.0 GHz

INSERTION LOSS: 6 dB nominal, 10.5 dB maximum (between input and either output).

MAXIMUM INPUT POWER: 1.0 watt CW, 1kw peak (5 µsec pulse width, 0.05 % duty cycle, input connector only).

TEMPERATURE RANGE: -55°C to +125 °C

TEMPERATURE COEFFICIENT: < 0.004 dB/dB/°C

POWER COEFFICIENT: < 0.005 dB/dB/watt

CONTRUCTION: Nickel plated brass body; stainless steel connectors.

CONNECTORS: Male 2.92mm port 1, (2) Female 2.92mm ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional female 2.92mm connectors are available on all ports.

WEIGHT: 25 g (0.9 oz) maximum

PHYSICAL DIMENSIONS:

Body Width: 10.2 (0.40)
Body Height: 15.2 (0.60) Square

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Broadband Resistive Power Splitter
MODEL PS-018

DC – 18.0 GHz **1 WATT**

Features

These resistive power splitters are intended for use with RF and wireless applications where one of the two outputs are included in a leveling loop or used as a reference in a ratio system providing an output signal whose source impedance is matched to 50 ohms.

MAXIMUM VSWR	
Frequency (GHz)	VSWR
DC – 18.0	1.30
Max if both output ports are terminated in 50 ohms.	

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC TO 18.0 GHz

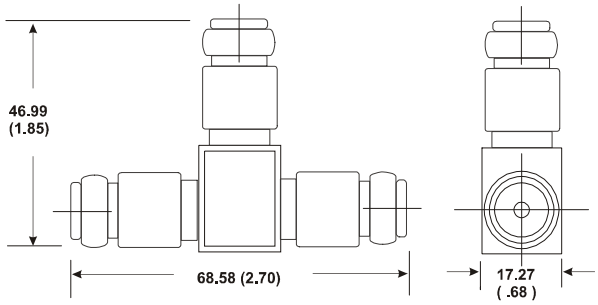
INSERTION LOSS: (Between input & either output arm): 6 dB nominal, 7.5 dB maximum.

MAXIMUM INPUT POWER: 1.0 watt CW, 1 kilowatt peak (5μsec pulse width, 0.05 duty cycle) maximum (input connector only).

MAXIMUM BALANCE OF POWER DIVISION:

DC – 18.0 GHz 0.15 dB
8.0 – 18.0 GHz 0.20 dB
Typical 0.1 dB

PHYSICAL DIMENSIONS:



PHASE TRAKING: ±2° nominal between output ports

EQUIVALENT OUTPUT SWR: (Port 2 & 3 when in a leveling or ratio system)

DC – 2.0 GHz 1.05
2.0 – 4.0 GHz 1.07
4.0 – 8.0 GHz 1.10
8.0 – 18.0 GHz 1.15

POWER COEFFICIENT: <0.005 dB/dB x W

TEMPERATURE COEFFICIENT: <0.0004 dB/dB x °C

TEMPERATURE RANGE: -55°c to +85 °C

CONSTRUCTION: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts.

CONNECTORS: Type N connectors per MIL-STD-348 interface nondestructively with MIL-PRF-39012 connectors.

WEIGHT: .17 kg (6 oz) maximum

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Broadband Resistive Power Splitter
MODEL 7PS-018

DC – 18.0 GHz **1 WATT**

Features

These resistive power splitters are intended for use with RF and wireless applications where one of the two outputs are included in a leveling loop or used as a reference in a ratio system providing an output signal whose source impedance is matched to 50 ohms.

MAXIMUM VSWR	
Frequency (GHz)	VSWR
DC – 18.0	1.30
Max if both output ports are terminated in 50 ohms.	

Specifications

NOMINAL IMPEDANCE: 50Ω

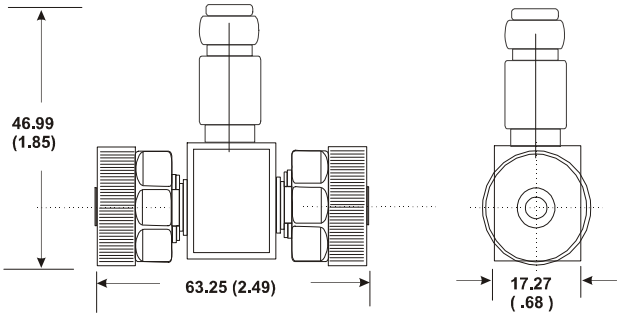
FREQUENCY RANGE: DC TO 18.0 GHz

INSERTION LOSS: (Between input & either output arm): 6 dB nominal, 7.5 dB maximum.

MAXIMUM INPUT POWER: 1.0 watt CW, 1 kilowatt peak (5µsec pulse width, 0.05 duty cycle) maximum (input connector only).

MAXIMUM BALANCE OF POWER DIVISION:

DC – 18.0 GHz	0.15 dB
8.0 – 18.0 GHz	0.20 dB
Typical	0.1 dB



PHYSICAL DIMENSIONS:

PHASE TRAKING: ±2° nominal between output ports

EQUIVALENT OUTPUT SWR: (Port 2 & 3 when in a leveling or ratio system)

DC – 2.0 GHz	1.05
2.0 – 4.0 GHz	1.07
4.0 – 8.0 GHz	1.10
8.0 – 18.0 GHz	1.15

POWER COEFFICIENT: <0.005 dB/dB x W

TEMPERATURE COEFFICIENT: <0.0004 dB/dB x °C

TEMPERATURE RANGE: -55°c to +85 °C

CONSTRUCTION: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts.

CONNECTORS: Type N stainless steel female (input) connector per MIL-STD-348A, interface nondestructively with MIL-PRF-39012 connectors. Precision 7mm (output). Meets or exceeds requirements of IEEE STD 287 and mates with all connectors conforming to design 2 of that standard.

WEIGHT: .17 kg (6 oz) maximum

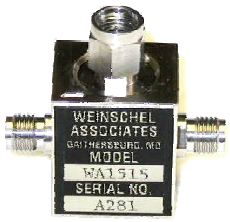
NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

Broadband Resistive Power Splitter
MODEL WA1507R

DC – 4.0 GHz **1 WATT**



Features

Lightweight Miniature package: High power capability. These resistive power splitters are intended for RF and wireless applications in which one of the outputs is included in a leveling loop or is used as a reference in a radio system, for the purpose of providing an output signal whose source impedance is essentially matched to 50 ohms.

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 4.0.0 GHz

INSERTION LOSS: 6 dB nominal, 6.5 dB maximum (between input and either output).

MAXIMUM INPUT POWER: 1.0 watt CW, 1kw peak (5 µsec pulse width, 0.05 % duty cycle, input connector only).

TEMPERATURE RANGE: -55°C to +125 °C

TEMPERATURE COEFFICIENT: < 0.004 dB/dB/°C

POWER COEFFICIENT: < 0.005 dB/dB/watt

CONTRUCTION: Nickel plated brass body; stainless steel connectors.

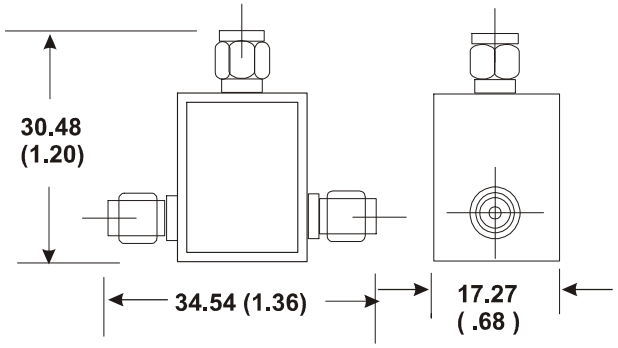
AMPLITUDE & PHASE TRACKING (MAX.)		
Frequency (GHz)	**Tracking**	
	Amplitude	Phase
DC – 4.0	< 0.15	< 4 °

MAXIMUM VSWR		
Frequency (GHz)	**Output**	**Input**
DC – 4.0	1.15	1.20

CONNECTORS: Male SMA port 1, (2) Female SMA ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional female SMA connectors are available on all ports. Reference P/N WA1515-1.

WEIGHT: 30 g (1 oz) maximum

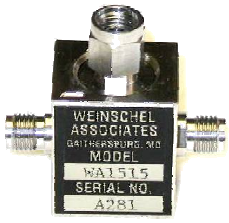
PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Broadband Resistive Power Splitter (Matching)
MODEL WA1593

DC – 26.5 GHz **1 WATT**



AMPLITUDE & PHASE TRACKING (MAX.)		
Frequency (GHz)	**Tracking**	
	Amplitude	Phase
DC – 26.5	< 0.25	< 4 °

MAXIMUM VSWR		
Frequency (GHz)	**Output**	**Input**
DC – 26.5	1.35	1.25

Features

Lightweight Miniature package: High power capability. These resistive power splitters are intended for RF and wireless applications in which one of the outputs is included in a leveling loop or is used as a reference in a radio system, for the purpose of providing an output signal whose source impedance is essentially matched to 50 ohms.

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 26.5 GHz

INSERTION LOSS: 6 dB nominal, 8.5 dB maximum (between input and either output).

MAXIMUM INPUT POWER: 1.0 watt CW, 1kw peak (5 µsec pulse width, 0.05 % duty cycle, input connector only).

TEMPERATURE RANGE: -55°C to +125 °C

TEMPERATURE COEFFICIENT: < 0.004 dB/dB/°C

POWER COEFFICIENT: < 0.005 dB/dB/watt

CONTRUCTION: Nickel plated brass body; stainless steel connectors.

CONNECTORS: Male 3.5mm port 1, (2) Female 3.5mm ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional female 3.5mm connectors are available on all ports.

WEIGHT: 25 g (0.9 oz) maximum

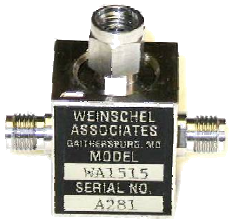
PHYSICAL DIMENSIONS:

Body Width: 10.2 (0.40)
Body Height: 15.2 (0.60) Square

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Broadband Resistive Power Splitter (Matching)
MODEL WA1534

DC – 40.0 GHz **1 WATT**



AMPLITUDE & PHASE TRACKING (MAX.)		
Frequency (GHz)	**Tracking**	
	Amplitude	Phase
DC – 40.0	< 0.50	< 4 °

MAXIMUM VSWR		
Frequency (GHz)	**Output**	**Input**
DC – 40.0	1.70	1.60

Features

Lightweight Miniature package: High power capability. These resistive power splitters are intended for RF and wireless applications in which one of the outputs is included in a leveling loop or is used as a reference in a radio system, for the purpose of providing an output signal whose source impedance is essentially matched to 50 ohms.

Specifications

NOMINAL IMPEDANCE: 50Ω

FREQUENCY RANGE: DC - 40.0 GHz

INSERTION LOSS: 6 dB nominal, 10.5 dB maximum (between input and either output).

MAXIMUM INPUT POWER: 1.0 watt CW, 1kw peak (5 µsec pulse width, 0.05 % duty cycle, input connector only).

TEMPERATURE RANGE: -55°C to +125 °C

TEMPERATURE COEFFICIENT: < 0.004 dB/dB/°C

POWER COEFFICIENT: < 0.005 dB/dB/watt

CONTRUCTION: Nickel plated brass body; stainless steel connectors.

CONNECTORS: Male 2.92mm port 1, (2) Female 2.92mm ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Optional female 2.92mm connectors are available on all ports.

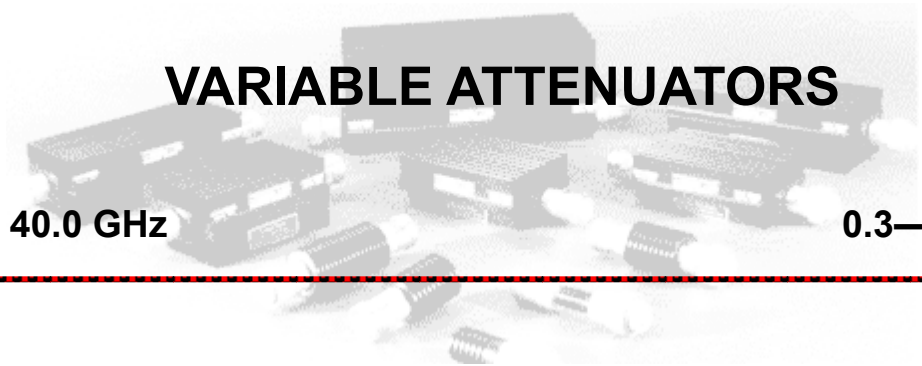
WEIGHT: 25 g (0.9 oz) maximum

PHYSICAL DIMENSIONS:

Body Width: 10.2 (0.40)
Body Height: 15.2 (0.60) Square

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

VARIABLE ATTENUATORS



DC – 40.0 GHz **0.3—5 WATTS**

Continuously Variable Attenuators							
Model Number	Frequency Range (GHz)	Average Power (W)	Peak Power (kW)	Residual Insertion Loss (dB)	Attenuation Range (dB)	Connectors and Mounting Notes	Page No.
VA-02-30	DC - 2	5	0.5	3	30	N, SMA	134
VA-02-60	DC - 2	5	0.5	5	60	N, SMA	134
VA-02-90	DC - 2	5	0.5	5	90	N, SMA	134
VA-02-100	DC - 2	5	0.5	5	100	N, SMA	134
VA-02-115	DC - 2	5	0.5	5	115	N, SMA	134
VA-04-30	DC - 4	5	0.5	3	30	N, SMA	134
VA-04-60	DC - 4	5	0.5	5	60	N, SMA	134
VA-04-90	DC - 4	5	0.5	5	90	N, SMA	134
WA942-02-15	DC - 1	1	0.5	2	15	SMA	135
953-3	1 - 11	1	1	0.5 - 1	3	N, SMA	136
953-10	2.5 - 11	1	1	0.5 - 1	10	N, SMA	136
953-20	4 - 11	1	1	0.5 - 1	20	N, SMA	136
973-10	1.3 - 11	1	1	0.5 - 1	10	N, SMA	136
973-20	2.5 - 11	1	1	0.5 - 1	20	N, SMA	136
973-40	4 - 11	1	1	0.5 - 1	40	N, SMA	136
953B-3	1 - 18	1	1	0.5 - 1	3	N, SMA	136
953B-10	2.5 - 18	1	1	0.5 - 1	10	N, SMA	136
953B-20	4 - 18	1	1	0.5 - 1	20	N, SMA	136
953K-3	1 - 40	0.5	0.1	0.5 - 1	3	2.92 mm	137
953K-10	3 - 40	0.5	0.1	0.5 - 1	10	2.92 mm	137
953K-20	4 - 40	0.5	0.1	0.5 - 1	20	2.92 mm	137

Programmable Step Attenuators						
Model Number	Frequency Range (GHz)	Average Power (W)	Peak Power (dBm)	Attenuation Range (dB)	Connectors and Mounting Notes	Page No.
DA6-30	DC - 6	0.3	+25	30	SMA	138
DA6-60	DC - 6	0.3	+25	60	SMA	138
DA6-90	DC - 6	0.3	+25	90	SMA	138
DA13-30	DC - 13	0.3	+25	30	SMA	139
DA13-60	DC - 13	0.3	+25	60	SMA	139
DA13-90	DC - 13	0.3	+25	90	SMA	139

* Other configurations are available

Custom solutions at "off-the-shelf" prices

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

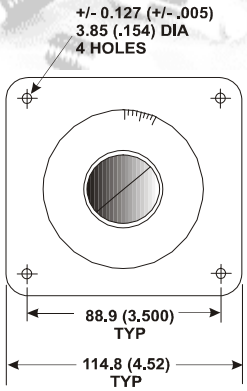
VARIABLE ATTENUATOR MODEL VA-02 & VA-04

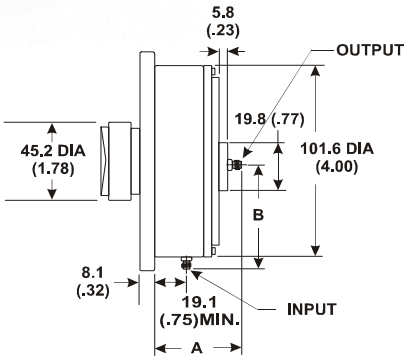
DC – 2.0 GHz VA-02
DC – 4.0 GHz VA-04

5 WATTS









Features

Wide Attenuation Range: *Variable Attenuation ranges up to 90 dB on 4 GHz Models and 115 dB on 2 GHz Models.*

Low Residual Insertion Loss: *3 dB nominal on 30 dB Model and 5 dB nominal on wider range Models*

Rugged Construction: *Designed and tested to meet the environmental requirements of MIL-DTL-24215.*

Long Life: *10,000 cycles standard, 50,000 optional.*

Specifications

Nominal Impedance: 50 ohms

Frequency Range:
VA-02 DC - 2.0 GHz
VA-04 DC - 4.0 GHz

Residual Insertion Loss: 5 dB, nominal
(3 dB, nominal on 30 dB version)

Attenuation Range:

VA-02	30, 60, 90, 100, or 115 dB
VA-04	30, 60, or 90 dB

VSWR:

FREQ RANGE (GHz)	VSWR, Max
DC - 1.0	1.50
1.0 - 2.0	1.60
2.0 - 3.0	1.70
3.0 - 4.0	1.80

Accuracy: ± 0.25 dB or 0.4% at midband

Dial Calibration: 1 dB increments at midband

Resolution:

VA-02-30	3 to 33 dB	~120°
VA-02-60	5 to 65 dB	~180°
VA-02-100	5 to 105 dB	~270°
VA-02-115	5 to 120 dB	~285°
VA-04-30	3 to 33 dB	~120°
VA-04-60	5 to 65 dB	~180°
VA-04-90	5 to 95 dB	~240°

Power Rating: 5 watts average, 0.5 kW peak, to 40°C ambient temperature, de-rated linearly to 0 watts at 85°C.

Power Coefficient: <0.005 dB/dB/Watt

Phase Shift: 1° / dB x f (GHz) maximum

Temperature Range:
Operating: 0°C to +85°C
Non-Operating: -55°C to +125°C

Temperature Coefficient: <0.001 dB/dB/°C

Connectors: Type N and SMA connectors per MIL-STD-348A, interface dimensions per MIL-PRF-39012.

Connector Option	DIM "A" mm (in.)	DIM "B" mm (in.)
-34	66.0 (2.6)	68.1 (2.68)
-44	66.0 (2.6)	71.9 (2.83)
-33	61.0 (2.4)	68.1 (2.68)
-12	55.6 (2.19)	58.2 (2.29)
-22	55.6 (2.19)	61.5 (2.42)
-11	52.3 (2.06)	58.2 (2.29)

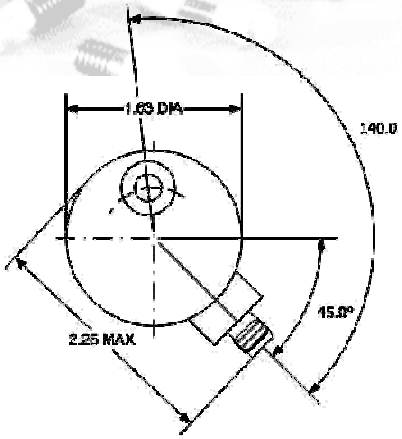
WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

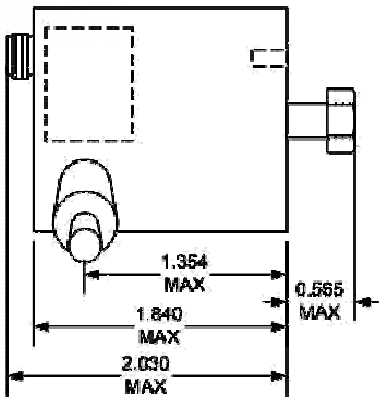
Specification
Subject to change
without notice

VARIABLE ATTENUATOR MODEL WA9426

DC – 1.0 GHz 1 WATT







Features

Attenuation Range: *15 dB*

Low Residual Insertion Loss: *<0.5 dB nominal*

Rugged Construction: *Designed to meet the environmental requirements of MIL-DTL-24215. Tested for Shipboard environments.*

Connectors: *SMA Connectors per MIL-PRF-39012 and MIL-STD-348*

Excellent Reset-ability: *10:1 Turns Ratio*

Panel Mount Configuration

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 1.0 GHz

Attenuation Range: 0 to 15 dB

Insertion Loss: 0.5 dB, nominal

VSWR: 1.5:1, max

Power Rating: 1 watts average, 0.5 kW pk, to 25°C ambient temperature, de-rated linearly to 0.5 watts at 85°C.

Power Coefficient: 0.005 dB/dB/W, max

Temperature:
Operating: 0°C to +85°C
Non-Operating: -55°C to +125°C

Temperature Coefficient: 0.001 dB/dB/° C, max

Phase Shift with Change in Attenuation:
1° / dB x f (GHz) maximum

Connectors: SMA Female connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Construction: Aluminum body, stainless steel connectors, gold-plated beryllium copper contacts.

Weight: 0.23 kg (0.5 lb), max

Note: Dimensions are given in inches, unless otherwise specified.

Continuously Variable Attenuator

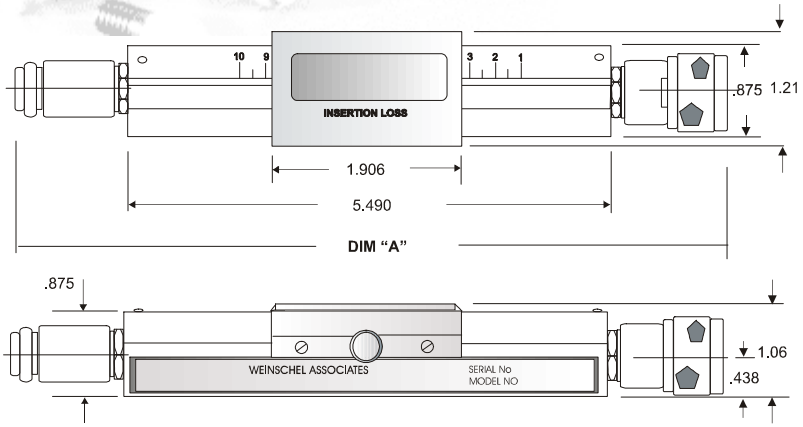
Model 953
Model 953B
Model 973

DC – 18.0 GHz

1 WATT



953B shown on top



Specifications

Nominal Impedance: 50 ohms

Connectors: 953 (N, SMA), 953B (N, SMA), 973 (N, SMA) Type N/SMA Stainless Steel, M/F per MIL-STD-348A Interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

Frequency Range:

FREQUENCY GHz				
Model	**3dB**	**10dB**	**20dB**	**40dB**
953	1 – 11	2.5 – 11	4 – 11	--
953B	1 – 18	2.5 – 11	4 – 18	--
973	--	1.3 – 11	2.5 – 11	4 – 11
VSWR GHz				
Model	**3dB**	**10dB**	**20dB**	**40dB**
953	1,5	1.5	1.5	-
953B	1.6 to 2	1.6 to 4	1.6 to 6	-
	1.5 to 18	1.5 to 18	1.5 to 18	-
973	-	1.5 to 11	1.6 to 4	1.7 to 6
	-	-	1.5 to 11	1.5 to 11

Zero Loss typically 0.5 to 1.0 dB

Frequency Correction Data Provided.

Temperature: Full power from 0° C to +25° C; de-rated linearly to 10% at +85° C. 0° C to +85 °

Physical Dimensions:

Model	DIM "A"	Weight kg / lb
953/953B	213 (8.4	0.4 / 0.8
973	359 (14.1)	0.6 / 1.3

Scale divisions in ½ dB increments.

Model	Power
953	1W CW / 1Kw peak
953B	1W CW / 1Kw peak
973	1W CW / 1Kw peak

Note: Dimensions are given in mm (inched) and are maximum, unless otherwise specified.

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

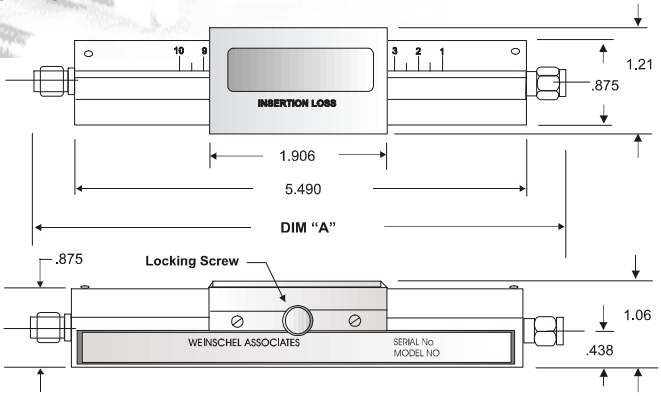
Continuously Variable Attenuator Model 953K

1.0 – 40.0 GHz 1 WATT

SLIDE CONTROL



953K shown on bottom



Maximum dimensions in inches (cm).

Mates with SMA, 3.5 mm, Type K[(1)].

(1) K Connector is a registered trademark of Wiltron Co.

BROADBAND FREQUENCY RANGE – 1.0 TO 40.0 GHz in 3 dB model. Other models have slightly less range

DIRECT READING SCALE – Insertion loss scales are individually calibrated. A permanently attached table shows small corrections to the calibrations above and below mid-frequency.

CONTINUOUSLY VARIABLE – Attenuation is continuously variable over near linear scale using a simple slide control.

SMALL PHASE SHIFT – Total insertion length remains constant for all attenuation settings, resulting in very small phase shift vs. attenuation
≈ 1°/dB/GHz.

NON-CONTACTING CONTROL DEVICE – Attenuator control is capacitively coupled to attenuating element to avoid wear and insure smooth operation.

STABILITY – These attenuators contain ***Weinschel Associates*** high quality, stable film resistors on a ceramic base.

STAINLESS STEEL CONNECTORS – Stainless steel con-nectors ensure maximum life and minimum wear. Critical dimensions are held more closely than required by applicable military specifications.

NOMINAL IMPEDANCE: 50 Ohms

ATTENUATION RANGE: 3, 10 AND 20 dB

CONNECTORS: Stainless steel 2.92 mm, Male, Female

PHASE SHIFT WITH CHANGE IN ATTENUATION:
~ 1°/dB x f (GHz) maximum

INPUT POWER RATING (*when properly terminated*)**:**
0.5 watt average, 100 watt peak; de-rated linearly to zero from 25 to 85˚C.

POWER COEFFICIENT: < 0.001 dB/dB x W

TEMPERATURE COEFFICIENT: < 0.0003 dB/dB x ˚C

TERMPERATURE RANGE: 0˚ TO 85˚C

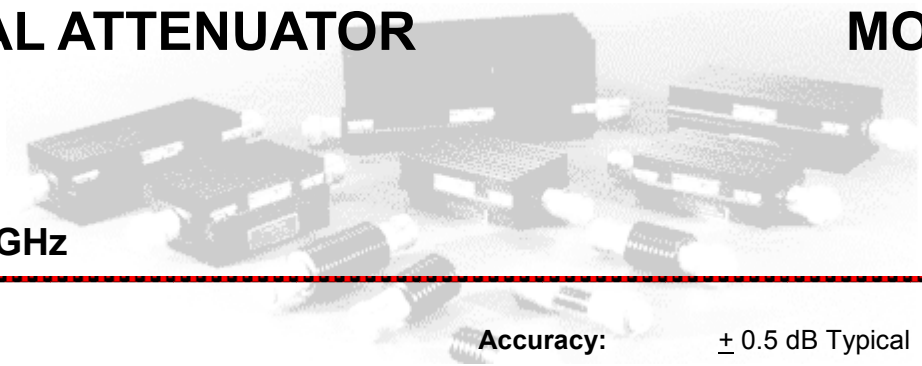
WEIGHT: Net 0.37 kg (13 oz); Shipping 0.60 kg (1 lb., 5 oz)

Characteristic	Model 953K		
	3 dB	10 dB	20 dB
Frequency Range	**1 – 40 GHz**	**3-40 GHz**	4-40 GHz
Characteristic Insertion Loss, Residual	*1.0 dB max at 18 GHz*	*1.5 dB max at 18 GHz*	*2.0 dB max at 18 GHz*
Direct Reading Scale Calibration	**18 GHz**	**18 GHz**	**18 GHz**
Insertion Loss Corrections	*Min. 1, 2 & 3 dB at 1 and 40 GHz*	*Min. 2, 4, 6 & 10 dB at 3 and 40 GHz*	*Min. 5,10, 15 & 20 dB at 4 and 40 GHz*
Max. Correction from Scale Value	**± 1.0 dB**	**+ 2.5 dB -1.0 dB**	**± 2.5 dB**
Calibration Accuracy (Incl. Resettability)	*0.1 dB*	*0.2 dB*	0.3 dB
Scale Resolution	**~ 0.60 in / dB**	**~ 0.25 in / dB**	~ 0.12 in / dB
Scale Increments	*0.2 dB*	*0.5 dB*	*0.5 dB*
Max. VSWR			
To 18.0 GHz	1.50	1.50	1.50
To 40.0 GHz	1.35	1.35	1.50

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

DIGITAL ATTENUATOR MODEL DA6



DC – 6.0 GHz 0.3 WATTS

Overview

The DA Series of Digital Attenuators represents the latest in programmable attenuator technology. The DA Series combines the rugged design and superior performance that comes standard with Weinschel Associates products with modern innovations to achieve new levels of ease of integration and price performance.

The DA Series is ideal for a multitude of applications including:

- ***Test Instrumentation***
- ***Base Station Infrastructure***
- ***Broadband Telecommunications***
- ***Microwave and VSAT Radios***
- ***Military***

Features

- ***Broadband Frequency Coverage***
- ***High Accuracy and Repeatability***
- ***Easy Programmability***
  - ***USB Interface***
  - ***Software Driver/Application***
- ***Rugged Construction***

Specifications

Frequency Range: DC - 6.0 GHz

Attenuation Range:

Model DA6-30:	30 dB
Model DA6-60:	60 dB
Model DA6-90:	90 dB

Step Size: 0.5 dB

Insertion Loss (max):

Model	Insertion Loss vs Freq (GHz)	
	DC – 4	4 – 6
DA6-30	3.0	4.0
DA6-60	7.0	9.0
DA6-90	11.0	130

VSWR (max): 1.50:1

Accuracy: ± 0.5 dB Typical

Switching Speed: <100 ns

Input power for 0.1 dB Compression: +22 dBm

Input Third Order Intercept Point: +32 dBm

Power Rating: 0.3 Watt CW, +25 dBm max

Phase Shift with Change in Attenuation:
1° / dB x f (GHz) maximum

Temperature:

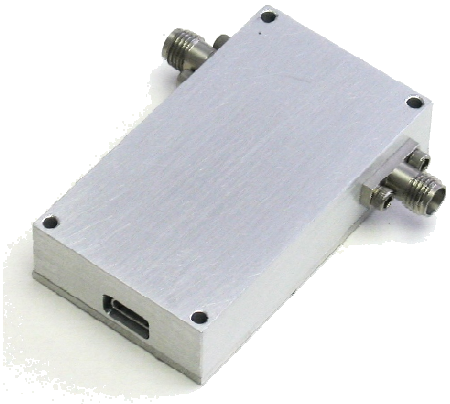
Operating:	-55 to + 85 °C
Storage:	-60 to +125 °C

Connectors: SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-C-39012.

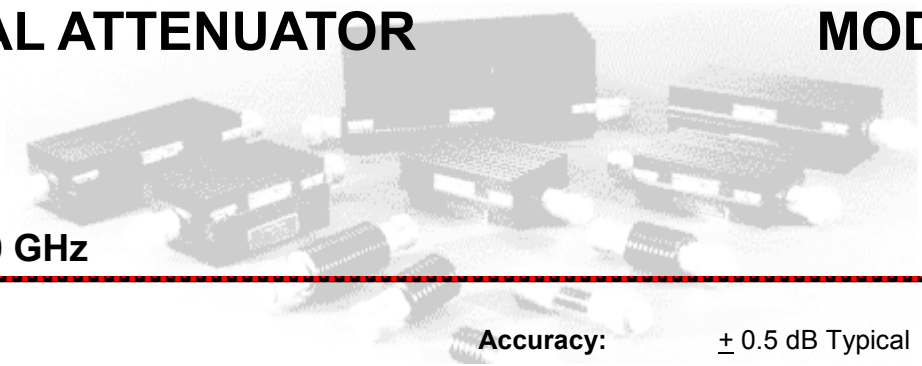
Programming Interface:

Options:	USB-2.0 (standard)
	RS-232
	802.11g Wireless
	Manual Control
Software:	LabView Driver
	Standalone Program

Input Power Requirement: Powered via USB
Options: AC Power Adapter
EMI Feed thru



DIGITAL ATTENUATOR MODEL DA13



DC – 13.0 GHz 0.3 WATTS

Overview

The DA Series of Digital Attenuators represents the latest in programmable attenuator technology. The DA Series combines the rugged design and superior performance that comes standard with Weinschel Associates products with modern innovations to achieve new levels of ease of integration and price performance.

The DA Series is ideal for a multitude of applications including:

- ***Test Instrumentation***
- ***Base Station Infrastructure***
- ***Broadband Telecommunications***
- ***Microwave and VSAT Radios***
- ***Military***

Features

- ***Broadband Frequency Coverage***
- ***High Accuracy and Repeatability***
- ***Easy Programmability***
  - ***USB Interface***
  - ***Software Driver/Application***
- ***Rugged Construction***

Specifications

Frequency Range: DC - 13.0 GHz

Attenuation Range:

Model DA13-30:	30 dB
Model DA13-60:	60 dB
Model DA13-90:	90 dB

Step Size: 0.5 dB

Insertion Loss (max):

Model	Insertion Loss vs Freq (GHz)		
	DC – 4	4 – 8	8 – 13
DA13-30	4.0	5.0	6.0
DA13-60	8.0	10.0	12.0
DA13-90	12.0	15.0	18.0

VSWR (max): 1.50:1

Accuracy: ± 0.5 dB Typical

Switching Speed: <100 ns

Input power for 0.1 dB Compression: +22 dBm

Input Third Order Intercept Point: +32 dBm

Power Rating: 0.3 Watt CW, +25 dBm max

Phase Shift with Change in Attenuation:
1° / dB x f (GHz) maximum

Temperature:

Operating:	-55 to + 85 °C
Storage:	-60 to +125 °C

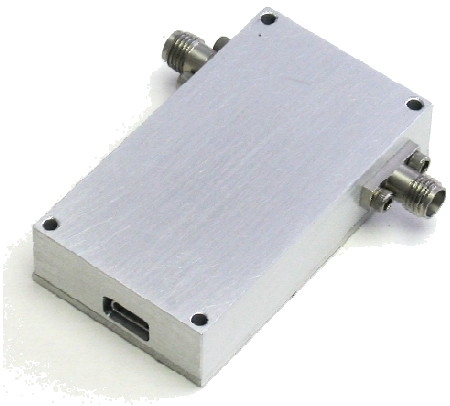
Connectors: SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-C-39012.

Programming Interface:

Options:	USB-2.0 (standard)
	RS-232
	802.11g Wireless
	Manual Control
Software:	LabView Driver
	Standalone Program

Input Power Requirement: Powered via USB

Options:	AC Power Adapter
	EMI Feedthru



PRECISION RF ADAPTERS
IN-SERIES AND BETWEEN SERIES

DC - 50.0 GHz

In-Series Precision RF Adapters					
Model Number	Connectors	Frequency Range DC - (GHz)	VSWR (max)	Insertion Loss (dB, max)	Page No.
WA1513-33	N (f) - N (f)	18	1.15	0.25	141
WA1513-44	N (m) - N (m)	18	1.15	0.25	141
WA1513-34	N (f) - N (m)	18	1.15	0.25	141
WA1587-11	SMA (f) - SMA (f)	26.5	1.2	0.5	143
WA1587-12	SMA (f) - SMA (m)	26.5	1.2	0.5	143
WA1587-22	SMA (m) - SMA (m)	26.5	1.2	0.5	143
WA7003-11	3.5mm (f,f)	33	1.15	0.5	145
WA7003-12	3.5mm (f,m)	33	1.15	0.5	145
WA7003-22	3.5mm (m,m)	33	1.15	0.5	145
WA7004-11	2.92mm (f,f)	40	1.20	0.6	146
WA7004-12	2.92mm (f,m)	40	1.20	0.6	146
WA7004-22	2.92mm (m,m)	40	1.20	0.6	146
WA7005-11	2.4mm (f,f)	50	1.20	0.6	147
WA7005-12	2.4mm (f,m)	50	1.20	0.6	147
WA7005-22	2.4mm (m,m)	50	1.20	0.6	147

Between-Series Precision RF Adapters					
Model Number	Connectors	Frequency Range DC - (GHz)	VSWR (max)	Insertion Loss (dB, max)	Page No.
WA1548-13	SMA (f) - N (f)	18	1.10	0.43	142
WA1548-14	SMA (f) - N (m)	18	1.10	0.43	142
WA1548-23	SMA (m) - N (f)	18	1.10	0.43	142
WA1548-24	SMA (m) - N (m)	18	1.10	0.43	142
WA7002-13	SMA (f) - N (f)	18	1.12	0.5	144
WA7002-14	SMA (f) - N (m)	18	1.12	0.5	144
WA7002-23	SMA (m) - N (f)	18	1.12	0.5	144
WA7002-24	SMA (m) - N (m)	18	1.12	0.5	144
WA7006-11	2.92mm (f) - 2.4mm (f)	40	1.20	0.6	148
WA7006-12	2.92mm (f) - 2.4mm (m)	40	1.20	0.6	148
WA7006-21	2.92mm (m) - 2.4mm (f)	40	1.20	0.6	148
WA7006-22	2.92mm (m) - 2.4mm (m)	40	1.20	0.6	148



TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

Precision Coaxial Adapter MODEL WA1513

DC – 18.0 GHz Type N to Type N



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +125°C

Construction: Stainless Steel bodies, gold-plated beryllium copper contacts.

Connectors: Type N per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

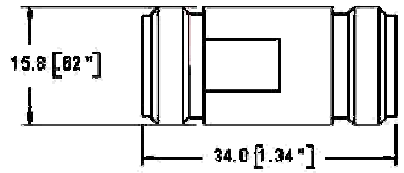
Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 18.0	**1.15**

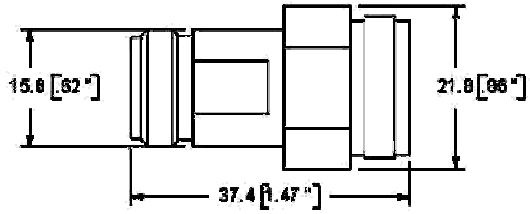
Weight:

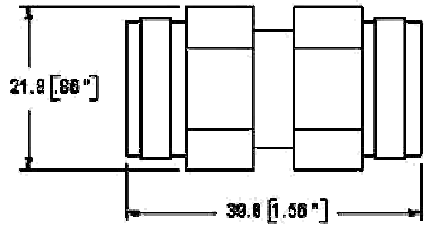
WA1513-33	40g (1.4 oz)
WA1513-44	49g (1.7 oz)
WA1513-34	46g (1.6 oz)

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 18.0	**0.25**	**0.02**

Physical Dimensions:







Precision Coaxial Adapter MODEL WA1548

DC – 18.0 GHz Type SMA to Type N



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +125°C

Construction: Stainless Steel bodies, beryllium copper with gold plated female contacts, stainless steel male contacts.

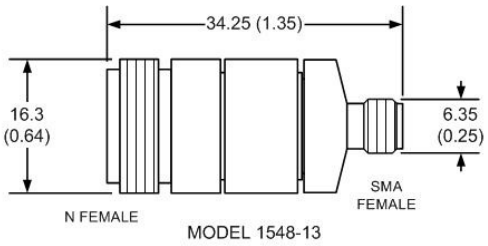
Connectors: Types N and SMA per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Coupling Torque 14 in-lbs for N-Type and 8 in-lbs for SMA.

Weight: 49g (1.72 oz), max

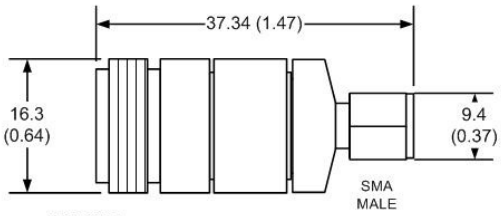
Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 18.0	1.10 per adapter

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4	0.40	0.01
12.4 - 18.0	0.43	0.02

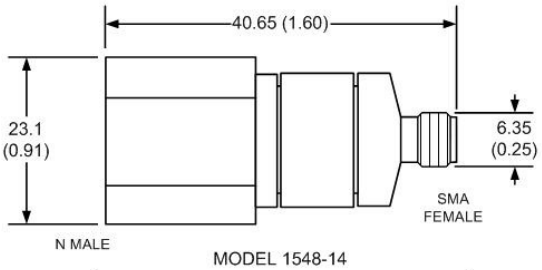
Physical Dimensions:



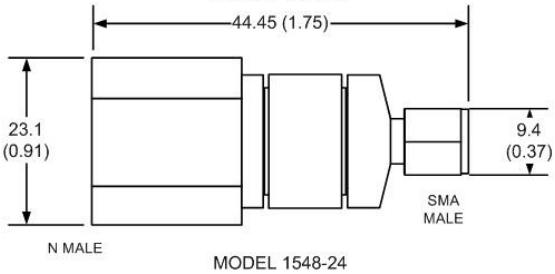
MODEL 1548-13



MODEL 1548-23



MODEL 1548-14



MODEL 1548-24

Precision Coaxial Adapter MODEL WA1587

DC – 26.5 GHz SMA to SMA



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 26.5 GHz

Temperature Range: -55°C to +125°C

Construction: Stainless Steel body, gold-plated beryllium copper contacts.

Connectors: SMA connectors per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

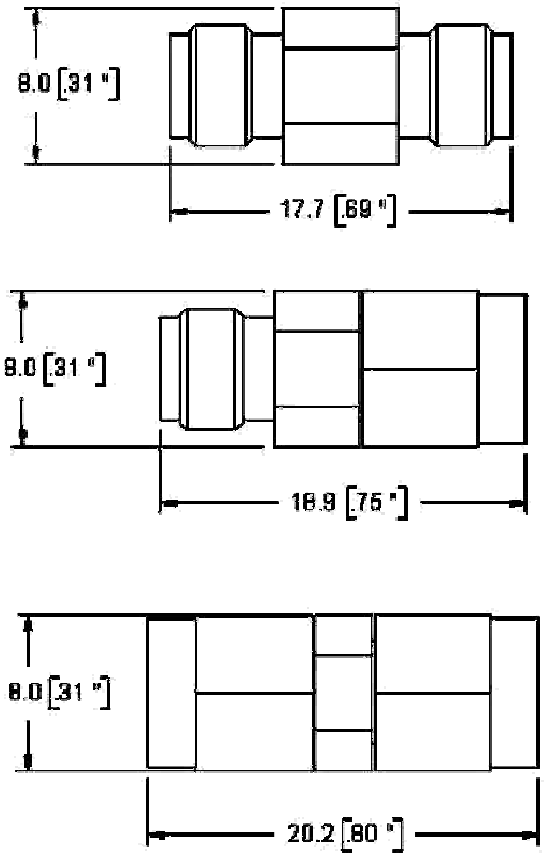
Weight:

WA1587-11	3.5g (0.11 oz)
WA1587-12	4.6g (0.16 oz)
WA1587-22	5.4g (0.19 oz)

Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 26.5	1.15

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4	0.30	0.01
12.4 - 18.0	0.40	0.02
18.0 - 26.5	0.50	0.02

Physical Dimensions:



WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Precision Coaxial Adapter MODEL WA7002

DC – 18.0 GHz Type SMA to Type N



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +125°C

Construction: Stainless Steel bodies, beryllium copper with gold plated female contacts, stainless steel male contacts.

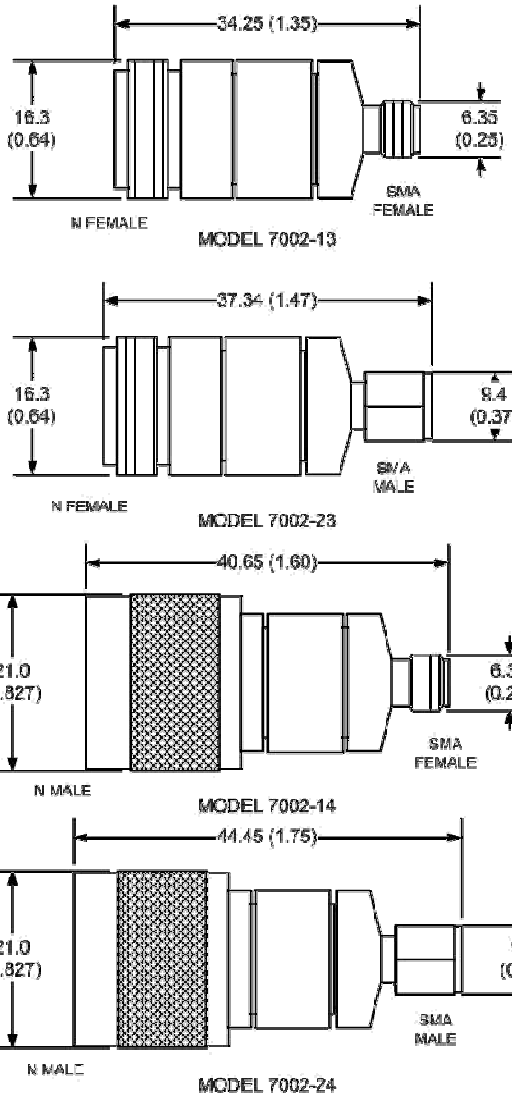
Connectors: Types N and SMA per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

Weight: 49g (1.72 oz), max

Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 18.0	1.15 per adapter

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4	0.40	0.01
12.4 - 18.0	0.50	0.02

Physical Dimensions:



Precision Coaxial Adapter MODEL WA7003

DC – 33.0 GHz **3.5mm to 3.5mm**



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 33.0 GHz

Temperature Range: -55°C to +125°C

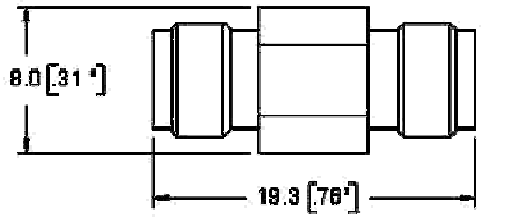
Construction: Stainless Steel body, gold-plated beryllium copper contacts.

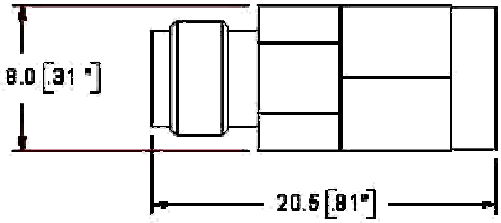
Connectors: 3.5mm connectors per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

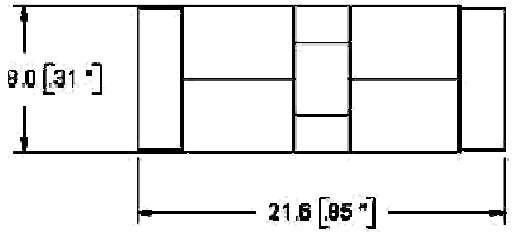
Weight:

WA7003-11	3.5g (0.11 oz)
WA7003-12	4.6g (0.16 oz)
WA7003-22	5.4g (0.19 oz)

Physical Dimensions:







Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 33.0	**1.15**

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4	**0.30**	**0.01**
12.4 - 18.0	**0.40**	**0.02**
18.0 - 33.0	**0.50**	**0.02**

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Precision Coaxial Adapter MODEL WA7004

DC – 40.0 GHz **2.92mm to 2.92mm**



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 40.0 GHz

Temperature Range: -55°C to +125°C

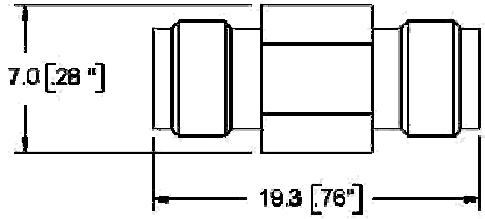
Construction: Stainless Steel body, gold-plated beryllium copper contacts.

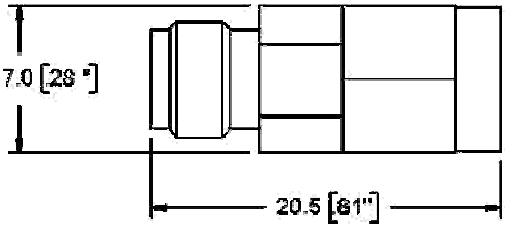
Connectors: 2.92mm connectors per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

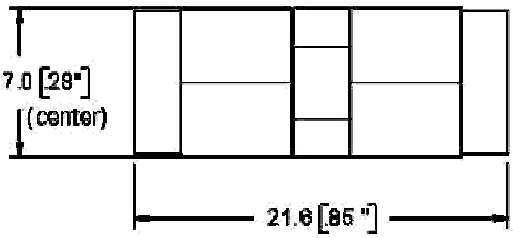
Weight:

WA7004-11	3.5g (0.11 oz)
WA7004-12	4.6g (0.16 oz)
WA7004-22	5.4g (0.19 oz)

Physical Dimensions:







Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 40.0	1.20

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4	0.30	0.01
12.4 - 18.0	0.40	0.02
18.0 - 40.0	0.60	0.05

Precision Coaxial Adapter MODEL WA7005

DC – 50.0 GHz **2.4mm to 2.4mm**



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 50.0 GHz

Temperature Range: -55°C to +125°C

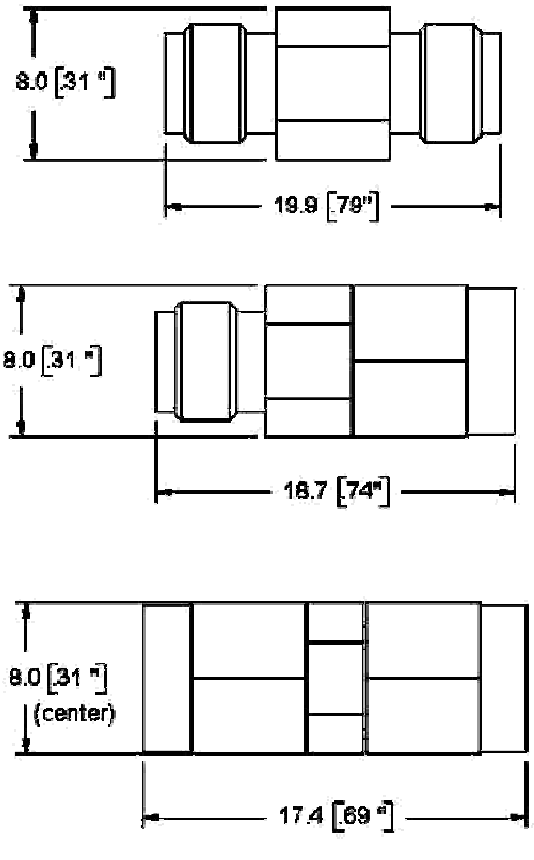
Construction: Stainless Steel body, gold-plated beryllium copper contacts.

Connectors: 2.4mm connectors per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

Weight:

WA7005-11	3.5g (0.11 oz)
WA7005-12	4.6g (0.16 oz)
WA7005-22	5.4g (0.19 oz)

Physical Dimensions:



Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 50.0	1.20

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4 12.4 - 18.0 18.0 - 50.0	0.30 0.40 0.60	0.01 0.02 0.05

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

Precision Coaxial Adapter MODEL WA7006

DC – 40.0 GHz **2.92mm to 2.4mm**



Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 40.0 GHz

Temperature Range: -55°C to +125°C

Construction: Stainless Steel body, gold-plated beryllium copper contacts.

Connectors: 2.92mm and 2.4mm connectors per MIL-STD-348 interface dimensions mate non-destructively with MIL-PRF-39012 connectors.

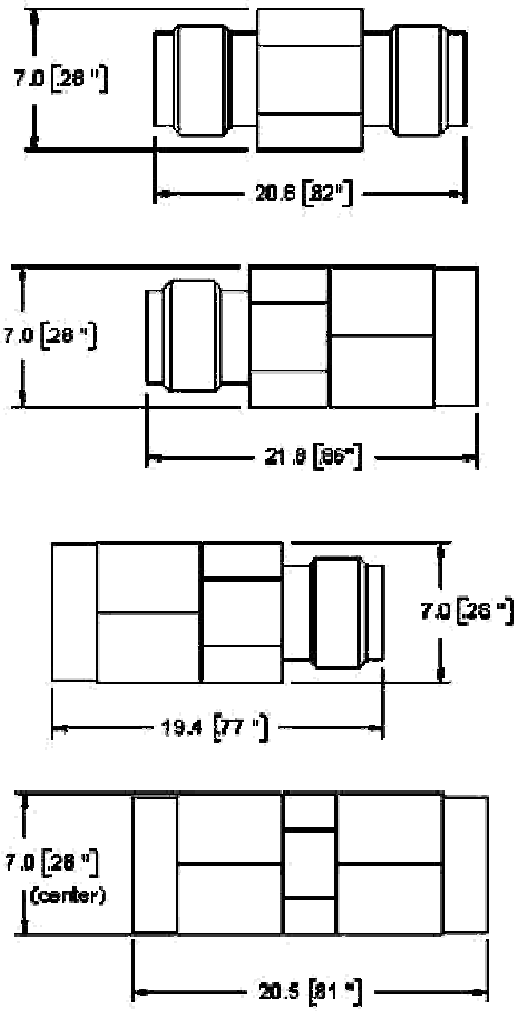
Weight:

WA7006-11	3.5g (0.11 oz)
WA7006-12	4.6g (0.16 oz)
WA7006-21	4.6g (0.16 oz)
WA7006-22	5.4g (0.19 oz)

Maximum VSWR	
Frequency (GHz)	**VSWR**
DC - 40.0	1.20

Insertion Loss		
Frequency (GHz)	**Max. Ins Loss**	**Repeatability**
DC - 12.4	0.30	0.01
12.4 - 18.0	0.40	0.02
18.0 - 40.0	0.60	0.05

Physical Dimensions:



WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

STUB TUNERS
0.2 – 13.0 GHz

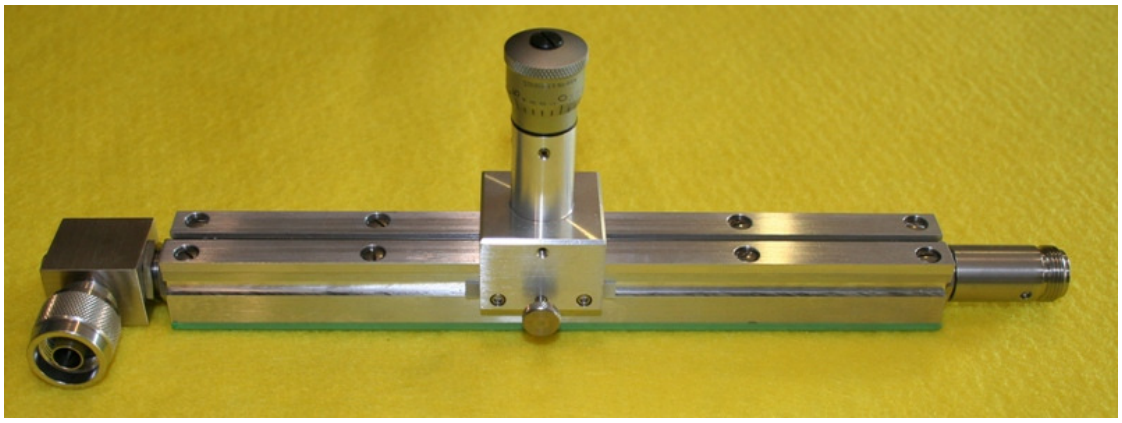
Double Stub and Sliding Screw Tuners					
Model Number	Frequency Range (GHz)	Insertion Loss (dB, max)	Notch Depth (dB)	Connectors	Page No.
WA200261	0.75 to 1.24	0.2	>20	N	150
DS-109LL	0.2 to 2.0	0.5	>40	N	151
DS-109L	0.4 to 4.0	0.5	>40	N	151
DS-109	0.75 to 13.0	0.5	>40	N	151

Features

Precision Operation: Stub Tuners allow precision matching within RF systems and subsystems to ensure optimum power transmission from source to load.

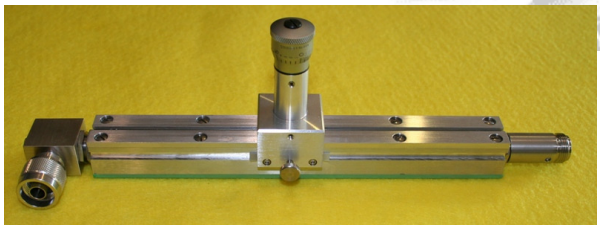
Broadband Operation: Each tuner is design to operate over a wide range of frequencies.

Mechanical Locking: Rugged mechanical locking mechanisms are employed to secure the tuner in the optimal configuration.



TUNER MODEL WA200261

0.75 – 1.24 GHz 300 WATTS



Features

Optimizes transmitter performance. This Slide-Screw Tuner is capable of adjusting a source or load VSWR of 2:1 to reduce reflected power to 1% maximum of incident. Designed to meet MIL-A-3933 environmental specifications. Unit may be mounted in a horizontal or vertical position. Convection cooled, full power rating without forced air cooling.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 0.75 - 1.24GHz

Nominal Insertion Loss: <0.2 dB

Tuning: <1 %

Power Rating: 300 watts average, 300 Volt peak voltages over the operating temperature range. 3 kW peak.

Temperature Range:
-55°C to +125°C storage
0°C to +90°C operating

Operation: Patented Manual locking Micrometer adjustment mechanism.

Construction: Clear iridite aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper female contacts, stainless steel male contacts.

Connectors: Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Weight: 0.51 kg/ 1.13 lb.

Physical Dimensions:

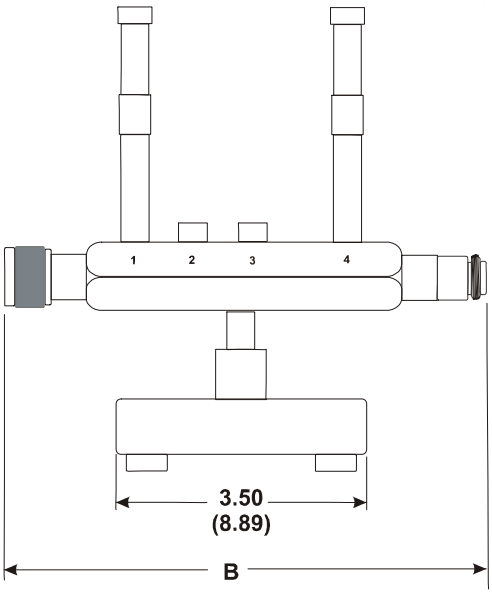
Length:	**280 (11.0) max**
Width:	**50.8 (2.0) max**
Height:	**83.8 (3.3) max**

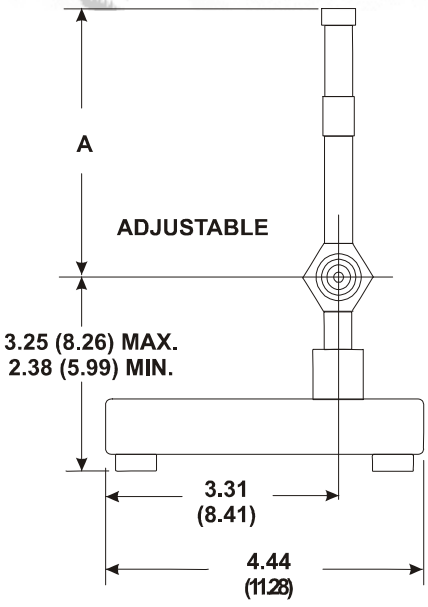
Note: Dimensions are given in mm (inches) unless otherwise specified.

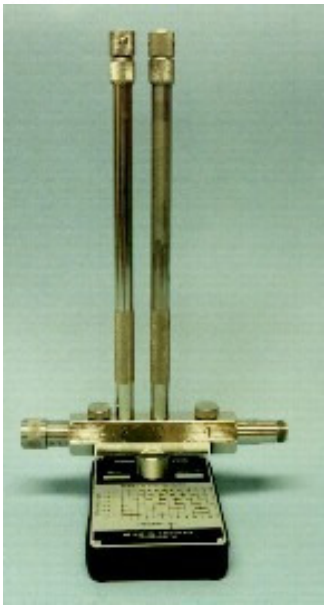
Note: Design protected by patent.

Double Stub Tuner MODEL DS-109

40 MHz – 13.0 GHz







Specifications

Nominal Impedance: 50 ohms

Matching Range: From 7:1 to 1.00 within tuner frequency range.

Dimensions:

Model No.	DS-109	DS-109L	DS-109LL**
Frequency	0.75 – 13.0 GHz	0.4 – 4.0 GHz	0.2 – 2.0 GHz
Length of Stub	70.5 cm.	38cm.	53 cm.
Net Weight	5 lbs. (2.56 kg)	6 lbs. (2.73 kg)	12 lbs. (5.45 kg)
Shipping Weight	8 lbs. (3.64 kg)	9 lbs. (4.38 kg)	15 lbs. (6.82 kg)

Model No.	DIM "A" *	DIM "B"
DS-109 DS-109L DS-109LL	18.50 (46.49) 32.50 (82.55) 63.25 (160.66)	7.38 (18.75) 7.38 (18375) 12.00 (30.48)

Connectors: Tuners are equipped with close tolerance, stainless steel Type N, one male, one female, for long life with minimum wear.

Construction:

* Stub height is adjustable, maximum value given

** Two pedestals are used for DS-109LL

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

PRECISION ATTENUATOR SETS

DC – 40.0 GHz **2– 5 WATTS**

Precision Coaxial Attenuator Sets							
Model Number	Frequency Range DC - (GHz)	Average Power (W)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors	Attenuators Used	Page No.
WAS-6	18	5	1	3,6,10,20	N	4 x WA2	157
WAS-16	18	5	1	1,3,6,10,20,30	7 mm	6 x WA17	153
WAS-18	18	5	1	1,3,6,10,20,30	Precision N	6 x WA44	154
WAS-19	26.5	2	0.5	3,6,10,20	SMA	4 x WA9	155
WAS-20	40	2	0.2	3,6,10,20	2.92 mm	4 x WA54	156

* Other configurations are available

Features

Calibration Data: Attenuators are calibrated at 1 GHz intervals. Option 890 adds calibration data at 0.1 GHz and at 0.5 GHz intervals. DC Resistance values also provided.

Certificate of Calibration: Provided with each set, contains all calibration data.

Storage Case: Compact storage case organizes and protects the attenuators and their calibration data.

Custom Sets Available: Build your own set from our extensive offering of Fixed Coaxial Attenuators.

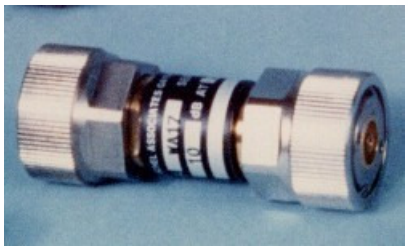


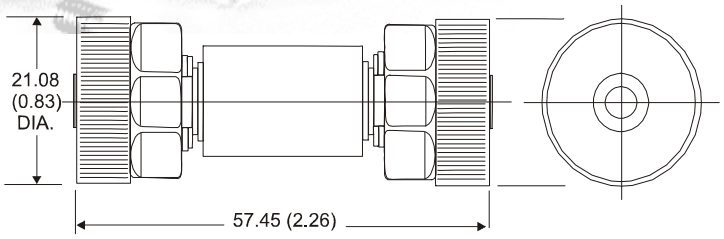
Custom solutions at "off-the-shelf" prices

ATTENUATOR SET MODEL WAS16

1 Each WA17-1, WA17-3, WA17-6, WA17-10, WA17-20, WA17-30

DC – 18.0 GHz **5 WATTS**





Features

The model WAS16 comes complete with Certificate of Calibration booklet and hardwood protective case for storing your attenuators. The WAS16 consists of 6 calibrated model WA17 attenuators, 1, 3, 6, 10, 20, and 30 dB. The Following data for each attenuator are provided.

All units are swept test for insertion loss and VSWR. A calibration certificate with test results is provided with each attenuator, including frequency sensitivity.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC to 18.0 GHz

Maximum Deviation From Nominal Value (including frequency sensitivity):

1 dB:	± 0.5 dB
3, 6 dB:	± 0.3 dB
10, 20 dB:	± 0.5 dB
30 dB:	± 0.75 dB

Maximum VSWR:

DC to 4.0 GHz	1.10
4.0 to 12.4 GHz	1.15
12.4 to 18 GHz	1.20

Power Rating: 5 watts average, 1kW peak at 25°C ambient temperature, de-rated linearly to: 4 watts at 45°C, 3 watts at 65°C, 2 watts at 85°C).

Power Coefficient: < 0.005 dB / dB x W

Temperature Coefficient: < 0.0004 dB / dB x °C

Temperature Range: -50°C to + 85°C

Case Dimensions: 10 5/8 in. (269.9 mm) long x 8 in. (203.2 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 3 lb., 13 oz. (1.73 kg); Shipping weight, 5 lbs. (2.56 kg)

Connectors: Precision 7mm sexless stainless steel connectors, meets or exceeds requirements of IEEE Standard 287 and mates with all connectors conforming to design 2 of that standard.

Coupling Torque: 14 ± 1 inch pounds

Construction: Brass body, plated, stainless steel and beryllium copper or silver alloy connectors.

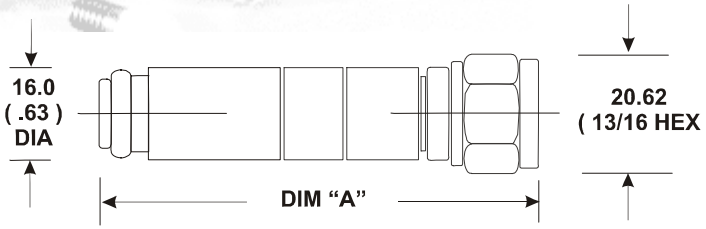
Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

PRECISION ATTENUATOR SET MODEL WAS18

1 Each WA44-1, WA44-3, WA44-6, WA44-10, WA44-20, WA44-30

DC – 18.0 GHz **5 WATTS**





Features

The model WAS18 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS18 consists of 6 calibrated model WA44 attenuators, 1, 3, 6, 10, 20, and 30 dB. The Following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz.

✪ R.F Calibration Option -890 (42 frequencies) 100, 500, 1,000 and every 500 MHz to 16,000; 16,000 to 18,000 every 250 MHz.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC to 18.0 GHz

Maximum Deviation From Nominal Value (including frequency sensitivity):

1 dB:	± 0.5 dB
3, 6 dB:	± 0.3 dB
10, 20 dB:	± 0.5 dB
30 dB:	± 1.00 dB

Maximum VSWR:

DC to 4.0 GHz	1.15
4.0 to 12.4 GHz	1.20
12.4 to 18 GHz	1.25

Power Rating: 5 watts average, 1kW peak. (Maximum rated average power to 25°C ambient temperature, de-rated linearly to: 4 watts at 45°C, 3 watts at 65°C, 2 watts at 85°C).

Power Coefficient: < 0.005 dB / dB x W

Temperature Coefficient: < 0.0004 dB / dB x °C

Temperature Range: -50°C to + 85°C

Case Dimensions: 10 ¾ in. (273 mm) long x 8 ½ in. (215.9 mm) wide x 2 ½ in. (63.5 mm) high.

Weight: Net 2 lb., 8 oz. (1.12 kg); Shipping weight, 3 lbs. (1.36 kg)

Connectors: Type N connectors, stainless steel, conform to MIL-PRF-39012 lab standard test connector interface.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Note: Dimensions are given n mm (inched). Dimensions are maximum unless otherwise specified.

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

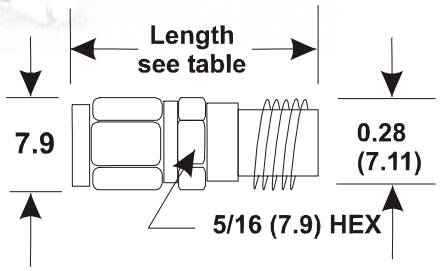
Specification Subject to change without notice

ATTENUATOR SET MODEL WAS19

1 Each WA9-3, WA9-6, WA9-10, WA9-20

DC – 26.5 GHz **2 WATTS**





Features

The model WAS19 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS19 consists of 4 calibrated model WA9 attenuators, 3, 6, 10, and 20 dB. The Following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 26.0 GHz.

✪ R.F Calibration Option -890 (42 frequencies) 100, 500, 1,000 and every 500 MHz to 16,000; 16,000 to 18,000 every 250 MHz.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC to 26.5 GHz

Maximum Deviation From Nominal Value (including frequency sensitivity):

3 dB:	± 0.5 dB
6 dB:	± 0.6 dB
10 dB:	± 0.8 dB
20 dB:	± 1.0 dB

Maximum VSWR:

DC to 4.0 GHz	1.10
4.0 to 8.0 GHz	1.15
8.0 to 12.4 GHz	1.20
12.4 to 18.0 GHz	1.25
18.0 to 26.5 GHz	1.35

Power Rating: 2 watts average, 500W peak. (Maximum rated average power to 25°C ambient temperature, de-rated linearly to: 1 watt at 75°C and 0 watts at 125°C).

Power Coefficient: < 0.005 dB / dB x W

Temperature Coefficient: < 0.0004 dB / dB x °C

Temperature Range: -55°C to + 125°C

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Connectors: SMA connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

ATTENUATOR SET MODEL WAS20

1 Each WA54-3, WA54-6, WA54-10, WA54-20

DC – 40.0 GHz **2 WATTS**





Features

The model WAS20 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS20 consists of 4 calibrated model WA54 attenuators, 3, 6, 10, and 20 dB. The Following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 40.0 GHz.

✪ R.F Calibration Option -890: 100, 500, 1,000 and every 500 MHz to 26,500; 26,500 to 40,000 every 250 MHz.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC to 40.0 GHz

Maximum Deviation From Nominal Value (including frequency sensitivity):

3 dB:	± 1.0 dB
6 dB:	± 1.0 dB
10 dB:	± 1.0 dB
20 dB:	± 1.0 dB

Maximum VSWR:

DC to 26.5 GHz	1.25
26.5 to 40.0 GHz	1.45

Power Rating: 2 watts average, 200W peak. (Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.1 watts at 100° C).

Power Coefficient: < 0.01 dB /dB/W

Temperature Coefficient: < 0.0004 dB/dB/°C

Temperature Range: -55°C to + 100°C

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Connectors: 2.92mm connectors per MIL-STD-348A Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Connector Option	Dim "A"
54-XX-12 (F/M)	36.07 (1.42)
54-XX-11 (F/F)	34.80 (1.37)
54-XX-22 (M/M)	37.34 (1.47)

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

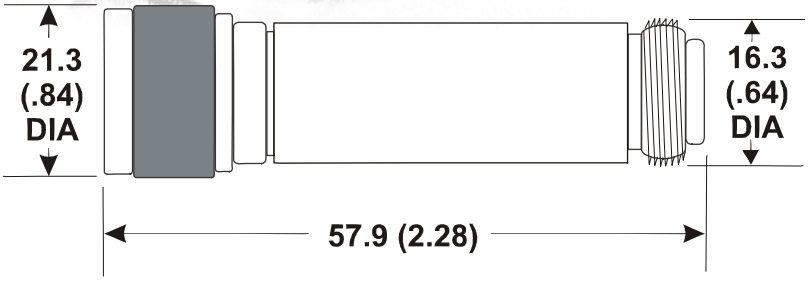
Specification Subject to change without notice

ATTENUATOR SET MODEL WAS6

1 Each WA2-3, WA2-6, WA2-10, WA2-20

DC – 18.0 GHz **5 WATTS**





Features

The model WAS6 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS6 consists of 4 calibrated model WA2 attenuators, 3, 6, 10, and 20 dB. The Following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz. (18 frequencies)

✪ R.F Calibration Option -890 (42 frequencies) 100, 500, 1,000 and every 500 MHz to 16,000; 16,000 to 18,000 every 250 MHz.

These attenuators are designed to meet environmental tests of MIL-A-3933.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC to 18 GHz

Maximum Deviation From Nominal Value (including frequency sensitivity):

3, 6 dB:	± 0.3 dB
10, 20 dB:	± 0.5 dB

Power Rating: 5 watts average, 1kW peak. (Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0 watts at 125°C).

Maximum VSWR:

DC to 4.0 GHz	1.15
4.0 to 8.0 GHz	1.20
8.0 to 12.4 GHz	1.25
12.4 to 18 GHz	1.40

Power Coefficient: < 0.005 dB / dB x W

Temperature Coefficient: < 0.0004 dB / dB x °C

Temperature Range: -55°C to + 125°C

Case Dimensions: 4 ¾ in. (120.6 mm) long x 4 ½ in. (114.3 mm) wide x 2 ¾ in. (44.5 mm) high.

Weight: Net 1 lb., 13 oz. (0.82 kg); Shipping weight, 3 lbs. (1.36 kg)

Connectors: Stainless steel Type N, male and female each attenuator. Connector mate nondestructively with Type N per MIL-C39012 and MIL-C-71.

Construction: Passivated stainless steel body and connectors. Beryllium copper female contacts, stainless steel male contacts.

Note: Dimensions are given in mm (inched). Dimensions are maximum unless otherwise specified.

WEINSCHEL ASSOCIATES

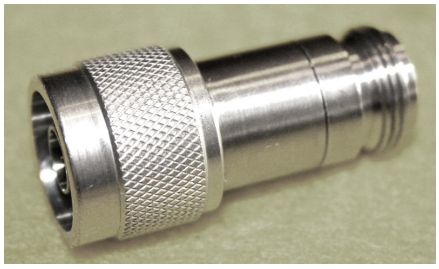
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

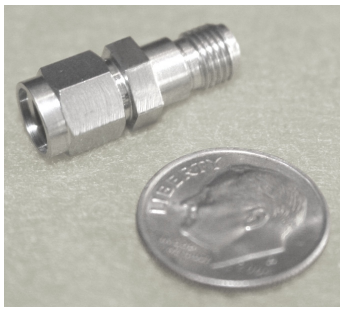
Specification Subject to change without notice

DC BLOCKS

10 MHz – 18.0 GHz **50—200 VOLTS**

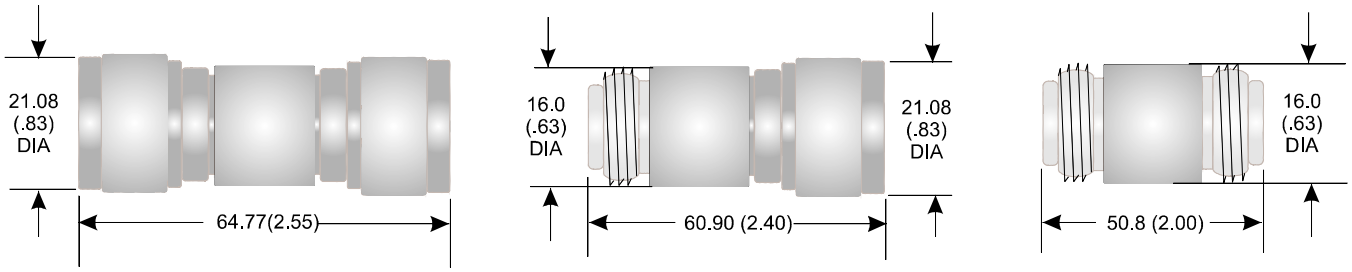
DC Blocks						
Model Number	Frequency Range (GHz)	Insertion Loss (dB, max)	VSWR (max)	Working Voltage (V)	Connectors	Page No.
WA6046/6	0.01 to 6	0.5	1.35	50	N	159
WA6055H/6	0.01 to 6	0.5	1.35	50	SMA	161
WA6046	0.01 to 18	0.8	1.5	50	N	160
WA6055H	0.01 to 18	0.8	1.5	50	SMA	162
WA7046/6	0.01 to 6	0.5	1.35	100	N	163
WA7055H/6	0.01 to 6	0.5	1.35	100	SMA	165
WA7046	0.01 to 18	0.8	1.5	100	N	164
WA7055H	0.01 to 18	0.8	1.5	100	SMA	166
WA8046/6	0.01 to 6	0.5	1.35	200	N	167
WA8055H/6	0.01 to 6	0.5	1.35	200	SMA	169
WA8046	0.01 to 18	0.8	1.5	200	N	168
WA8055H	0.01 to 18	0.8	1.5	200	SMA	170

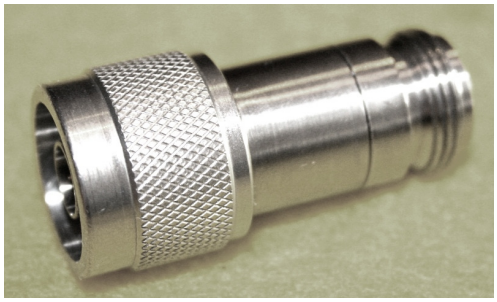




DC BLOCK MODEL WA6046/6

10 MHz – 6.0 GHz 50 VOLTS





Voltage: 50 volts

Temperature Range: -65°C to + 125°C

Connectors: N M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Connectors	Length	Weight
6046/6-34	Male – Female	44.7 (1.76)	.07kg / 2.6oz
6046/6-33	Female – Female	Call	.07kg / 2.6oz
6046/6-44	Male - Male	Call	.07kg / 2.6oz

Features

Inner Only - 6.0 GHz N DC Block

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

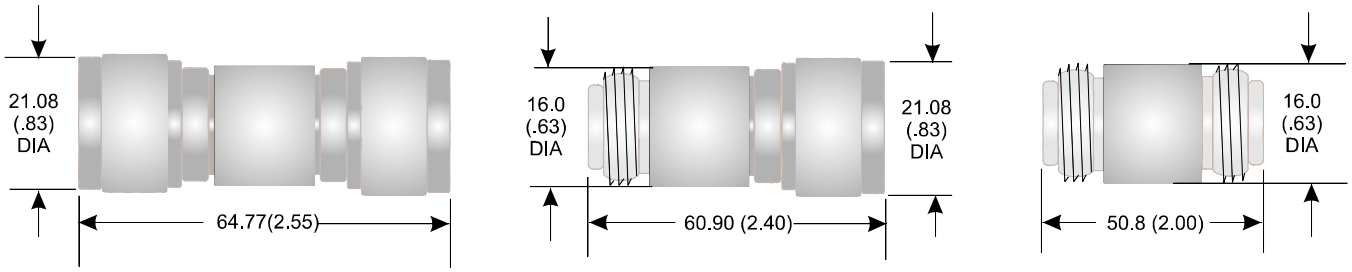
Maximum VSWR: 1.50

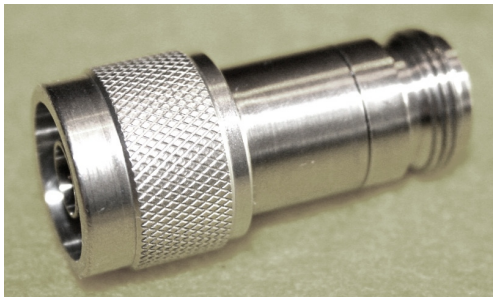
Maximum Insertion Loss: 0.8 dB

Frequency GHz	Insertion Loss (dB)	VSWR (Max)
0.01—1.0 1.0—6.0	0.25 0.50	1.20 1.35

DC BLOCKMODEL WA6046

10 MHz – 18.0 GHz 50 VOLTS





Features

Inner Only - 18.0 GHz N DC Block

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

Maximum VSWR: 1.50

Maximum Insertion Loss: 0.8 dB

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0	0.25	1.20
1.0—4.0	0.50	1.30
4.0—8.0	0.80	1.40
8.0—18.0	0.80	1.50

Voltage: 50 volts

Temperature Range: -65°C to + 125°C

Connectors: N M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Connectors	Length	Weight
6046-34	Male – Female	44.7 (1.76)	.07kg / 2.6oz
6046-33	Female – Female	Call	.07kg / 2.6oz
6046-44	Male - Male	Call	.07kg / 2.6oz

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

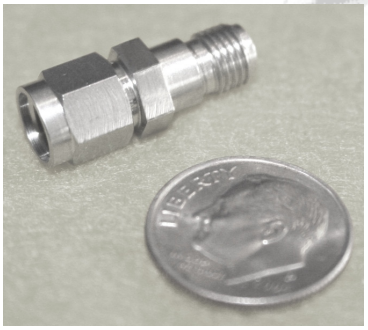
WEB: http://www.WeinschelAssociates.com

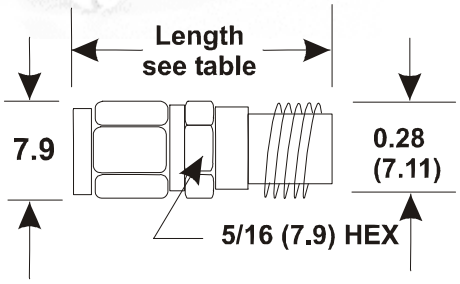
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

DC BLOCK MODEL WA6055H/6

10 MHz – 6.0 GHz **50 VOLTS**





Features

Inner Only - 6.0 GHz SMA DC Block

5/16 hex provides secure torquing surface for mating in hard to get at places.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 6.0 GHz

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0 1.0—6.0	0.25 0.50	1.20 1.35

Voltage: 50 volts

Temperature Range: -65°C to + 125°C

Connectors: SMA M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

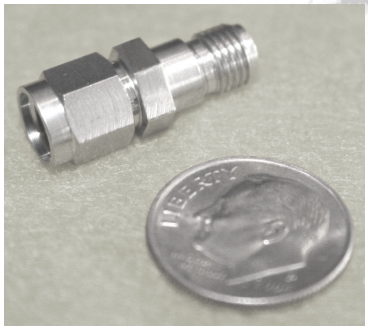
Physical Dimensions:

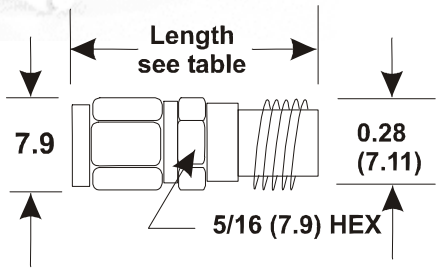
Model	Connectors	Length	Weight
6055H/6-21	Male – Female	22.35 (0.88)	3.9 gm 0.14 oz
6055H/6-11	Female – Female	Call	N/A
6055H/6-22	Male - Male	Call	N/A

Note: Dimension are given in mm (inches). Dimensions are maximum unless otherwise specified.

DC BLOCKMODEL WA6055H

10 MHz – 18.0 GHz 50 VOLTS





Features

Inner Only - 18.0 GHz SMA DC Block

5/16 hex provides secure torquing surface for mating in hard to get at places.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0	0.25	1.20
1.0—4.0	0.50	1.30
4.0—8.0	0.80	1.40
8.0—18.0	0.80	1.50

Voltage: 50 volts

Temperature Range: -65°C to + 125°C

Connectors: SMA M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

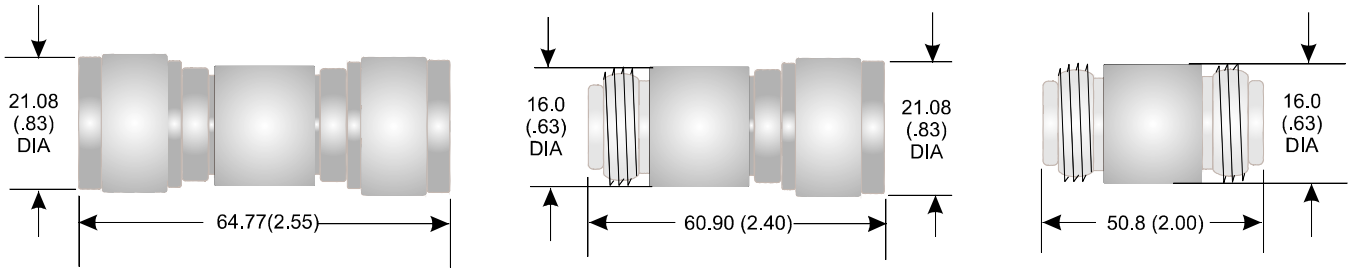
Physical Dimensions:

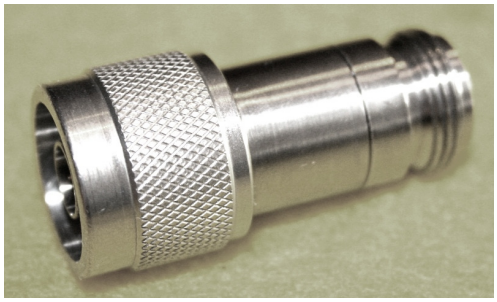
Model	Connectors	Length	Weight
6055H-21	Male – Female	22.35 (0.88)	3.9 gm 0.14 oz
6055H-11	Female – Female	Call	N/A
6055H-22	Male - Male	Call	N/A

Note: Dimension are given in mm (inches). Dimensions are maximum unless otherwise specified.

DC BLOCKMODEL WA7046/6

10 MHz – 6.0 GHz **100 VOLTS**





Features

Inner Only - 6.0 GHz N DC Block

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

Maximum VSWR: 1.50

Maximum Insertion Loss: 0.8 dB

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0 1.0—6.0	0.25 0.50	1.20 1.35

Voltage: 100 volts

Temperature Range: -65°C to + 125°C

Connectors: N M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

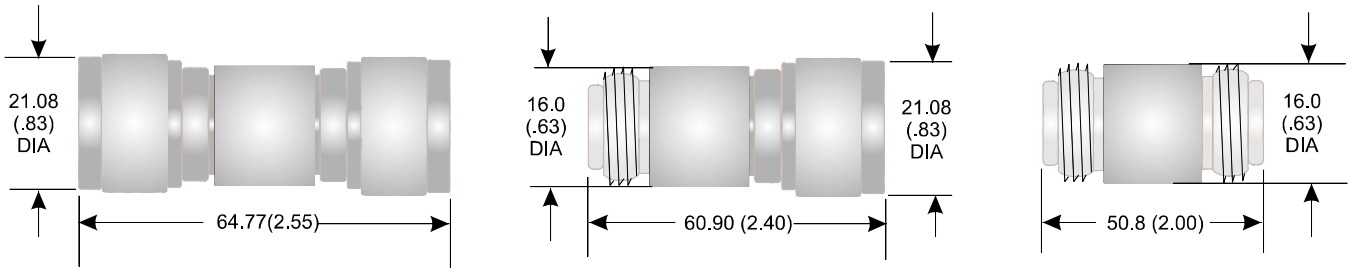
Model	Connectors	Length	Weight
7046/6-34	Male – Female	44.7 (1.76)	.07kg / 2.6oz
7046/6-33	Female – Female	Call	.07kg / 2.6oz
7046/6-44	Male - Male	Call	.07kg / 2.6oz

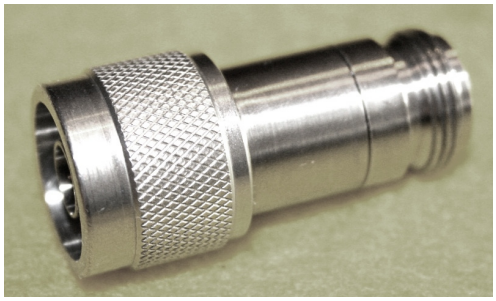
DC BLOCK

MODEL WA7046

10 MHz – 18.0 GHz

100 VOLTS





Features

Inner Only - 18.0 GHz N DC Block

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

Maximum VSWR: 1.50

Maximum Insertion Loss: 0.8 dB

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0	0.25	1.20
1.0—4.0	0.50	1.30
4.0—8.0	0.80	1.40
8.0—18.0	0.80	1.50

Voltage: 100 volts

Temperature Range: -65°C to + 125°C

Connectors: N M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Connectors	Length	Weight
7046-34	Male – Female	44.7 (1.76)	.07kg / 2.6oz
7046-33	Female – Female	Call	.07kg / 2.6oz
7046-44	Male - Male	Call	.07kg / 2.6oz

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

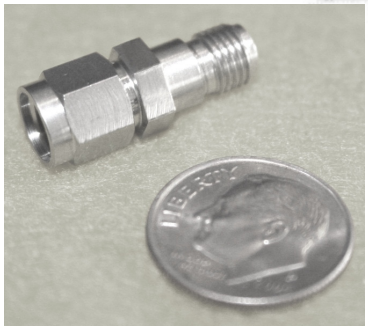
WEB: http://www.WeinschelAssociates.com

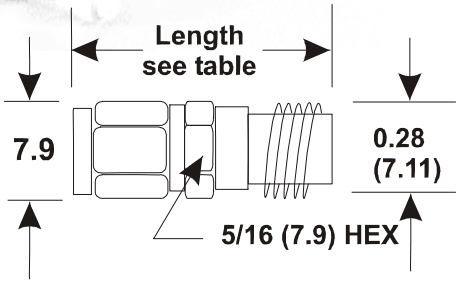
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

DC BLOCK MODEL WA7055H/6

10 MHz – 6.0 GHz 100 VOLTS





Features

Inner Only - 6.0 GHz SMA DC Block

5/16 hex provides secure torquing surface for mating in hard to get at places.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 6.0 GHz

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0 1.0—6.0	0.25 0.50	1.20 1.35

Voltage: 100 volts

Temperature Range: -65°C to + 125°C

Connectors: SMA M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

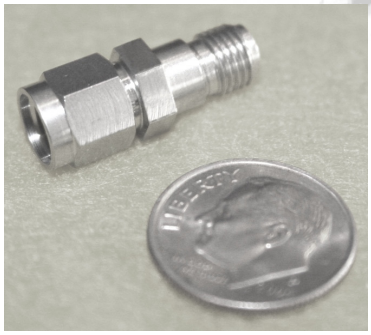
Physical Dimensions:

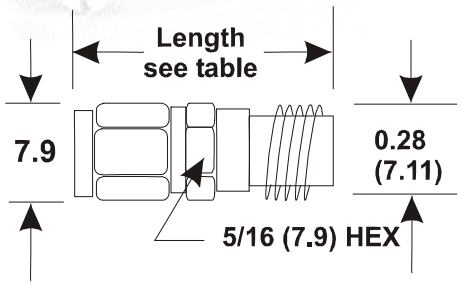
Model	Connectors	Length	Weight
7055H/6-21	Male – Female	22.35 (0.88)	3.9 gm 0.14 oz
7055H/6-11	Female – Female	Call	N/A
7055H/6-22	Male - Male	Call	N/A

Note: Dimension are given in mm (inches). Dimensions are maximum unless otherwise specified.

DC BLOCK MODEL WA7055H

10 MHz – 18.0 GHz **100 VOLTS**





Features

Inner Only - 18.0 GHz SMA DC Block

5/16 hex provides secure torquing surface for mating in hard to get at places.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0	0.25	1.20
1.0—4.0	0.50	1.30
4.0—8.0	0.80	1.40
8.0—18.0	0.80	1.50

Voltage: 100 volts

Temperature Range: -65°C to + 125°C

Connectors: SMA M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Conn.	Length	Wt.
7055H-21	Male – Female	22.35 (0.88)	3.9 gm 0.14 oz
7055H-11	Female – Female	Call	N/A
7055H-22	Male - Male	Call	N/A

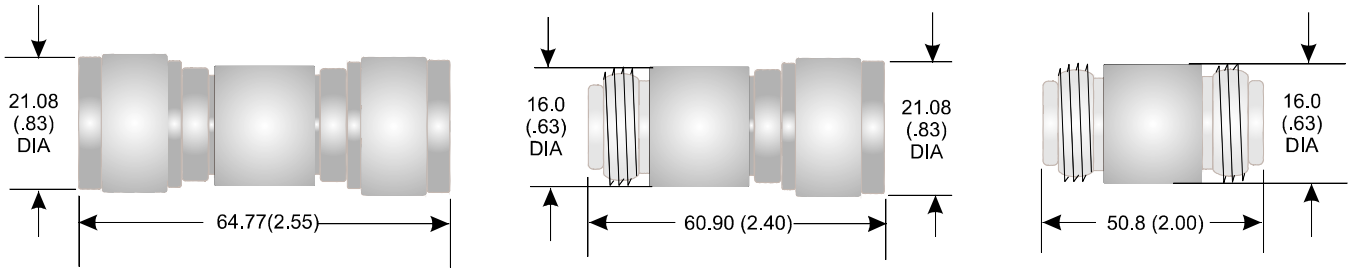
Note: Dimension are given in mm (inches). Dimensions are maximum unless otherwise specified.

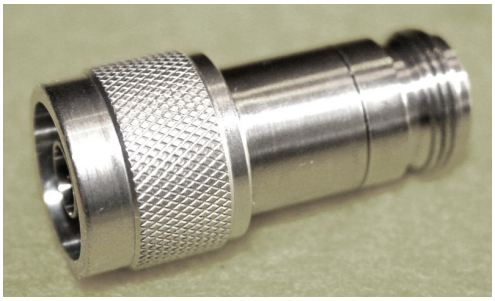
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

DC BLOCK MODEL WA8046/6

10 MHz – 6.0 GHz 200 VOLTS





Voltage: 200 volts

Temperature Range: -65°C to + 125°C

Connectors: N M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Connectors	Length	Weight
8046/6-34	Male – Female	44.7 (1.76)	.07kg / 2.6oz
8046/6-33	Female – Female	Call	.07kg / 2.6oz
8046/6-44	Male - Male	Call	.07kg / 2.6oz

Features

Inner Only—6.0 GHz N DC Block

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 6.0 GHz

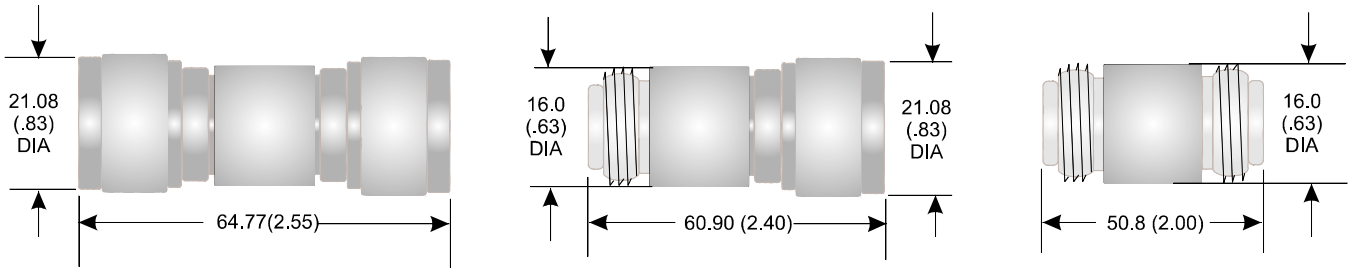
Maximum VSWR: 1.35

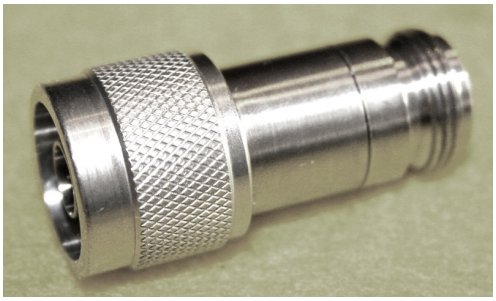
Maximum Insertion Loss: 0.5 dB

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0 1.0—6.0	0.25 0.50	1.20 1.35

DC BLOCK MODEL WA8046

10 MHz – 18.0 GHz 200 VOLTS





Voltage: 200 volts

Temperature Range: -65°C to + 125°C

Connectors: N M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Connectors	Length	Weight
8046-34	Male – Female	44.7 (1.76)	.07kg / 2.6oz
8046-33	Female – Female	Call	.07kg / 2.6oz
8046-44	Male - Male	Call	.07kg / 2.6oz

Features

Inner Only - 18.0 GHz N DC Block

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

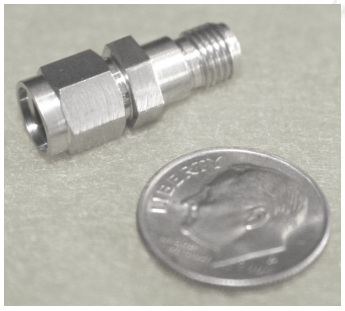
Maximum VSWR: 1.50

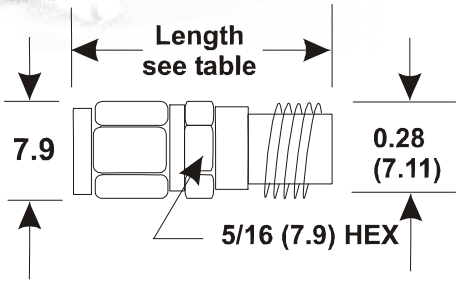
Maximum Insertion Loss: 0.8 dB

Frequency GHz	Insertion Loss (dB)	VSWR (Max)
0.01—1.0	0.25	1.20
1.0—4.0	0.50	1.30
4.0—8.0	0.80	1.40
8.0—18.0	0.80	1.50

DC BLOCK MODEL WA8055H/6

10 MHz – 6.0 GHz 200 VOLTS





Features

Inner Only - 6 GHz SMA DC Block

5/16 hex provides secure torquing surface for mating in hard to get at places.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 6 GHz

Maximum VSWR: 1.35

Maximum Insertion Loss: 0.5 dB

Frequency GHz	Insertion Loss (dB)	VSWR (Max)
0.01—1.0 1.0—6.0	0.25 0.50	1.20 1.35

Voltage: 200 volts

Temperature Range: -65°C to + 125°C

Connectors: SMA M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

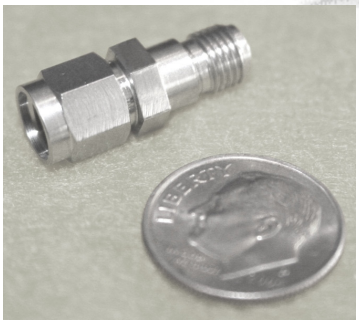
Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

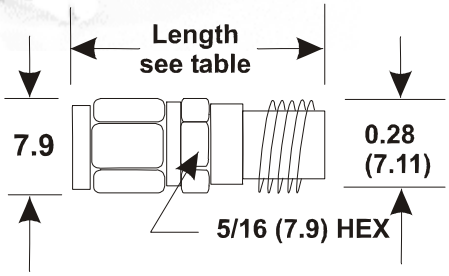
Physical Dimensions:

Model	Connectors	Length	Weight
8055H/6-21	Male – Female	22.35 (0.88)	3.9 gm 0.14 oz
8055H/6-11	Female – Female	Call	N/A
8055H/6-22	Male - Male	Call	N/A

DC BLOCK MODEL WA8055H

10 MHz – 18.0 GHz 200 VOLTS





Features

Inner Only - 18.0 GHz SMA DC Block

5/16 hex provides secure torquing surface for mating in hard to get at places.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: 10 MHz to 18.0 GHz

Frequency (GHz)	Insertion Loss (dB)	VSWR (Max)
0.01—1.0	0.25	1.20
1.0—4.0	0.50	1.30
4.0—8.0	0.80	1.40
8.0—18.0	0.80	1.50

Voltage: 200 volts

Temperature Range: -65°C to + 125°C

Connectors: SMA M/F connectors per MIL-STD-348 Interface dimension mate nondestructively with MIL-PRF-39012 connectors.

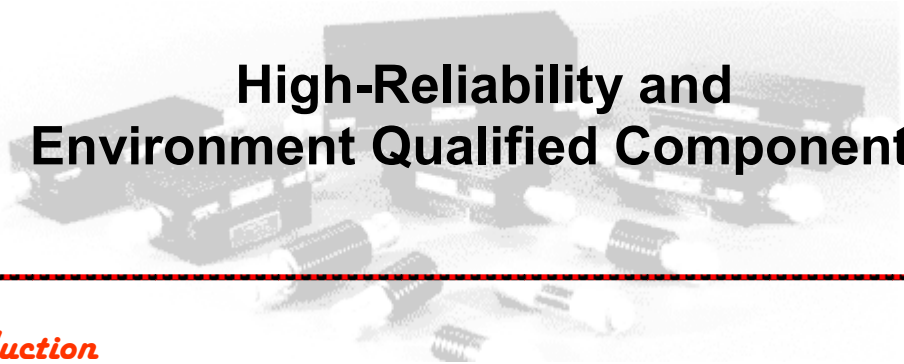
Construction: Stainless steel body with stainless steel connectors with gold plated beryllium copper female contact and stainless steel male contact.

Physical Dimensions:

Model	Connectors	Length	Weight
8055H-21	Male – Female	22.35 (0.88)	3.9 gm 0.14 oz
8055H-11	Female – Female	Call	N/A
8055H-22	Male - Male	Call	N/A

Note: Dimension are given in mm (inches). Dimensions are maximum unless otherwise specified.

High-Reliability and Environment Qualified Components



Introduction

Ruggedness and reliability have been designed in across our product lines and proven in the field. This section of our catalog provides a brief overview of our capabilities and a sampling of our products that have undergone formal qualification testing.

Designed In

All of our connector interfaces have been designed for compliance to MIL-PRF-39012 and MIL-STD-348A standards. The materials and construction techniques employed are targeted towards compliance with MIL-DTL-3933 (Fixed Attenuators), MIL-DTL-24215 (Variable Attenuators), or MIL-DTL-39030 (Terminations) standards as applicable.

Proven Out

Our products have undergone qualification and screening tests for a variety of environments including:

- Naval Shipboard
- Aircraft, Fixed Wing and Rotary Wing
- Satellite and low out-gassing environments

Standard testing is performed using MIL-STD-202 and MIL-STD-810 methodologies as applicable either at our facility in Gaithersburg, Maryland, or at a certified environmental test lab.

Sample of High-Reliability/Qualified Products

Model Number	Product Type	Frequency Range (GHz)	Connectors	Page No.
WA32	Attenuator	DC-18	SMA	172
WA200271	Attenuator	DC-3	SMA	173
WA200434	Attenuator	DC-18	SMA	174
WA200441	Attenuator	DC-26	SMA	175
WA200461	Attenuator	DC-40	2.92mm	176
VA-02	Variable Attenuator	DC-2	SMA, N	177
VA-04	Variable Attenuator	DC-4	SMA, N	177
WA9426	Variable Attenuator	DC-1	SMA	178
WA200446	Termination	DC-1	SMA	179

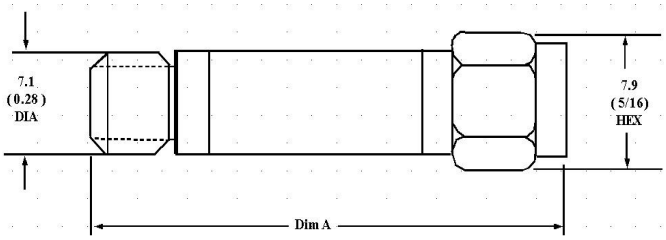
Fixed Coaxial Attenuator
High Reliability

MODEL WA32

DC - 18.0 GHz

2 WATTS





Features

Type SMA; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Suitable for space & airborne applications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC -18.0 GHz

Nominal dB Values: 0.1 - 30 dB

Power Sensitivity: < 0.005 dB/dB x W; Bidirectional in power.

Power Rating: 2 watts average power to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5 Watts at +125° C; 500 watts peak (5 µsec pulse width; 0.2% duty cycle).

Temperature Range: -55°C to +125° C

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy (±dB)
0	0.3
0.5-6	0.3
7-12	0.5
20	0.7

Temperature Coefficient: < 0.0004 dB/dB x °C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Screening Tests: These units are screened and tested as follows:

Thermal Shock Test: 10 cycles, ½ hour each, -55° C to +125° C. Attenuation is taken before and after thermal shock.

Peak Power: 500 watts, 6000 cycles, 5µsec pulse width; 0.2% duty cycle at each end.

Burn-In: 120 Hours each connector at rated power and elevated temperature.

Final Test: Attenuation and VSWR are performed for final electrical test. Test data is available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 - 8.0	1.20
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Weight:

0-12 dB	3.9 gm/ 0.14 oz.
13-20 dB	4.3 gm/ 0.15 oz.

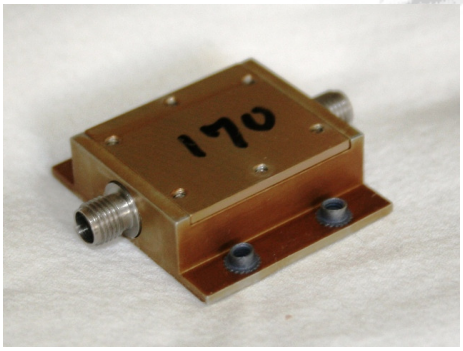
Physical Dimensions:

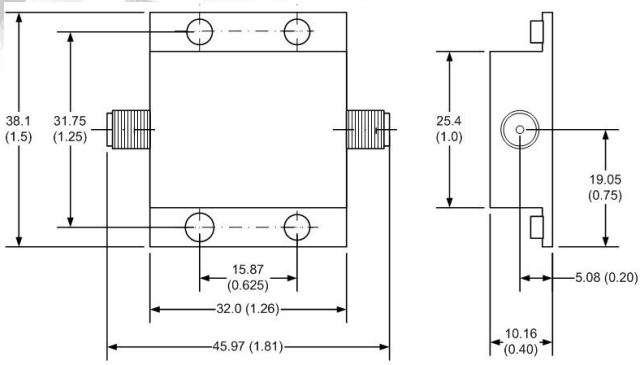
Attenuation (dB)	Dimension "A"
0 – 12	31.24 (1.23)
13 – 20	33.27 (1.31)

Note: Dimensions are given in mm (inches). Dimensions are maximum, unless otherwise specified.

Low-Profile Fixed Coaxial Attenuator
MODEL WA200271

DC – 3.0 GHz **10 WATTS**





Features

SMA, stainless steel, F/F connectors per MIL-STD-348A, interface dimensions mate nondestructively per MIL-PRF-39012.

Designed and tested to meet the standards of MIL-DTL-3933. Suitable for airborne applications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC –3.0 GHz

Insertion Loss: 3 dB ± 0.25 dB

Power Sensitivity: < 0.0005 dB/dB x W; Bidirectional in power.

Power Rating (over temperature):
10 W CW
800 W pk, 33 microsec pulse width, 1% Duty Cycle
1.8 kW pk, 1 microsec pulse width, .025% Duty Cycle

Temperature Range:
-65°C to +125°C, Storage
-54°C to +95°C, Operating

Temperature Coefficient: < 0.0004 dB/dB/°C

Construction: Gold Iridite aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts.

Screening Tests: These units are screened and tested as follows:

Thermal Shock Test: 10 cycles, ½ hour each, -55° C to +125° C. Attenuation is taken before and after thermal shock.

Burn-In: 120 Hours each connector at rated power and elevated temperature.

Final Test: Attenuation and VSWR are performed for final electrical test. Test data is available at additional cost.

Maximum VSWR: 1.40:1

Weight: 0.14 kg/5 oz max

Physical Dimensions:
45.97 x 38.1 x 10.16 mm
1.81 x 1.50 x 0.40 inches

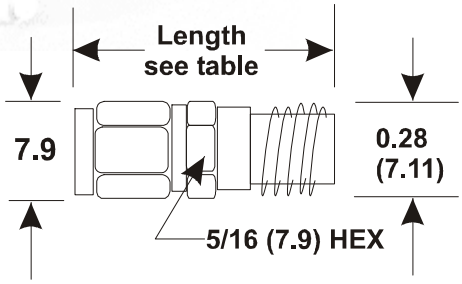
Mounting: Flange mount with four (4) 4-40 self-clinching fasteners.

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Fixed Coaxial Attenuator MODEL WA200434
High Reliability

DC – 18.0 GHz 2 WATTS





Features

Type SMA; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Suitable for Shipboard and airborne applications. Usable to 26 GHz.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC-18.0 GHz

Nominal dB Values: 1 - 60 dB

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average, 500 watts peak to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C.

Temperature Range: -55°C to +125° C

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy (± dB)
3	0.50
6	0.60
10	0.80
20, 30	1.00
40, 50, 60	2.00

Temperature Coefficient: < 0.0004 dB/dB x °C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR, Max
DC-4.0	1.15
4.0-8.0	1.20
8.0-12.4	1.25
12.4-18.0	1.35

Weight:

1-12 dB	3.9 gm/ 0.14 oz.
13-25 dB	4.3 gm/ 0.15 oz.
26-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Dimension "A"
1 – 12	22.35 (0.88)
13 – 25	24.38 (0.96)
26 – 30	26.92 (1.06)
31 – 60	34.54 (1.36)

Note: Dimensions are given in mm (inches) and are ± 0.8 (0.03), unless otherwise specified.

Fixed Coaxial Attenuator MODEL WA200441
High Reliability

DC – 26.5 GHz 2 WATTS



Features

Type SMA; stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specifications. Suitable for Satellite and Airborne applications. Usable to 30 GHz.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC-26.5 GHz

Nominal dB Values: 0.0 - 60 dB

Power Sensitivity: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average, 500 watts peak to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C.

Temperature Range: -55°C to +125° C

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy (±dB)
3, 6	+0.7/-0.3
10	+0.7/-0.5
20	+0.9/-0.6
30	+1.5/-1.0
40, 50, 60	2.00

Temperature Coefficient: < 0.0004 dB/dB x °C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC-4.0	1.15
4.0-8.0	1.20
8.0-12.7	1.25
12.7-18.0	1.35
18.0-26.5	1.55

Weight:

0-12 dB	3.9 gm/ 0.14 oz.
13-25 dB	4.3 gm/ 0.15 oz.
26-30 dB	4.9 gm/ 0.17 oz.
31-60 dB	6.5 gm/ 0.23 oz.

Physical Dimensions:

Attenuation (dB)	Dimension "A"
1 – 12	22.35 (0.88)
13 – 25	24.38 (0.96)
26 – 30	26.92 (1.06)
31 – 60	34.54 (1.36)

Note: Dimensions are given in mm (inches) and are ± 0.8 (0.03), unless otherwise specified.

Fixed Coaxial Attenuator MODEL WA200461

High Frequency / High Reliability

DC – 40.0 GHz **2 WATTS**





Features

Connectors: Type 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specifications.

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 40.0 GHz

Nominal dB Values: 0 - 30 dB

Power Sensitivity: < 0.001 dB/dB/W; Bidirectional in power.

Power Rating: 2 watts average, 200 watts peak to 25°C ambient temperature, de-rated linearly to 0.1 watts at 100°C.

Temperature Range: -55°C to +125° C

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy (±dB)	
	DC—26.5	26.5—40
3, 6	0.50	1.00
10, 20	1.00	1.00
30	2.00	2.00

Temperature Coefficient: < 0.0004 dB/dB x °C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper female contacts.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.25
26.5 - 40.0	1.45

Physical Dimensions:

Model/dB/Connector	Dimension "A"
-12 (F/M)	36.07 (1.42)
-11 (F/F)	34.80 (1.37)
-22 (M/M)	37.34 (1.47)

Note: Dimensions are given in mm (inches) and are maximum unless otherwise specified.

Screening Tests: These units are screened and tested as follows:

Thermal Shock Test: 10 cycles, ½ hour each, -55° C to +125° C. Attenuation is taken before and after thermal shock.

Burn-In: 120 Hours each connector at rated power and elevated temperature.

Final Test: Attenuation and VSWR are performed for final electrical test. Test data is available at additional cost.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: http://www.WeinschelAssociates.com

EMAIL: sales@WeinschelAssociates.com

Specification Subject to change without notice

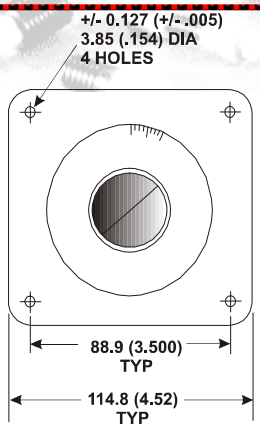
VARIABLE ATTENUATOR MODEL VA-02 & VA-04

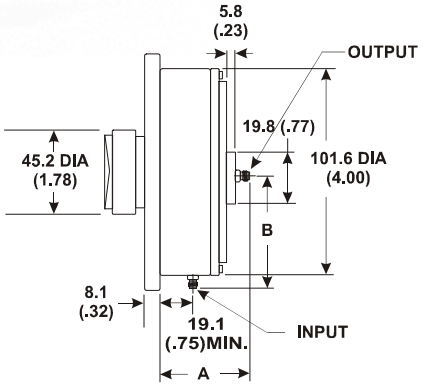
High Reliability

DC – 2.0 GHz VA-02
DC – 4.0 GHz VA-04

5 WATTS







Features

Wide Attenuation Range: *Variable Attenuation ranges up to 90 dB on 4 GHz Models and 115 dB on 2 GHz Models.*

Low Residual Insertion Loss: *3 dB nominal on 30 dB Model and 5 dB nominal on wider range Models*

Rugged Construction: *Designed and tested to meet the environmental requirements of MIL-DTL-24215.*

Long Life: *10,000 cycles standard, 50,000 optional.*

Specifications

Nominal Impedance: 50 ohms

Frequency Range: VA-02 DC - 2.0 GHz
VA-04 DC - 4.0 GHz

Residual Insertion Loss: 5 dB, nominal
(3 dB, nominal on 30 dB version)

Attenuation Range:

VA-02	30, 60, 90, 100, or 115 dB
VA-04	30, 60, or 90 dB

VSWR:

FREQ RANGE (GHz)	SWR, Max
DC - 1.0	1.50
1.0 - 2.0	1.60
2.0 - 3.0	1.70
3.0 - 4.0	1.80

Accuracy: ± 0.25 dB or 0.4% at midband

Dial Calibration: 1 dB increments at midband

Resolution:

VA-02-30	3 to 33 dB	~120°
VA-02-60	5 to 65 dB	~180°
VA-02-100	5 to 105 dB	~270°
VA-02-115	5 to 120 dB	~285°
VA-04-30	3 to 33 dB	~120°
VA-04-60	5 to 65 dB	~180°
VA-04-90	5 to 95 dB	~240°

Power Rating: 5 watts average, 0.5 kW peak, to 40°C ambient temperature, de-rated linearly to 0 watts at 85°C.

Power Coefficient: <0.005 dB/dB/Watt

Phase Shift: 1° / dB x f (GHz) maximum

Temperature Range:

Operating:	0°C to +85°C
Non-Operating:	-55°C to +125°C

Temperature Coefficient: <0.001 dB/dB/°C

Connectors: Type N and SMA connectors per MIL-STD-348A, interface dimensions per MIL-PRF-39012.

Connector Option	DIM "A" mm (in.)	DIM "B" mm (in.)
-34	66.0 (2.6)	68.1 (2.68)
-44	66.0 (2.6)	71.9 (2.83)
-33	61.0 (2.4)	68.1 (2.68)
-12	55.6 (2.19)	58.2 (2.29)
-22	55.6 (2.19)	61.5 (2.42)
-11	52.3 (2.06)	58.2 (2.29)

WEINSCHEL ASSOCIATES
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

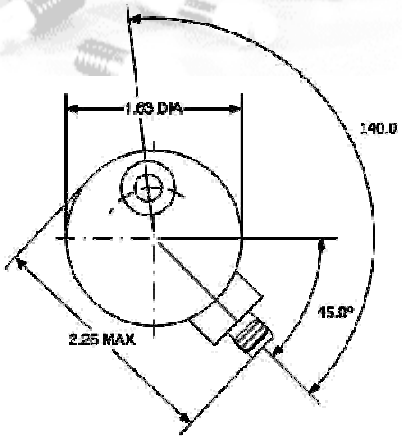
Specification
Subject to change
without notice

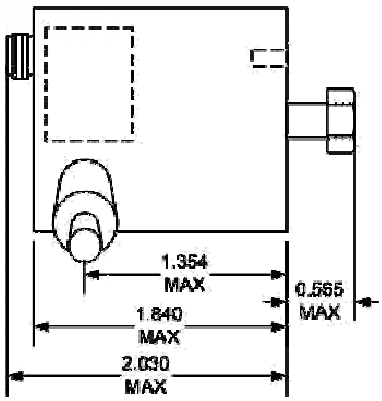
VARIABLE ATTENUATOR MODEL WA9426

High Reliability

DC – 1.0 GHz **1 WATT**







Features

Attenuation Range: *15 dB*

Low Residual Insertion Loss: *<0.5 dB nominal*

Rugged Construction: *Designed to meet the environmental requirements of MIL-DTL-24215. Tested for Shipboard environments.*

Connectors: *SMA Connectors per MIL-PRF-39012 and MIL-STD-348*

Excellent Reset-ability: *10:1 Turns Ratio*

Panel Mount Configuration

Specifications

Nominal Impedance: 50 ohms

Frequency Range: DC - 1.0 GHz

Attenuation Range: 0 to 15 dB

Insertion Loss: 0.5 dB, nominal

Insertion Loss Variation:

Phase Linearity:

VSWR: 1.5:1, max

Power Rating: 1 watts average, 0.5 kW pk, to 25°C ambient temperature, de-rated linearly to 0.5 watts at 85°C.

Power Coefficient: 0.005 dB/dB/W, max

Temperature:
Operating: 0°C to +85°C
Non-Operating: -55°C to +125°C

Temperature Coefficient: 0.001 dB/dB/° C, max

Phase Shift with Change in Attenuation:
1° / dB x f (GHz) maximum

Connectors: SMA Female connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012.

Construction: Aluminum body, stainless steel connectors, gold-plated beryllium copper contacts.

Weight: 0.23 kg (0.5 lb), max

Note: Dimensions are given in inches, unless otherwise specified.

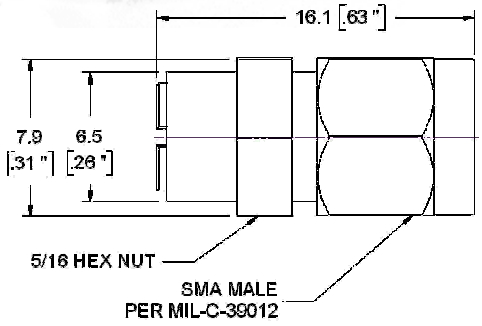
TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640
WEB: http://www.WeinschelAssociates.com
EMAIL: sales@WeinschelAssociates.com

Specification
Subject to change
without notice

TERMINATION, 93 OHMS MODEL WA200446
High Reliability

DC – 1.0 GHz 5 WATTS





Features

Type SMA stainless steel male connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Suitable for Shipboard environments.

Specifications

Nominal Impedance: 93 ohms ± 9 ohms

Frequency Range: DC - 1.0 GHz

Power Rating: 2 watts average power to 25°C ambient temperature, de-rated linearly to 0.5 watts at +85°C.

Temperature Range:
Operating: -20°C to +85°C
Non-Operating: -65°C to +125°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper or stainless steel contact.

Weight: .005 kg, max

VSWR: 1.68:1, minimum
2.04:1, maximum

Physical Dimensions:
Diameter: 8.9 (0.35), maximum
Length: 16.0 (0.63), nominal

Note: Dimensions are given in mm (inches) and are maximum, unless otherwise specified

Qualification Tests

Thermal Shock: 5 cycles, 1 hour soak times, -65° C to +85° C.

Temperature, Operating: 0°C to +85°C

Altitude, Operating: MIL-STD-202, Method 105C

Altitude, Non-Operating: MIL-STD-202, Method 105C, Test Condition B

Vibration, Random: MIL-STD-202, Method 201A

Shock: MIL-STD-202, Method 213B, Test Condition I

Humidity: MIL-STD-202, Method 106G

Salt Atmosphere: MIL-STD-202, Method 101E, Test Condition B

SALES REPRESENTATIVES
International

Australia -

The Macservice Group
231 Osborne Avenue, Clayton, South Victoria, 3169, Phone: 61-3-9558-0004, Fax: 61-3-9558-0875, Contact: Scott Marett, http://www.macservice.com.au

Austria -

MIWEKO Mikrowellen- und Hochfrequenz GmbH
Munchener Strabe 21, D-86949 Windach, Germany, Phone: +49 (0) 8193-93 92 90, Fax: +49 (0) 8193-93 92 999, Email: info@miweko.de, http://www.miweko.de

Belgium -

BSW Test Systems and Consulting bv
Bereklauw 1, NL-5831 PE, Boxmeer, The Netherlands, Phone: +31 48 55 758-04, Fax: +31 48 55 758-34, http://www.bsw-bv.nl

Canada -

Telepro Inc. - Province of Quebec and Maritimes
230 Chemin du Golf, Suite 409, Verdun, QC, Canada H3E 2A8, Phone: 514.667.7061, Fax: 514.448.1845, Contact: Hamo Sahaguian, http://www.telepro-inc.com

Telepro Inc. - Ottawa Area
300 March Road, 4th floor, Kanata, Ontario, Canada K2K 2E2, Phone: 613.257.5306, Fax: 613.599.8067, Contact: David Armstrong, http://www.telepro-inc.com

Telepro Inc. - Greater Toronto Area and Southwest Ontario
350 Rathburn Road West, Suite 2008, Mississauga, Ontario, Canada L5B 3Y2, Phone: 647.801.2726, Fax: 905.306.1161, Contact: Cliff Ramcharan, http://www.telepro-inc.com

Comprod Communications Ltd
138 de la Barre, Boucherville, QC, Canada J4B 2X7, Phone: 450.641.1454, Fax: 450.641.4616, http://www.comprodcom.com

China -

Allwin Technology, Inc.—Nanjing Headquarters
Room 032, Suite C, 1 Guanghua Lu, Nanjing, China, 210014
Phone: +86-25-8434950/1/3, Fax: +86-25-8434959
Contact: Donald Wu, Sales@allwintek.com, http://www.allwintek.com

Allwin Technology, Inc.—Beijing Office
Room 2808, No. 8 Building, 305 Gwangwai St., Xuanwu Qu Beijing, China 100036
Phone: +86-10-63361642, Fax: +86-10-63361642
Contact: Mr. Li, Sales@allwintek.com

Allwin Technology, Inc.—Chengdu Office
Room 5-208, Huiyang Xincun, No. 401 Yingmenkou Rd. Chengdu, China 610036
Phone: +86-28-66651361, Fax: +86-28-66651361
Contact: Mr. Yang, Sales@allwintek.com

Allwin Technology, Inc.—Xi'an Office
Room Zhonghe Lou 1005, Jiyuan Huayuan, Chang'an Qu, Xi'an, China 710100
Phone: +86-29-85610077, Fax: +86-29-85610077
Contact: Mr. Yang, Sales@allwintek.com

SALES REPRESENTATIVES
International

China (cont) -

TECT Electronics - Hong Kong Headquarters
Flat 811, 8/F., Hing Wah Centre, 82-84 Tokwawan Road, Kowloon, Hong Kong, China.
Tel: (852) 2333 7679, Fax: (852) 2333 7176
Contact: Connie Kong, Sales@tect.com.hk, http://www.tect-electronics.com

TECT Electronics (Shanghai) Ltd
Flat 802, Tomson Financial Building, 710 Dong Fang Road, Lu Jia Zui, PuDong, Shanghai, China. Tel: +86- 21-5878 9565, Fax: +86-21-5831 8101
Contact: Haydee Shem, SalesSH@tect.com.cn

TECT Electronics Beijing Office
Room 1708, Sun Thirsty Building, 18 Nan Lang Jia Yuan, Chao Yang District, Beijing, China
Tel: +86- 10-6567 1568, Fax: +86-10-6567 1569
Contact: Helen Chen, SalesBJ@tect.com.cn

TECT Electronics Shenzhen Office
Unit 1211, 12/F., North Building, No. 3003 Shen Nan Zhong Road, Shenzhen, China
Tel: +86-755- 8327 8151, Fax: +86-755-8327 8120
Contact: Jane Chen, SalesSZ@tect.com.cn

Denmark -

Amerikanska Teleprodukter AB
Box 88 155 21 Nykvarn Sweden, Phone: 46 8 55 240 230, Fax: 46 8 55 240 035
http://www.amska.se

Jorgensen & Co.
Praestemarksvej 8, 4000 Roskilde, Denmark, Phone: +45 4675 6322, Fax: +45 4675 6140
Contact: Soren Torpe, st@h-jorgensen.dk, http://h-Jorgensen.dk

Finland -

Amerikanska Teleprodukter AB
Box 88 155 21 Nykvarn Sweden, Phone: 46 8 55 240 230, Fax: 46 8 55 240 035
http://www.amska.se

France -

EQUIPEMENTS SCIENTIFIQUES, S.A.
127 Rue de Buzenval, Garches 92380, France, Phone: 33-1-47-959960, Fax 33-1-47-011622, Contact: Philippe Guez, http://www.es-france.com

MB Electronique
606 Rue Fourny ZI, 78530 BUC CEDEX France, Phone: 33-1-39.67.67.67, Fax: 33-1-39.95.65.34, http://www.mbelectronique.fr

Germany -

MIWEKO Mikrowellen- und Hochfrequenz GmbH
Munchener Strabe 21, D-86949 Windach, Germany, Phone: +49 (0) 8193-93 92 90, Fax: +49 (0) 8193-93 92 999, Email: info@miweko.de, http://www.miweko.de

India -

Mesa MW Corp.
525 W. Southern Avenue, No. 107, Mesa, AZ 85210Phone: 480.890.1612, Fax:480.890.2150, Email:sales@mesamw.com, http://www.mesamw.com

SALES REPRESENTATIVES
International

Indonesia – **Axomic Pte. Ltd**
Phone: 65 6316-3389, Fax: 65-6316-3390, Contacts:Tang Lip Khoon, Mobile: (65) 9682-3305, tang@axomic.com.sg, Martin Ng, Mobile: (65) 9635-3680, Martin.ng@axomic.com.sg

Ireland – **Atlantic Microwave, Ltd**
40A Springwood Drive, Braintree, Essex, CM7 2YN, United Kingdom, Phone: 01376 550220, Fax: 01376 552145, http://www.amrf.co.uk

Italy - **Selint S.R.L.**
Via della Stazione de Ciampino, 24 (int. 5), 00040 Morena (Rome), Phone: 39-6-79.84.10.28, Fax: 39-6-79.84.52.54, Contact Roberto Mazza

Selint S.R.L.
Piazza de Angeli, 7, 20146 Milano, Phone: 39-2-48.00.81.19, Fax: 39-2-48.16.429

Japan - **Toko Trading.**
Kyodo BLDG. Shin-Aoyama 9-15, Minami-Aoyama 5-Chome, Minato-Ku, Tokyo, Japan. Phone: (03)-3409-5831, Fax: (03)-3409-2717, http://www.tokotrading.co.jp

Farad Corp.
Nikko Building 10F, 34, Tansu-Machi, Shinjuku-Ku Tokyo 162-0833, Phone: 81-3-5261-3091, Fax: 81-3-5261-3093, Contact: Osamu Takeuchi

Korea (ROK) - **LTI**
182-6, Sadang-5, DongJak, Seoul, S Korea, Phone 822-5874086, Fax 822-5874088, Contact: Soong Hak Lee, SoongHak@yahoo.com

Luxemburg - **BSW Test Systems and Consulting bv**
Bereklauw 1, NL-5831 PE, Boxmeer, The Netherlands, Phone: +31 48 55 758-04, Fax: +31 48 55 758-34, http://www.bsw-bv.nl

Maylasia – **Axomic Pte. Ltd**
Phone: 65 6316-3389, Fax: 65-6316-3390, Contacts:Tang Lip Khoon, Mobile: (65) 9682-3305, tang@axomic.com.sg, Martin Ng, Mobile: (65) 9635-3680, Martin.ng@axomic.com.sg

Netherlands - **BSW Test Systems and Consulting bv**
Bereklauw 1, NL-5831 PE, Boxmeer, The Netherlands, Phone: +31 48 55 758-04, Fax: +31 48 55 758-34, http://www.bsw-bv.nl

Norway - **Amerikanska Teleprodukter AB**
Box 88 155 21 Nykvarn Sweden, Phone: 46 8 55 240 230, Fax: 46 8 55 240 035 http://www.amska.se

SALES REPRESENTATIVES
International

Philippines – **Axomic Pte. Ltd**
Phone: 65 6316-3389, Fax: 65-6316-3390, Contacts:Tang Lip Khoon, Mobile: (65) 9682-3305, tang@axomic.com.sg, Martin Ng, Mobile: (65) 9635-3680, Martin.ng@axomic.com.sg

Singapore – **Axomic Pte. Ltd**
Phone: 65 6316-3389, Fax: 65-6316-3390, Contacts:Tang Lip Khoon, Mobile: (65) 9682-3305, tang@axomic.com.sg, Martin Ng, Mobile: (65) 9635-3680, Martin.ng@axomic.com.sg

Sweden - **Amerikanska Teleprodukter AB**
Box 88 155 21 Nykvarn Sweden, Phone: 46 8 55 240 230, Fax: 46 8 55 240 03
http://www.amska.se

Russia - **May Ltd.**
77 Shelkovskoe Ave., Moscow, 107497, Russian Federation. Phone: +7-495-913-5161, Fax: +7-495-913-5160, http://www.may.ru

Switzerland - **MIWEKO Mikrowellen- und Hochfrequenz GmbH**
Munchener Strabe 21, D-86949 Windach, Germany, Phone: +49 (0) 8193-93 92 90, Fax: +49 (0) 8193-93 92 999, Email: info@miweko.de, http://www.miweko.de

Emitec AG
Business Cube, Birkenstrasse 47, 6343 Rotkreuz / Switzerland, Phone: +41 41 748 60 10, Fax: +41 41 748 60 10, Web: www.emitec.ch, E-Mail: info@emitec.ch

Taiwan - **Evergo Instruments Inc.**
12-8 Fl., No. 142, Sec. 4, Jungshiao E. Rd., Taipei, Taiwan, Phone: (886) 2-2752-0767 , Fax: (886) 2-8773-0678, Email: sales@evergo.com.tw, http://www.evergo.com.tw

Thailand – **Axomic Pte. Ltd**
Phone: 65 6316-3389, Fax: 65-6316-3390, Contacts:Tang Lip Khoon, Mobile: (65) 9682-3305, tang@axomic.com.sg, Martin Ng, Mobile: (65) 9635-3680, Martin.ng@axomic.com.sg

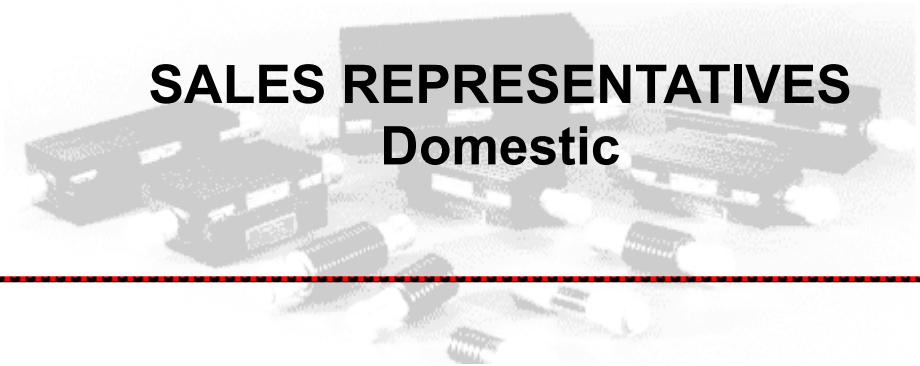
United Kingdom - **Atlantic Microwave, Ltd**
40A Springwood Drive, Braintree, Essex, CM7 2YN, United Kingdom, Phone: 01376 550220, Fax: 01376 552145, http://www.amrf.co.uk

Note: For countries not listed, contact the Sales Office at Weinschel Associates
Phone: +1.301.963.4630, Fax: +1.301.963.8640
e-mail: sales@weinschelassociates.com

For up to date Sales Representative information, visit our website:

http://www.weinschelassociates.com

SALES REPRESENTATIVES
Domestic



United States–

Jay Stone Associates - Northern California and Northern Nevada
2109 O'Toole Ave, Suite M, San Jose, CA 95131, Phone: 408.428.2500, Fax: 408.428.9000, http://jsarep.com, Shannon@jsarep.com

R.J. Sickles Associates - New England
PO Box 3161, Westport, MA, 02790, Phone: 781-266-8045 (MA, VT, ME, RI), 401-359-0726 (NH, CT, Some MA) , http://rjsickles.com, sales@rjsickles.com

Weinschel Associates
19212 Orbit Drive, Gaithersburg, MD, 20879, Phone: 877.948.8342/301.963.4630, Fax: 301.963.8640, http://www.weinschelassociates.com, sales@weinschelassociates.com

Note: For areas not listed, contact the Sales Office at Weinschel Associates
Phone: +1.301.963.4630; Toll Free: +1.877.948.8342; Fax: +1.301.963.8640
e-mail: sales@weinschelassociates.com

For up to date Sales Representative information, visit our website:

http://www.weinschelassociates.com

ORDERING INFORMATION

HOW TO ORDER: Please order by both catalogue number and description of the component to avoid confusion. Special features and configurations not listed in this catalogue may be available. Please contact the factory regarding any non-standard features.

WHERE TO ORDER: Address all purchase orders and other communication to:

Weinschel Associates
19212 Orbit Drive, Gaithersburg, MD 20879
Phone: 877.948.8342/301.963.4630
Fax: 301.963.8640
e-mail: sales@weinschelassociates.com

DOMESTIC TERMS: Formal price quotations remain in effect for 60 days unless otherwise stated. Standard payment terms for approved customers are Net 30 days. Where credit has not been established, payment must be arranged prior to shipment or COD. All pricing is FOB Gaithersburg, Maryland unless otherwise stated and includes commercial inspection and packaging for shipment. **All major credit cards are accepted.**

EXPORT TERMS: Payment terms are cash in advance or irrevocable Letter of Credit payable through a bank to be specified by Weinschel Associates. All prices are in US Dollars, FOB Gaithersburg, Maryland. All bank charges are to be paid by the customer.

SOURCE INSPECTION: When source inspection is required, an additional charge of either $100 or two (2%) of the purchase order value will be levied, whichever is greater.

CERTIFICATES OF COMPLIANCE: A Certificate of Compliance is shipped with every order along with the packing slip. Extra copies are available upon request at any time.

TEST DATA: Comprehensive test data is available for an extra charge. Weinschel Associates tests 100% of its shipped product against published specifications. Data is retained when required by the customer.

TECHNICAL CONSULTATION: Our engineering department is available for informal and formal consultation on technical, calibration, and service issues. Call or e-mail the factory.

WARRANTY REPAIRS: In the event of a problem with an item, please contact the factory. If a return is necessary, a Return Material Authorization (RMA) number will be provided by which the returned item will be identified and repaired or replaced. Please provide complete details of the complaint along with contact and shipping information for the items return.

NON-WARRANTY REPAIRS: If return of an item is desired for non-warranty repair and/or calibration, please contact the factory. A Return Material Authorization (RMA) number will be provided by which the returned item will be identified. Upon receipt, an evaluation of the item will be performed and the price to repair or recalibrate will be provided for approval (unless pre-approved). Weinschel Associates furnishes full warranty on all repairs for 90 days following shipment.

SHIPPING INSTRUCTIONS: Weinschel Associates will use best judgment and best method shipping for your items. Special instructions will be followed.

SPECIFICATION CHANGES: Changes to specifications may occur at any time without notification and without any obligation to Weinschel Associates to revise previously sold items. We reserve the right to discontinue any item without notice.

CANCELLATIONS AND RETURNS: Order cancellation must be authorized by Weinschel Associates and the customer may incur a cancellation charge. All returns are subject to a restocking charge dependent upon elapsed time.

MAJOR CREDIT CARDS ACCEPTED

