



Mini-Circuits

COAXIAL

Precision Fixed Attenuator

BW-N40W50+

50 Ω 50 W 40 dB DC to 18 GHz N-Male to N-Female

THE BIG DEAL

- DC to 18 GHz
- High Power Handling, 50 W
- Excellent VSWR, 1.30:1 Typ.
- Passivated Stainless Steel N-Type Connectors

APPLICATIONS

- Impedance Matching
- Instrumentation
- Test Setups
- High Power Measurements



Generic photo used for illustration purposes only

Model No.	BW-N40W50+
Case Style	GH1788
Connectors	N-Male to N-Female

+RoHS Compliant

The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

PRODUCT OVERVIEW

The BW-N40W50+ 40 dB precision fixed attenuator achieves great flatness versus frequency from DC to 18 GHz and handles high power signals up to 50 W. High power handling, excellent VSWR, and precise performance make the BW-N40W50+ ideal for applications including high power measurement, improving matching, test setups, and other functions demanding accurate attenuation and high power capability.

KEY FEATURES

Feature	Advantages
Wide Frequency Range	DC to 18 GHz frequency range gives the BW-N40W50+ attenuator versatile application functionality.
Excellent VSWR, 1.30 Typ.	Well-matched for 50 Ω systems; reduces effects of phase variation.
Flat Attenuation	Accurate performance within ± 0.5 dB over the full frequency range.
Rugged Construction	Excellent durability for a long lifetime of use.
Heat Dissipation Fins	Designed to dissipate heat efficiently, the BW-N40W50+ requires no external cooling equipment.
Compact Size (2.65" x 2.65" x 4.5")	Outstanding performance capability and power handling without prohibitive space constraints.





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ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		18	GHz
Attenuation	DC - 18	38.5	40.0	41.5	dB
VSWR	IN	DC - 18		1.45	:1
	OUT	DC - 18		1.5	
Input Power ¹	DC - 18			50	W

1. Max. power at +25°C ambient, derate linearly to 20 W at +100°C. Peak power 500 W Max. 5 μ sec. pulse width, 100 Hz PRF, input N-Male. 5 W max. at N-Female.

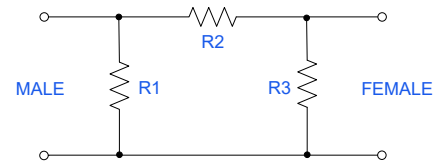
ABSOLUTE MAXIMUM RATINGS²

Parameter	Ratings
Operating Temperature ³	-55°C to +100°C
Storage Temperature	-55°C to +100°C

2. Permanent damage may occur if any of these limits are exceeded.

3. +85°C with output into open or short.

ELECTRICAL SCHEMATIC





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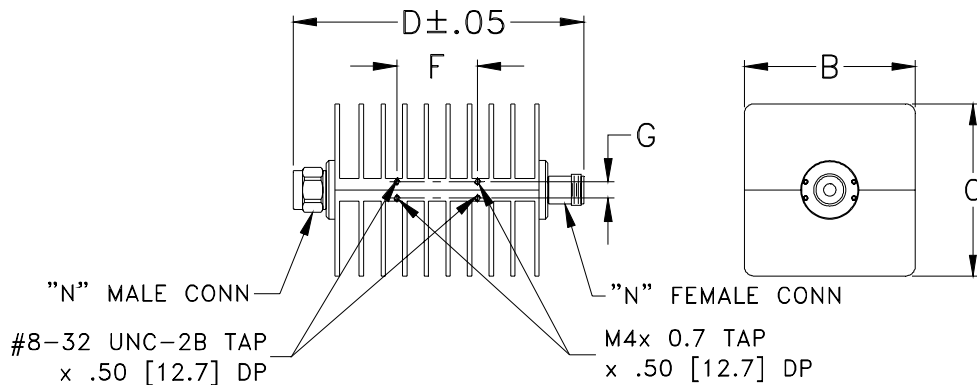
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OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch mm)

B	C	D	E	F	G	wt.
2.65	2.65	4.50	--	1.25	.25	grams
67.31	67.31	114.30	--	31.75	6.35	720.0





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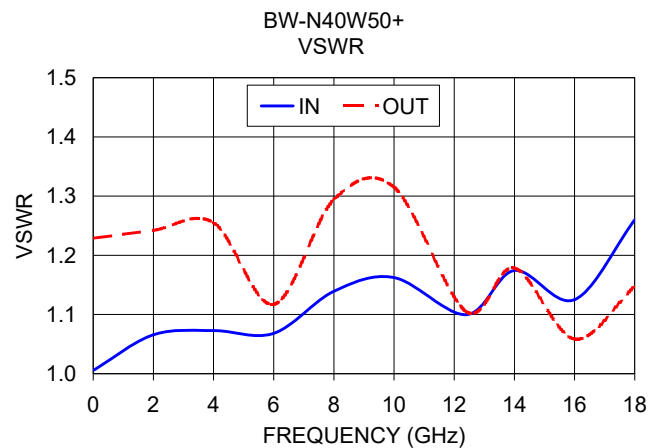
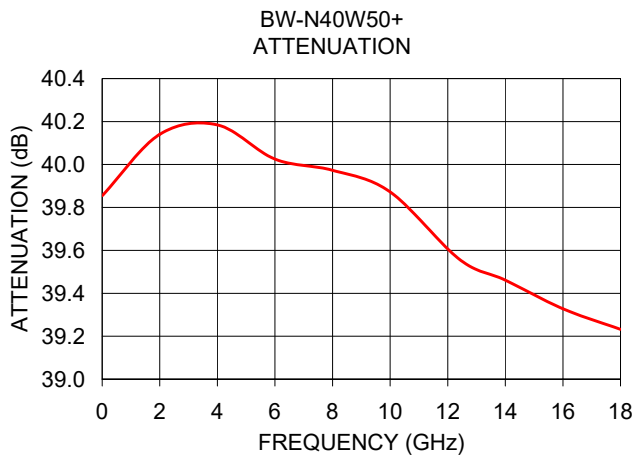
Precision Fixed Attenuator

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50Ω 50 W 40 dB DC to 18 GHz N-Male to N-Female

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (GHz)	Attenuation (dB)	VSWR (:1)	
		IN	OUT
0.01	39.86	1.01	1.23
2.0	40.14	1.07	1.24
4.0	40.18	1.07	1.26
6.0	40.03	1.07	1.12
8.0	39.97	1.14	1.29
10.0	39.87	1.16	1.32
12.4	39.56	1.10	1.10
14.0	39.46	1.17	1.18
16.0	39.33	1.13	1.06
18.0	39.23	1.26	1.15



NOTES

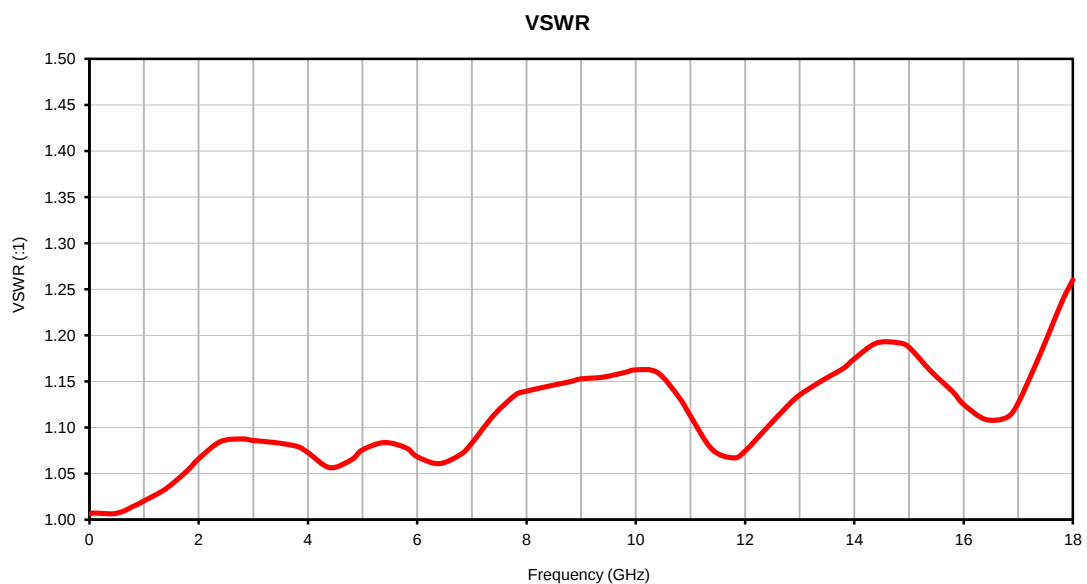
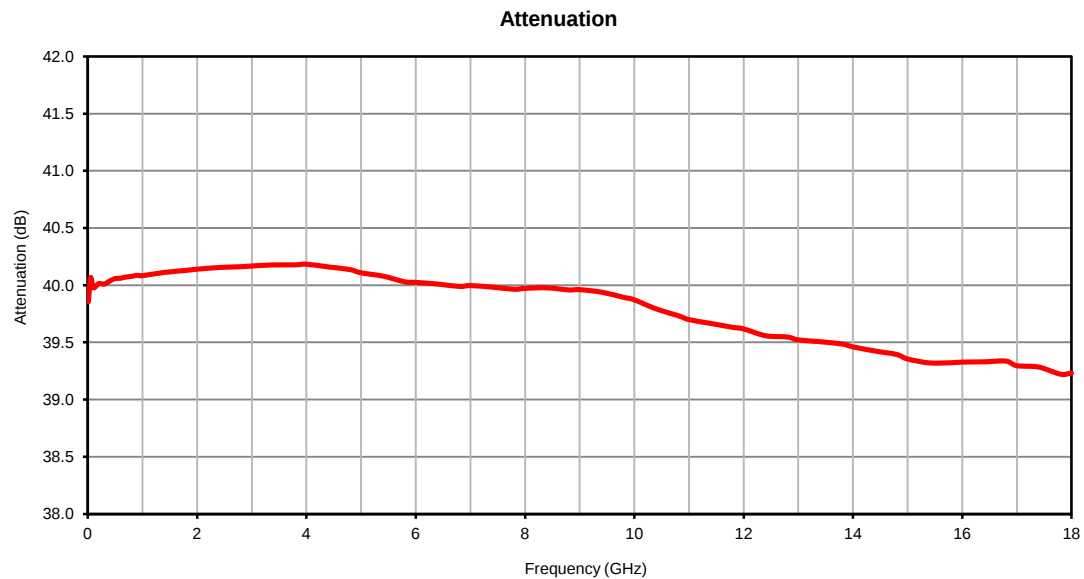
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Typical Performance Data

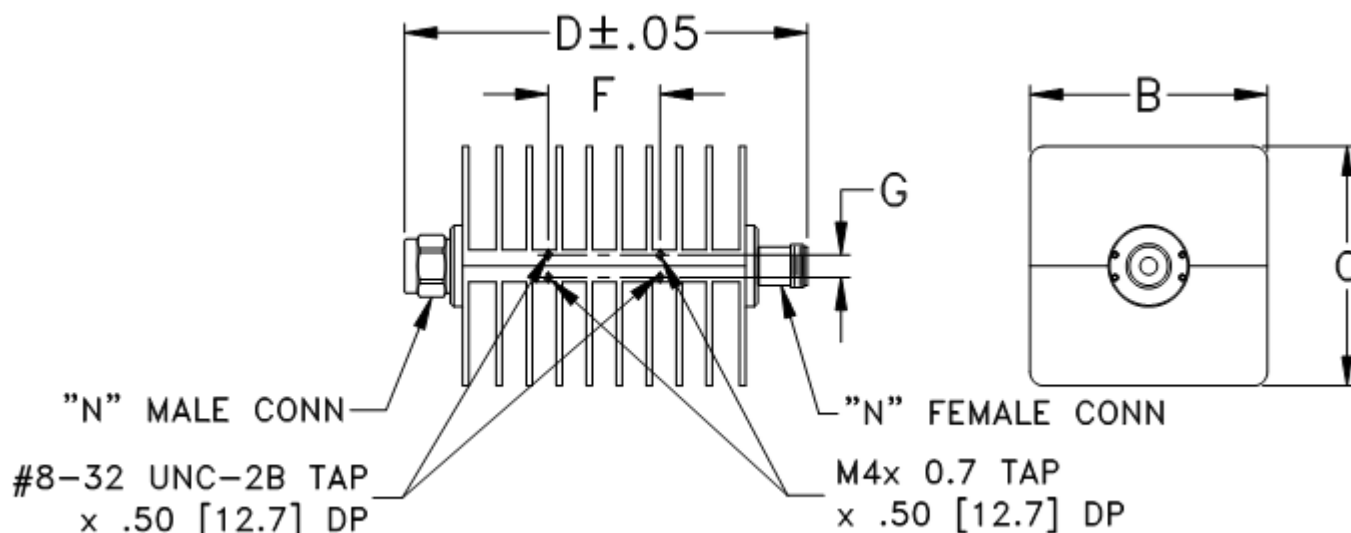
FREQUENCY (GHz)	ATTENUATION (dB)	VSWR (:1)
0.01	39.86	1.01
0.05	40.07	1.01
0.1	39.98	1.01
0.2	40.01	1.01
0.3	40.01	1.01
0.4	40.04	1.01
0.5	40.06	1.01
0.6	40.06	1.01
0.7	40.07	1.01
0.8	40.08	1.01
0.9	40.09	1.02
1.0	40.08	1.02
1.4	40.11	1.03
1.8	40.13	1.05
2.0	40.14	1.07
2.4	40.16	1.08
2.8	40.16	1.09
3.0	40.17	1.09
3.4	40.18	1.08
3.8	40.18	1.08
4.0	40.18	1.07
4.4	40.16	1.06
4.8	40.14	1.06
5.0	40.11	1.08
5.4	40.08	1.08
5.8	40.03	1.08
6.0	40.03	1.07
6.4	40.01	1.06
6.8	39.99	1.07
7.0	40.00	1.08
7.4	39.98	1.11
7.8	39.97	1.14
8.0	39.97	1.14
8.4	39.98	1.14
8.8	39.96	1.15
9.0	39.96	1.15
9.4	39.94	1.15
9.8	39.89	1.16
10.0	39.87	1.16
10.4	39.79	1.16
10.8	39.73	1.13
11.0	39.70	1.11
11.4	39.67	1.08
11.8	39.63	1.07
12.0	39.62	1.07
12.4	39.56	1.10
12.8	39.55	1.12
13.0	39.52	1.14
13.4	39.51	1.15
13.8	39.49	1.16
14.0	39.46	1.17
14.4	39.43	1.19
14.8	39.40	1.19
15.0	39.36	1.19
15.4	39.32	1.16
15.8	39.32	1.14
16.0	39.33	1.13
16.4	39.33	1.11
16.8	39.34	1.11
17.0	39.30	1.13
17.4	39.28	1.18
17.8	39.22	1.24
18.0	39.23	1.26

Typical Performance Curves



Outline Dimensions

GH1788



CASE #.	A	B	C	D	E	F	G	H	J	WT. GRAM
GH1788	--	2.65 (67.31)	2.65 (67.31)	4.50 (114.30)	--	1.25 (31.76)	.25 (6.35)	--	--	720

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$

Notes:

1. Case Material: Aluminum alloy.
2. Case finish: Black anodize.



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
 Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I