TNC / N-Type

Fixed Attenuator

BW-40TMNF100W+

50Ω 100W 40dB DC to 4000 MHz

The Big Deal

- Extremely wideband, DC to 4 GHz
- TNC / N-Type
- Excellent VSWR, 1.30:1 typ.

CASE STYLE: GH986-1

Product Overview

The BW-40TMNF100W+ precision fixed attenuators achieves extremely wide frequency range from DC up to 4 GHz. Bi-Directional, enabling high power to be applied to either of the ports. Excellent attenuation flatness, good VSWR (1.30:1 typ.) and rugged construction make these models ideal solutions for applications requiring precise attenuation across very wide frequency range.

Key Features

Feature	Advantages
Extremely wideband, DC to 4 GHz	Ideal for an exceptionally wide variety of lab and system applications.
Excellent attenuation accuracy, ±2.0 dB typ. or better across full range	Provides precise, consistent attenuation across the entire frequency band, ideal for broadband and multi-band usage.
Good VSWR • 1.24 @ 2 GHz typ. • 1.07 @ 4 GHz typ.	Efficient power utilization with minimal signal power reflected back to source.
100W power handling	Provides precise attenuation for a range of input power levels up to 100W
Passivated stainless steel connectors	Rugged construction withstands harsh environmental conditions for high reliability and long life of use.

Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

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Generic photo used for illustration purposes only

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Connectors	Model
TNC Male - N-Type Female	BW-40TMNF100W+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C

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

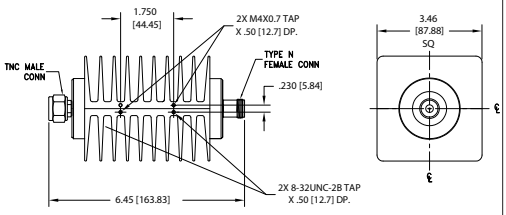
Features

- DC to 4000 MHz
- excellent VSWR, 1.30:1 typ.
- TNC-Male and N-Female connectors
- Bi-directional

Applications

- matching
- instrumentation
- test set-ups

Outline Drawing



Weight: 1100 grams.

Dimensions are in inches [mm]

Electrical Specifications at 25°C

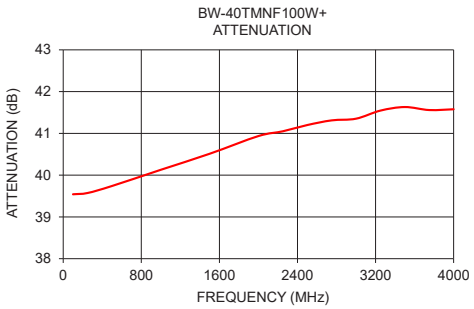
Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range[1]		DC	—	4000	MHz
Attenuation	DC - 4000		40		dB
Attenuation Accuracy	DC - 4000		±2		dB
VSWR	DC - 4000	—	—	1.45	:1
Input Power[2]	DC - 4000	—	—	100	W

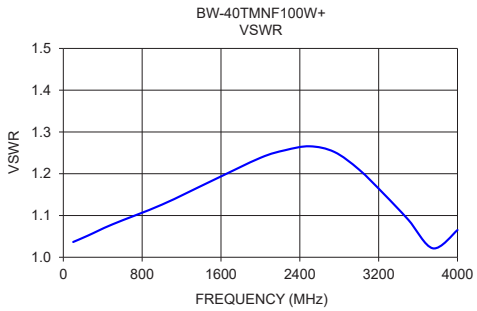
Temperature coefficient for attenuation .0004 dB/dB/°C typ.

1. Useable to 5 GHz
2. Average power at 25°C ambient, derate linearly to 40W at 100°C, bi-directional.
   Peak power 1kW max., 5μ sec pulse width, 100 Hz PRF 3.

Typical Performance Data

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
100	39.54	1.04
250	39.57	1.05
500	39.74	1.08
1000	40.13	1.13
1500	40.51	1.18
2000	40.94	1.24
2250	41.05	1.26
2500	41.20	1.27
2750	41.31	1.25
3000	41.35	1.21
3250	41.54	1.15
3500	41.63	1.09
3750	41.56	1.02
4000	41.58	1.07





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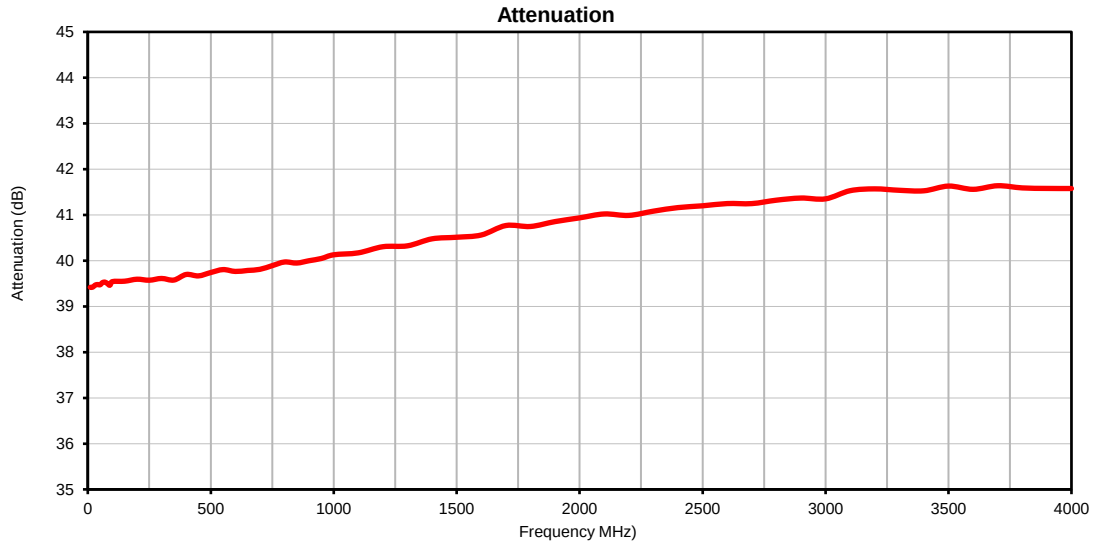
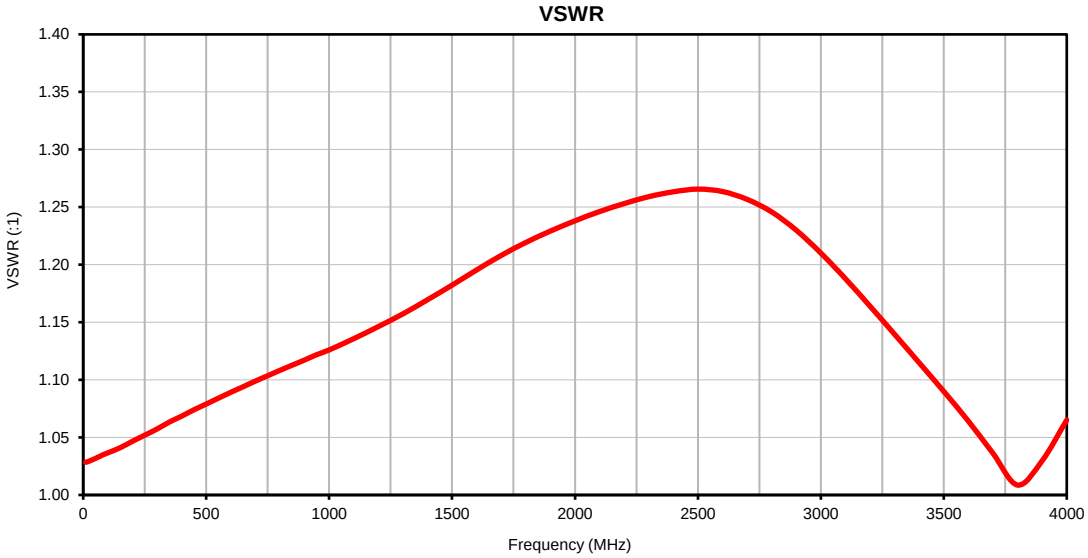
Fixed Attenuator BW-40TMNF100W+

Typical Performance Data

FREQUENCY (MHz)	ATTENUATION (dB)	VSWR (:1)
10	39.42	1.03
20	39.42	1.03
30	39.47	1.03
40	39.48	1.03
50	39.47	1.03
60	39.52	1.03
70	39.53	1.03
80	39.50	1.03
90	39.46	1.04
100	39.54	1.04
150	39.55	1.04
200	39.59	1.05
250	39.57	1.05
300	39.61	1.06
350	39.58	1.06
400	39.70	1.07
450	39.67	1.07
500	39.74	1.08
550	39.80	1.08
600	39.76	1.09
650	39.79	1.09
700	39.81	1.10
750	39.89	1.10
800	39.97	1.11
850	39.95	1.11
900	40.00	1.12
950	40.05	1.12
1000	40.13	1.13
1100	40.17	1.14
1200	40.30	1.15
1300	40.32	1.16
1400	40.48	1.17
1500	40.51	1.18
1600	40.56	1.20
1700	40.77	1.21
1800	40.75	1.22
1900	40.85	1.23
2000	40.94	1.24
2100	41.02	1.25
2200	40.99	1.25
2300	41.08	1.26
2400	41.16	1.26
2500	41.20	1.27
2600	41.25	1.26
2700	41.25	1.26
2800	41.32	1.25
2900	41.37	1.23
3000	41.35	1.21
3100	41.53	1.19
3200	41.57	1.16
3300	41.54	1.14
3400	41.53	1.11
3500	41.63	1.09
3600	41.56	1.06
3700	41.64	1.04
3800	41.59	1.01
3900	41.58	1.03
4000	41.58	1.07

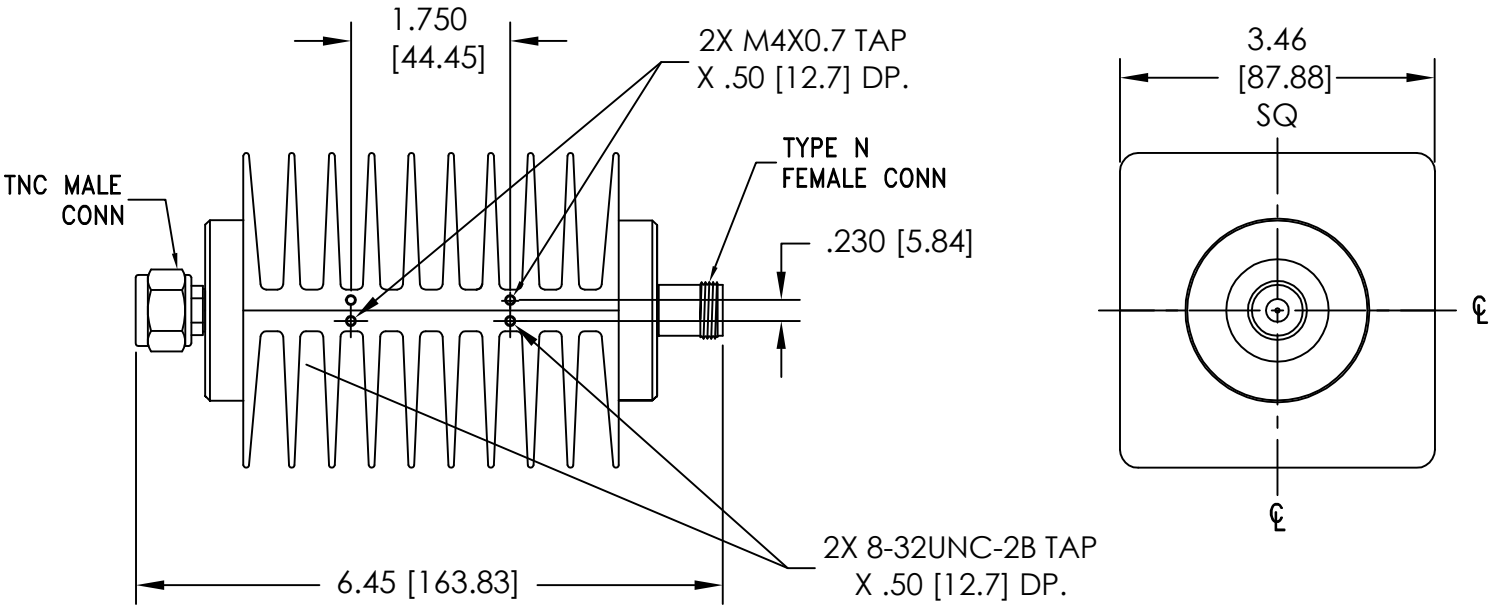
Typical Performance Curves





Case Style GH

Outline Dimensions GH986-1



Weight: 1100 grams.

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

Notes:
1. Case material: Stainless Steel..
2. Finish: Passivation.
3. For polarity of connector refer individual model data sheet.

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Mini-Circuits

Environmental Specifications ENV28

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

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