COAXIAL

Precision Fixed Attenuator BW-S50W2+

50Ω 2 W 50 dB DC to 18 GHz SMA Female to SMA Male

FEATURES

- DC to 18 GHz
- Precision Attenuation
- Excellent VSWR, 1.20 Typ.
- Stainless Steel SMA Male and Female Connectors



Generic photo used for illustration purposes only

APPLICATIONS

- Impedance Matching
- Instrumentation
- Test Setups

Model No.	BW-S50W2+
Case Style	FF1048
Connectors	SMA Female to SMA Male

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

ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		18	GHz
Attenuation, Nominal	–	–	50	–	dB
Attenuation, Accuracy[1]	DC–18	–	±1.5	–	dB
VSWR	DC–4	–	–	1.15	:1
	4–8	–	–	1.20	
	8–12.4	–	–	1.25	
Input Power[2]	–	–	–	2.0	W

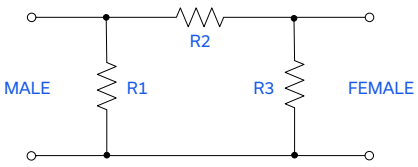
1. At +25 °C, accuracy includes frequency and power variations. Temperature coefficient for attenuation: 0.0004 dB/dB/°C typ.
2. Average power at +25 °C ambient, derate linearly to 0.875 W at +100 °C. Peak Power 250 W max. 5 µsec. pulse width, 100 Hz PRF.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55 °C to +100 °C
Storage Temperature[4]	-55 °C to +100 °C

4. With mated connectors. Unmated, +85 °C max.
Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SCHEMATIC

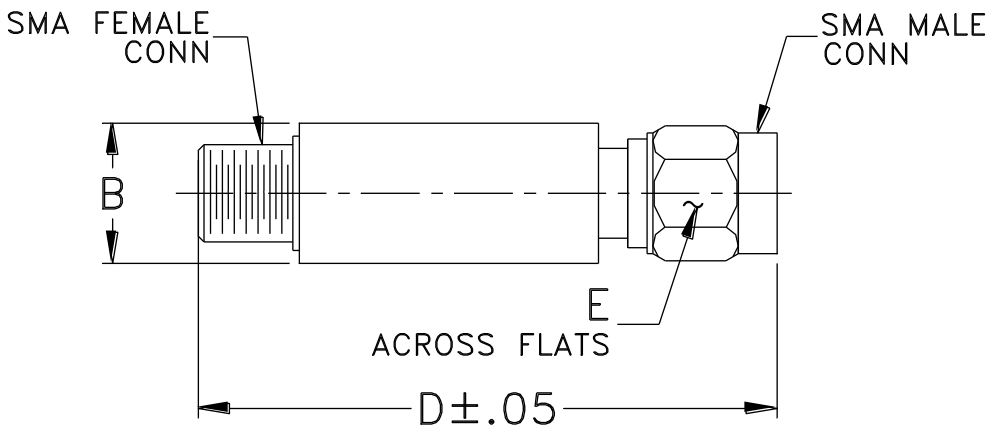


REV. D
ECO-026449
BW-S50W2+
MCL NY
260812

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OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

B	D	E	wt
0.36	1.49	0.312	grams
9.14	37.85	7.92	11.0

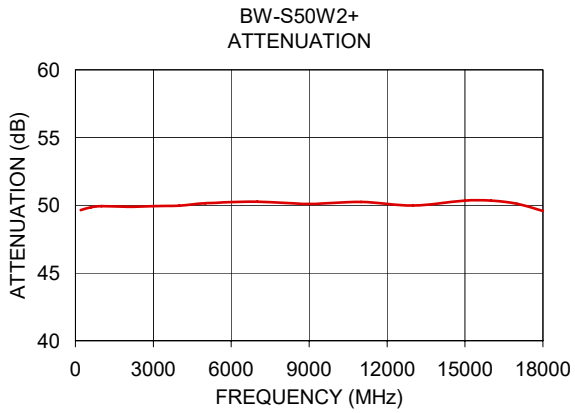
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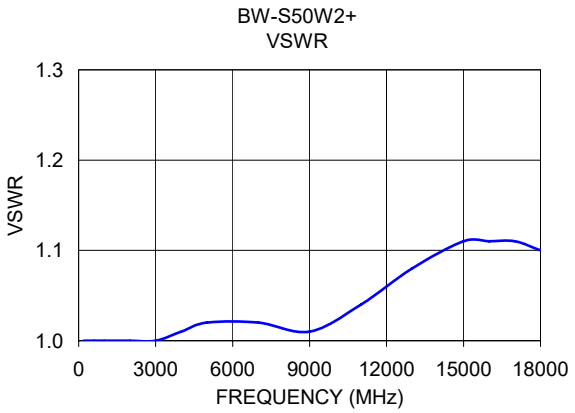
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TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
200	49.64	1.00
600	49.85	1.00
1000	49.93	1.00
2000	49.88	1.00
3000	49.94	1.00
4000	49.96	1.01
5000	50.14	1.02
7000	50.26	1.02
9000	50.10	1.01
11000	50.25	1.04
13000	49.98	1.08
15000	50.34	1.11
16000	50.35	1.11
17000	50.12	1.11
18000	49.57	1.10





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-Circuits' 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/terms/viewterm.html

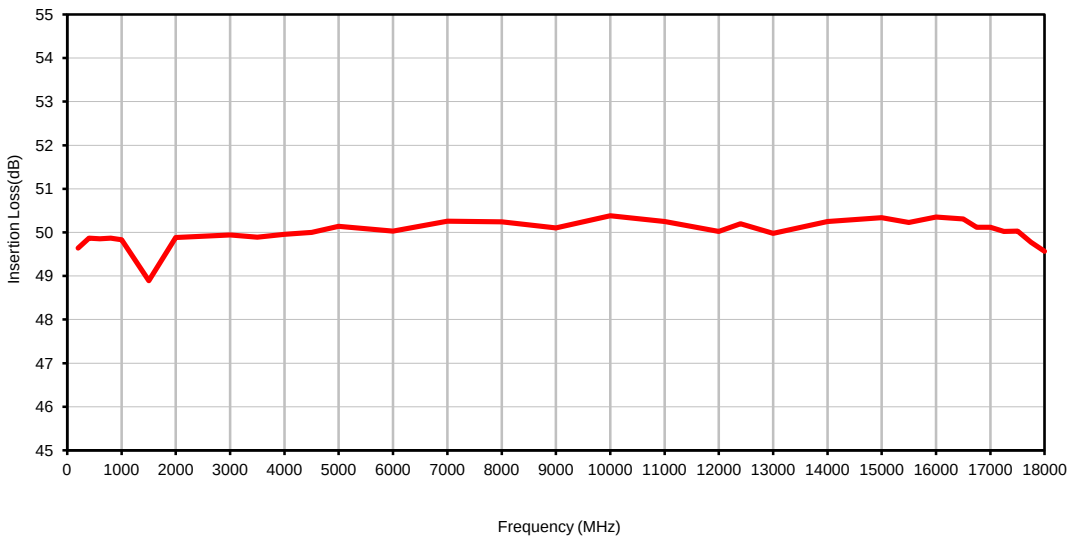
Fixed Attenuator BW-S50W2+

Typical Performance Data

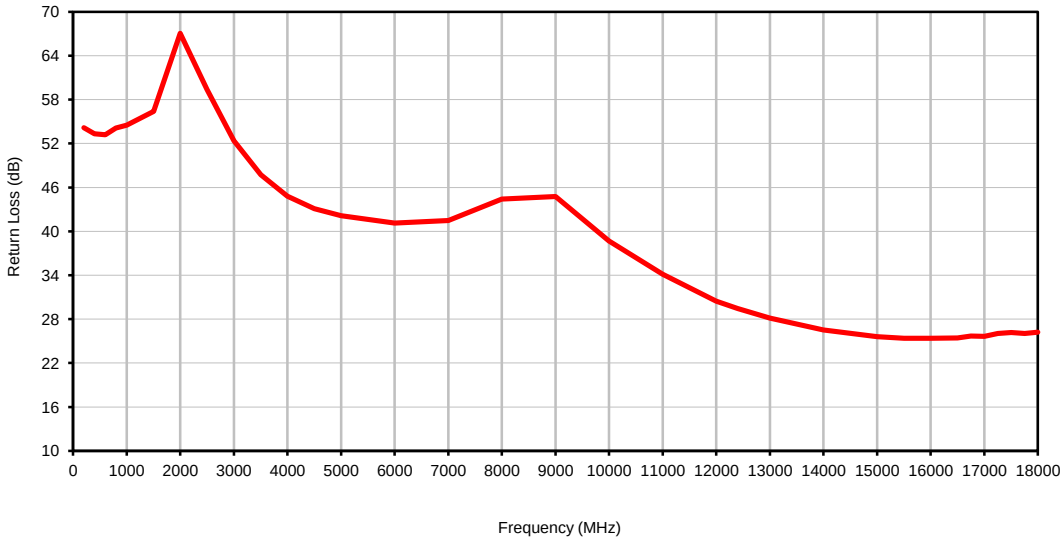
FREQUENCY (MHz)	ATTENUATION (dB)	RETURN LOSS (dB)
200.0	49.64	54.15
400.0	49.87	53.34
600.0	49.85	53.18
800.0	49.87	54.09
1000.0	49.83	54.49
1500.0	48.89	56.39
2000.0	49.88	67.04
2500.0	49.91	59.36
3000.0	49.94	52.35
3500.0	49.89	47.74
4000.0	49.96	44.81
4500.0	50.00	43.10
5000.0	50.14	42.15
6000.0	50.03	41.12
7000.0	50.26	41.48
8000.0	50.24	44.41
9000.0	50.10	44.76
10000.0	50.38	38.68
11000.0	50.25	34.14
12000.0	50.02	30.48
12400.0	50.20	29.44
13000.0	49.98	28.13
14000.0	50.25	26.54
15000.0	50.34	25.60
15500.0	50.23	25.37
16000.0	50.35	25.39
16500.0	50.31	25.42
16750.0	50.12	25.71
17000.0	50.12	25.63
17250.0	50.02	26.05
17500.0	50.03	26.18
17750.0	49.77	26.04
18000.0	49.57	26.22

Typical Performance Curves

Attenuation

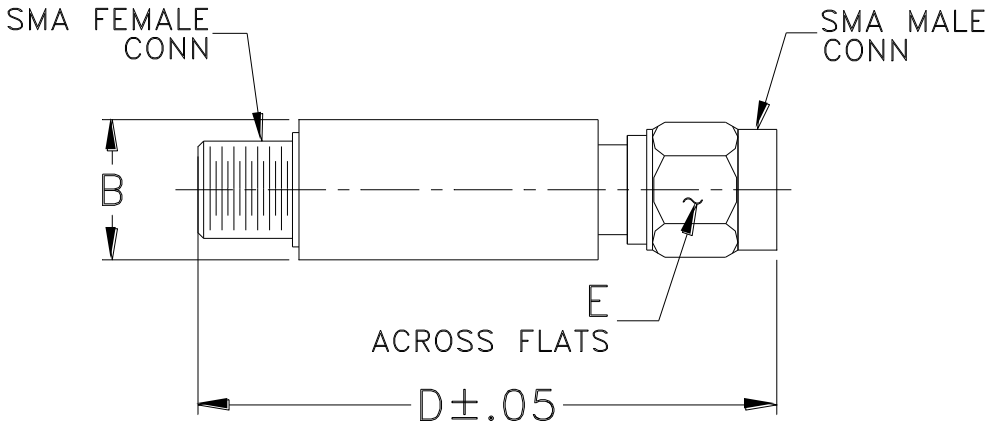


Return Loss



Case Style FF

Outline Dimensions FF1048



CASE #.	A	B	C	D	E	WT GRAMS
FF1048	-- --	.36 (9.14)	-- --	1.49 (37.85)	.312 (7.92)	11.0

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

Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.

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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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