COAXIAL

Precision Fixed Attenuator BW-S9W2+

50Ω 2 W 9 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-S9W2+
Case Style	FF658
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	–	–	9	–	dB
Attenuation, Accuracy[1]	DC–18	–	-0.4, +0.8	–	dB
VSWR[2]	DC–4	–	–	1.20	:1
	4–8	–	–	1.25	
	8–12.4	–	–	1.30	
Input Power[3]	–	–	–	2.0	W

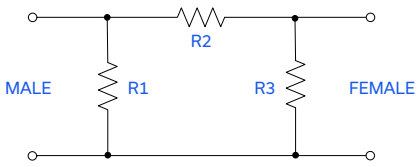
1. At +25 °C, accuracy includes frequency and power variations. Temperature coefficient for attenuation: 0.0004 dB/dB/°C typ.
2. VSWR from 12.4 to 18 GHz, 1.6:1 typ.
3. Average power at +25 °C ambient, derate linearly to 0.5 W at +100 °C. Peak Power 125 W max. 5 µsec. pulse width, 100 Hz PRF.

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



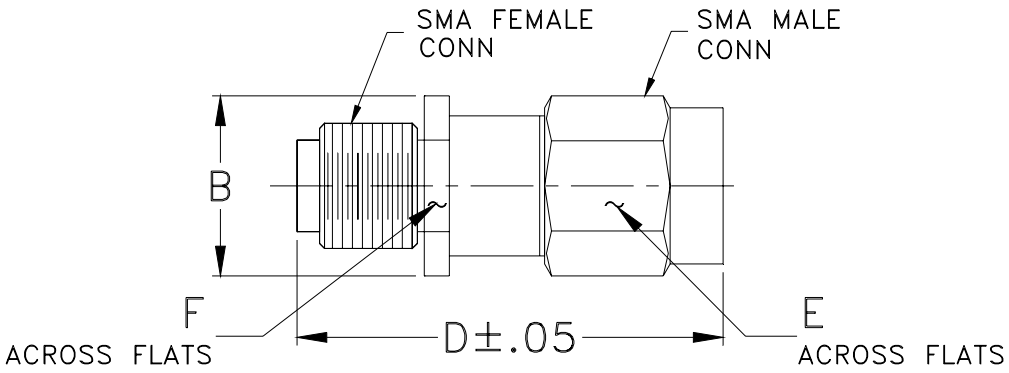
REV. F
ECO-024322
BW-S9W2+
MCL NY
260812

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OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

B	D	E	F	wt
.36	.85	.312	.312	grams
9.14	21.59	7.92	7.92	4.3

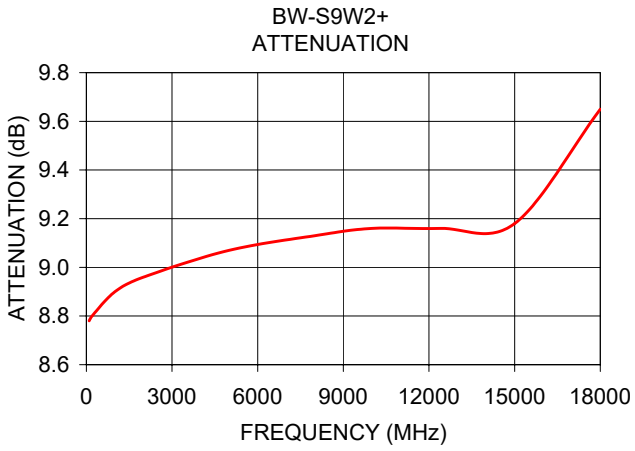
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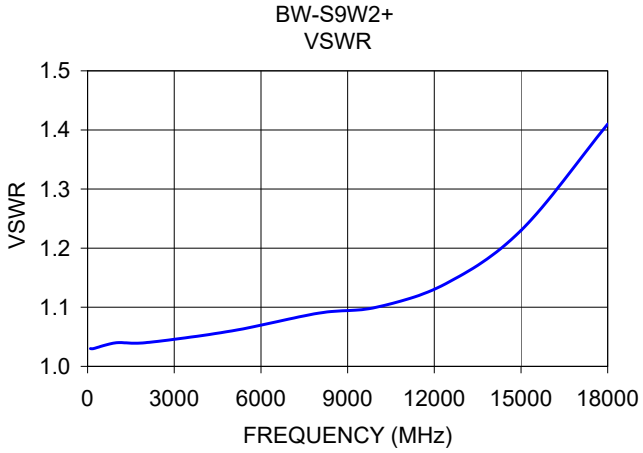
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TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
100.0	8.78	1.03
199.9	8.80	1.03
1000.0	8.90	1.04
1999.9	8.96	1.04
5000.0	9.07	1.06
7999.9	9.13	1.09
9999.9	9.16	1.10
12400.1	9.16	1.14
15000.0	9.18	1.23
18000.0	9.65	1.41





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

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Typical Performance Data

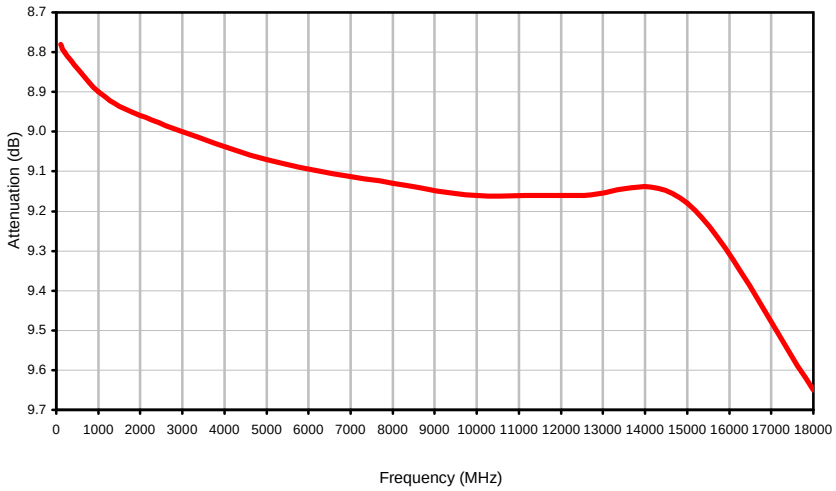
FREQUENCY (MHz)	ATTENUATION (dB)	RETURN LOSS (dB)
100.00	8.78	36.61
199.90	8.80	36.61
1000.00	8.90	34.15
1999.90	8.96	34.15
5000.00	9.07	30.71
7999.90	9.13	27.32
9999.90	9.16	26.44
12400.10	9.16	23.69
15000.00	9.18	19.73
18000.00	9.65	15.38

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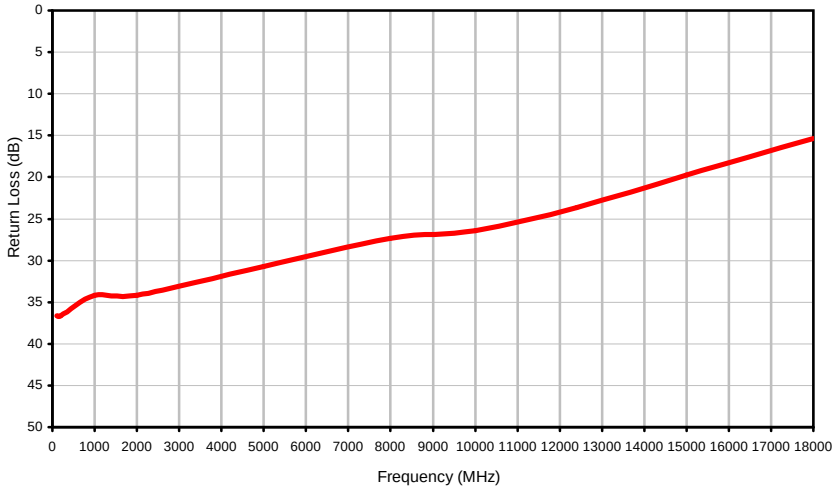
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Typical Performance Curves

Attenuation



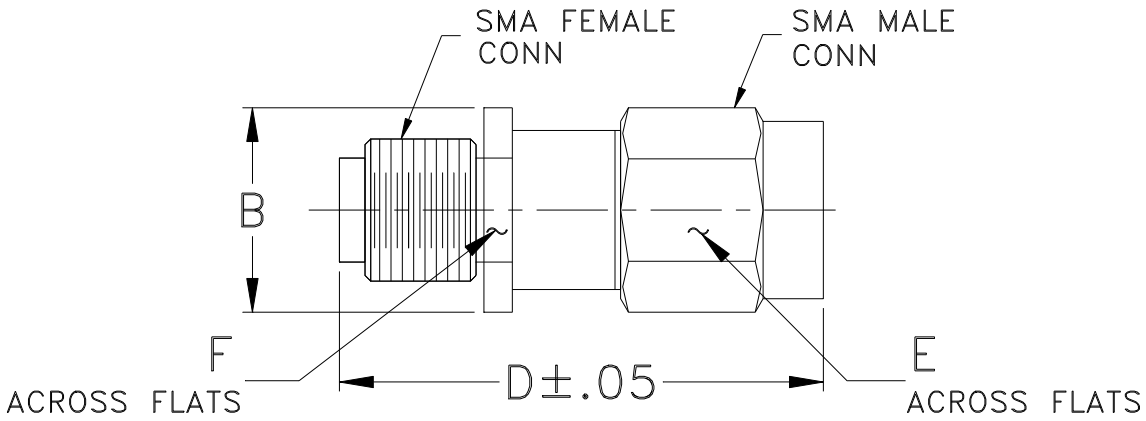
Return Loss



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Outline Dimensions

FF658
FF659



CASE #.	A	B	C	D	E	F	WT GRAMS
FF658	--	.36 (9.14)	--	.85 (21.59)	.312 (7.92)	.312 (7.92)	4.3
FF659	--		--	.99 (25.15)			5.1

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

Note:

1. Case material: Stainless steel.

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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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