



COAXIAL

# Precision Fixed Attenuator

## BW-S5W2+

50Ω 2 W 5 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-S5W2+
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			5		dB
Attenuation, Accuracy <sup>1</sup>	DC - 18		±0.40		dB
VSWR <sup>2</sup>	DC - 4			1.20	:1
	4 - 8			1.25	
	8 - 12.4			1.30	
Input Power <sup>3</sup>				2.0	W

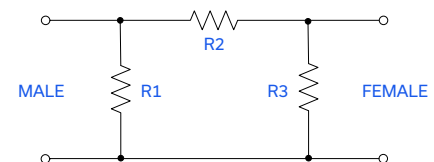
1. At +25°C, accuracy includes frequency and power variations. Accuracy extends to ±0.6 dB above 12.4 GHz. Temperature coefficient for attenuation: .0004 dB/dB/°C typ.  
 2. VSWR from 12.4 to 18 GHz, 1.6:1 typ.  
 3. Average power at +25°C ambient, derate linearly to 0.5 W at +100°C. Peak Power 125 W max. 5 μsec. pulse width, 100 Hz PRF.

### ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature <sup>4</sup>	-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. G  
 ECO-024322  
 BW-S5W2+  
 MCL NY  
 250127





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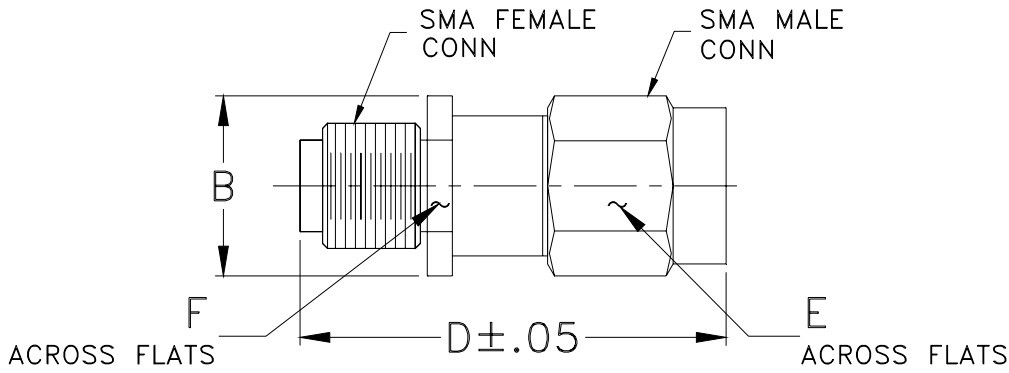
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Mini-Circuits

50Ω 2 W 5 dB DC to 18 GHz SMA-Female to SMA-Male

## 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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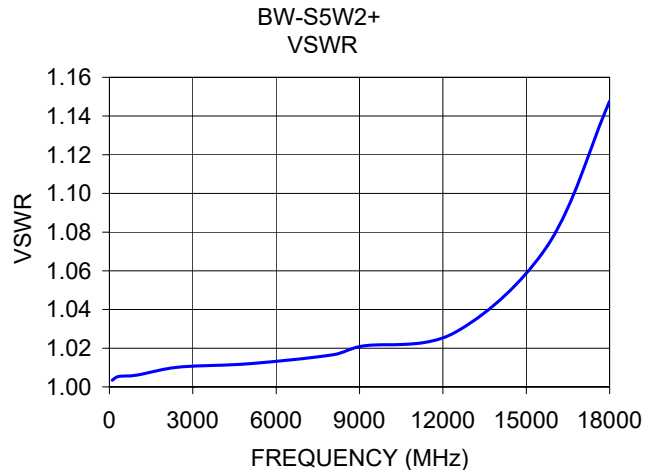
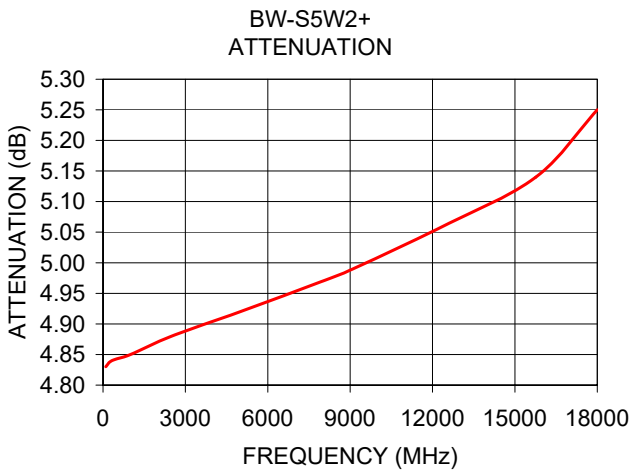
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### TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
100.00	4.83	1.00
325.00	4.84	1.01
1000.00	4.85	1.01
2500.00	4.88	1.01
5000.00	4.92	1.01
8000.00	4.97	1.02
9100.00	4.99	1.02
12400.00	5.06	1.03
15760.00	5.14	1.07
18000.00	5.25	1.15



#### 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](http://www.minicircuits.com/terms/viewterm.html)



# Fixed Attenuator

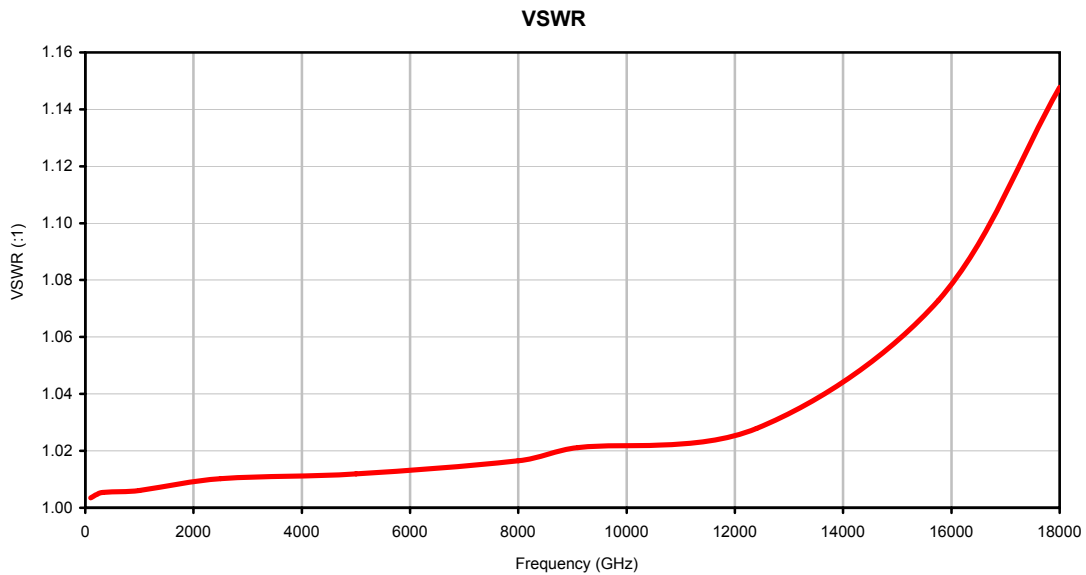
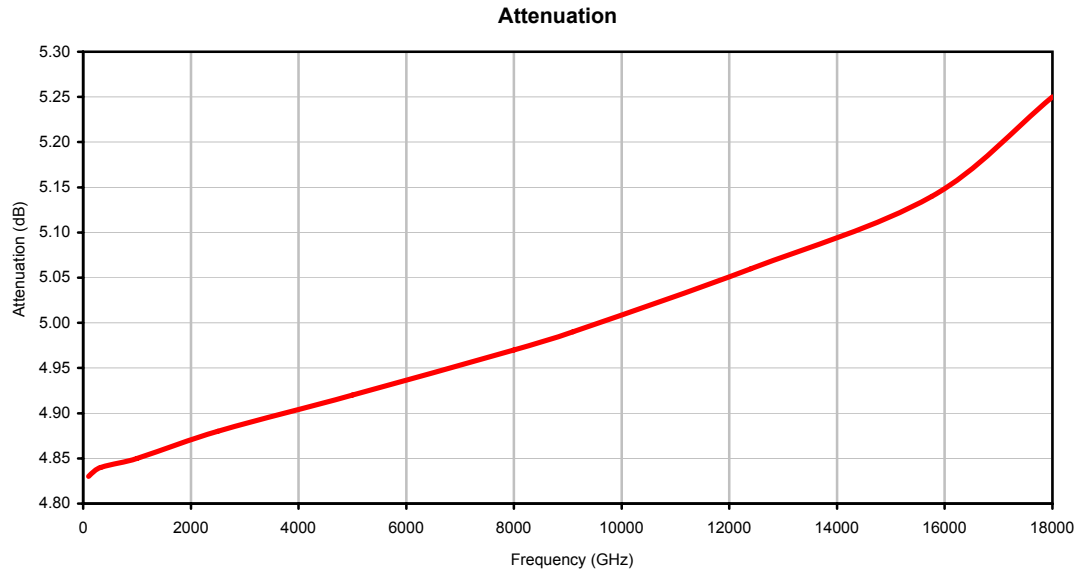
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## Typical Performance Data

FREQUENCY (GHz)	ATTENUATION (dB)	VSWR (:1)
100.00	4.83	1.00
325.00	4.84	1.01
1000.0	4.85	1.01
2500.0	4.88	1.01
5000.0	4.92	1.01
8000.0	4.97	1.02
9100.0	4.99	1.02
12400.0	5.06	1.03
15760.0	5.14	1.07
18000.0	5.25	1.15



## Typical Performance Curves

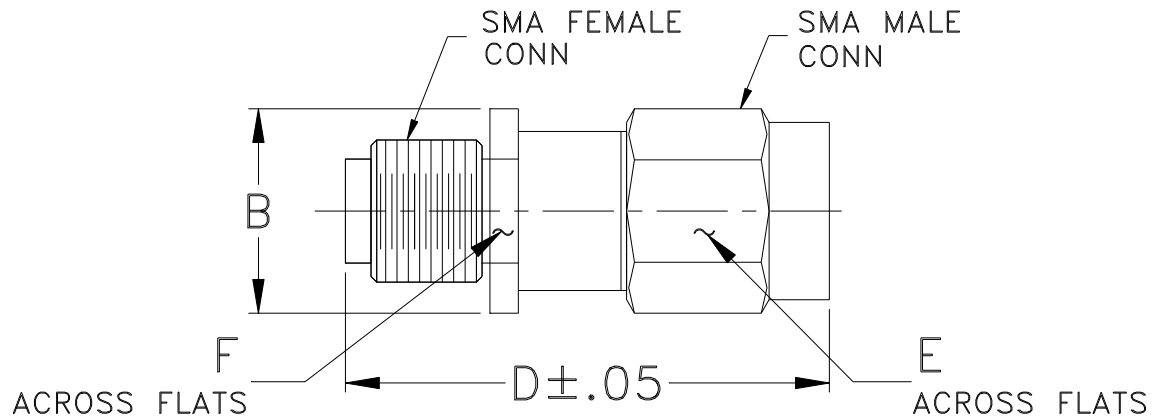


# Case Style

# FF

## 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.  $\pm .03$ ; 3Pl.  $\pm .015$

### Note:

1. Case material: Stainless steel.

 **Mini-Circuits**<sup>®</sup>  
ISO 9001 ISO 14001 CERTIFIED

ALL NEW  
  


P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

The Design Engineers Search Engine Provides ACTUAL Data Instantly From Mini-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)



RF/IF MICROWAVE COMPONENTS

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.

<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
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