COAXIAL

Fixed Attenuator

BW-W6-0.5W114+

50Ω 0.5 W 6 dB DC to 110 GHz 1.0 mm Male to 1.0 mm Female

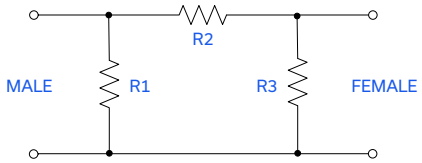
KEY FEATURES

- Wideband, DC to 110 GHz
- Excellent VSWR, 1.3 Typ.
- 0.5 W Power Handling
- 1.0 mm Male to 1.0 mm Female Connectors



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



APPLICATIONS

- Optical Communications
- Test & Measurement
- High-Speed Data Systems
- Instrumentation
- Precision Measurements

HANDLING INSTRUCTIONS
1.0 mm connectors require specific handling and torque values. See Mini-Circuits Application Note AN-71-001 for detail.

PRODUCT OVERVIEW

The Mini-Circuits catalog model BW-W6-0.5W114+ is a precision fixed 6 dB 0.5 W attenuator. BW-W6-0.5W114+ operates over an extremely wide frequency range with excellent VSWR and supports a broad range of system and testing applications. Precise performance, excellent VSWR and wide bandwidth make this model an ideal solution for systems requiring accurate attenuation across a very wide frequency range.

ELECTRICAL SPECIFICATIONS[1] AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		110	GHz
Attenuation	DC–26.5	5.2	5.7	6.8	dB
	26.5–40	5.0	6.0	7.0	
	40–60	4.5	6.3	7.5	
	60–90	4.5	6.9	7.6	
	90–110	4.5	6.6	7.6	
VSWR	DC–26.5	–	1.1	1.4	:1
	26.5–40	–	1.2	1.6	
	40–60	–	1.2	1.7	
	60–90	–	1.5	2.6	
	90–110	–	1.5	2.6	

1. Bi-directional RF1 & RF2 Ports can be interchanged. See S-Parameters for actual performance.

ABSOLUTE MAXIMUM RATINGS[2]

Parameter	Ratings
Operating Case Temperature	-55 °C to +100 °C
Storage Temperature	-55 °C to +100 °C
Input Power (RF1 Port)[3]	0.5 W
Input Power (RF2 Port)[3]	0.5 W

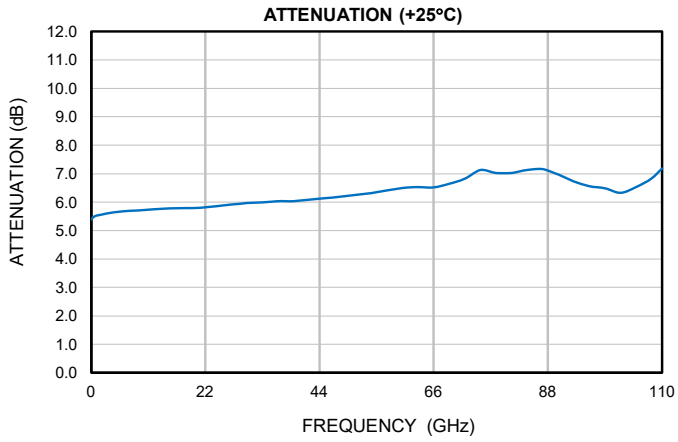
2. Permanent damage may occur if any of these limits are exceeded.
3. At +25 °C derate linearly to 0.05 W at +100 °C.

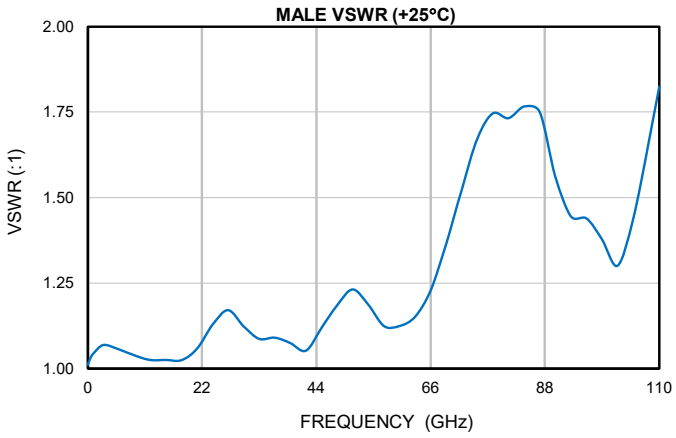
REV. OR
ECO-025413
BW-W6-0.5W114+
MCL NY
260812

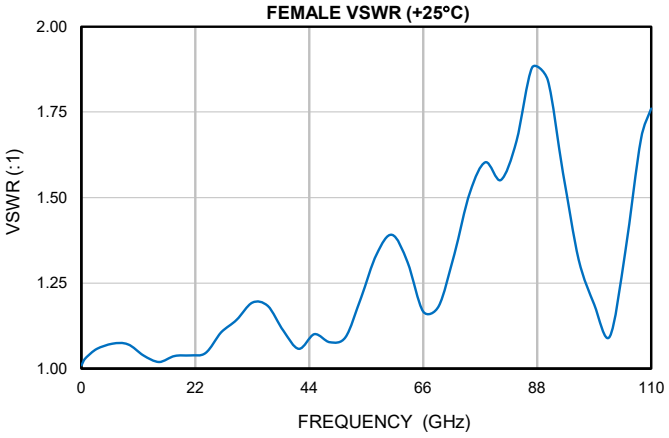
Fixed Attenuator BW-W6-0.5W114+

50Ω 0.5 W 6 dB DC to 110 GHz 1.0 mm Male to 1.0 mm Female

TYPICAL PERFORMANCE GRAPHS







COAXIAL

Fixed Attenuator

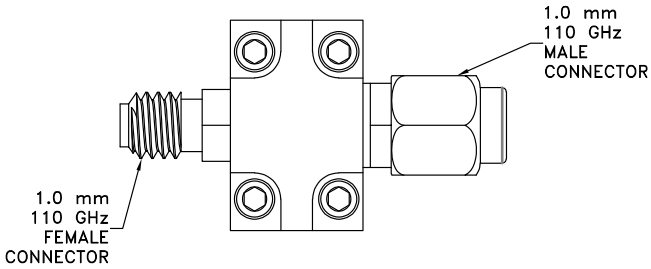
BW-W6-0.5W114+

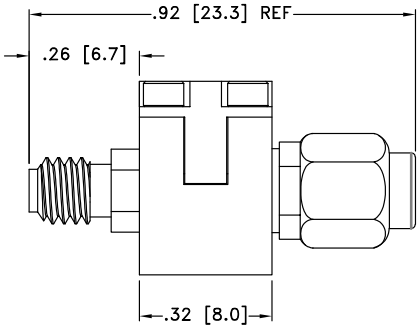
50Ω 0.5 W 6 dB DC to 110 GHz 1.0 mm Male to 1.0 mm Female

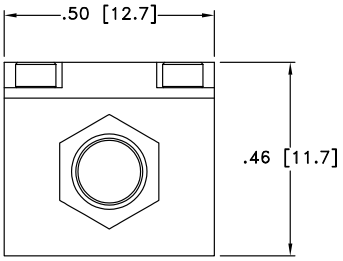
COAXIAL CONNECTIONS

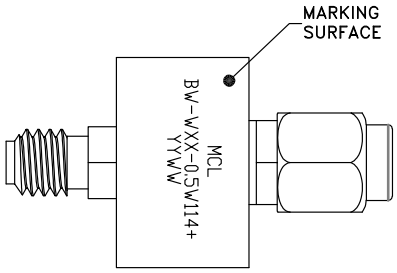
Description	RF1 PORT	RF2 PORT
Connector Type	1.0 mm Male	1.0 mm Female
Orientation	Straight	Straight

CASE STYLE DRAWING









Weight: 7.0 grams MAX
Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03[.76]; 3 PL± .015[.38] inches[mm]

PRODUCT MARKING*: BW-W6-0.5W114+

*Marking may contain other features or characters for internal lot control.

Fixed Attenuator BW-W6-0.5W114+

50Ω 0.5 W 6 dB DC to 110 GHz 1.0 mm Male to 1.0 mm Female

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	FF3501
RoHS Status	Compliant
Environmental Ratings	ENV142

NOTES

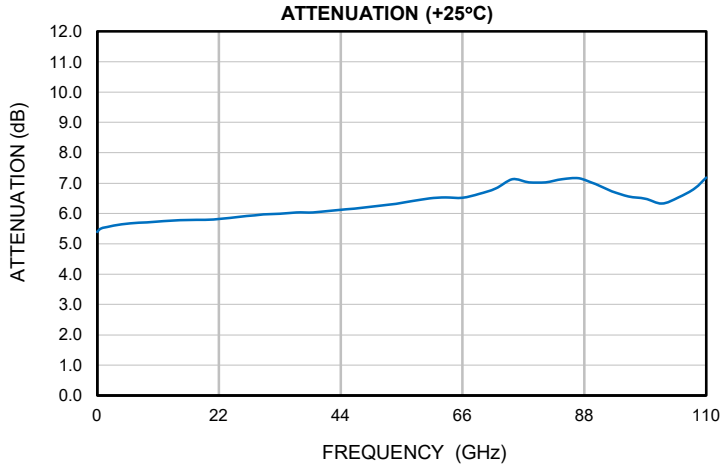
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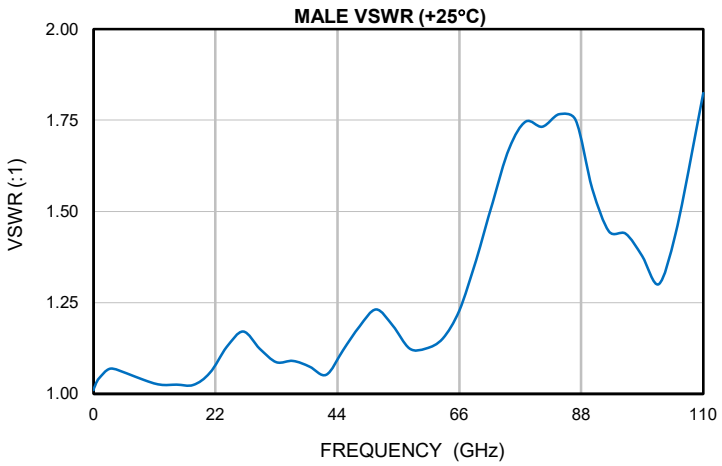
Fixed Attenuator BW-W6-0.5W114+

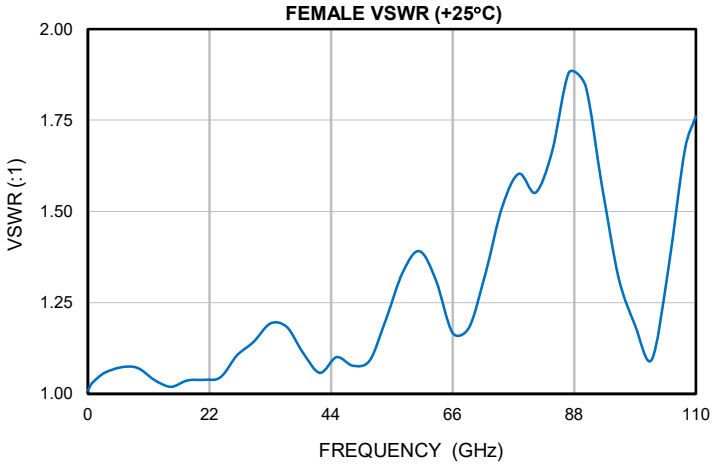
Typical Performance Data (+25°C)

FREQ.	ATTENUATION	MALE VSWR	FEMALE VSWR
(GHz)	(dB)	(:1)	(:1)
0.01	5.4	1.0	1.0
0.1	5.4	1.0	1.0
0.5	5.5	1.0	1.0
1.0	5.5	1.0	1.0
3.0	5.6	1.1	1.1
6.0	5.7	1.1	1.1
9.0	5.7	1.0	1.1
12.0	5.7	1.0	1.0
15.0	5.8	1.0	1.0
18.0	5.8	1.0	1.0
21.0	5.8	1.1	1.0
24.0	5.9	1.1	1.0
27.0	5.9	1.2	1.1
30.0	6.0	1.1	1.1
33.0	6.0	1.1	1.2
36.0	6.0	1.1	1.2
39.0	6.0	1.1	1.1
42.0	6.1	1.1	1.1
45.0	6.1	1.1	1.1
48.0	6.2	1.2	1.1
51.0	6.3	1.2	1.1
54.0	6.3	1.2	1.2
57.0	6.4	1.1	1.3
60.0	6.5	1.1	1.4
63.0	6.5	1.2	1.3
66.0	6.5	1.2	1.2
69.0	6.6	1.4	1.2
72.0	6.8	1.5	1.3
75.0	7.1	1.7	1.5
78.0	7.0	1.7	1.6
81.0	7.0	1.7	1.6
84.0	7.1	1.8	1.7
87.0	7.2	1.8	1.9
90.0	7.0	1.6	1.8
93.0	6.7	1.4	1.6
96.0	6.6	1.4	1.3
99.0	6.5	1.4	1.2
102.0	6.3	1.3	1.1
105.0	6.5	1.4	1.3
108.0	6.8	1.7	1.7
110.0	7.2	1.8	1.8

Typical Performance Curves



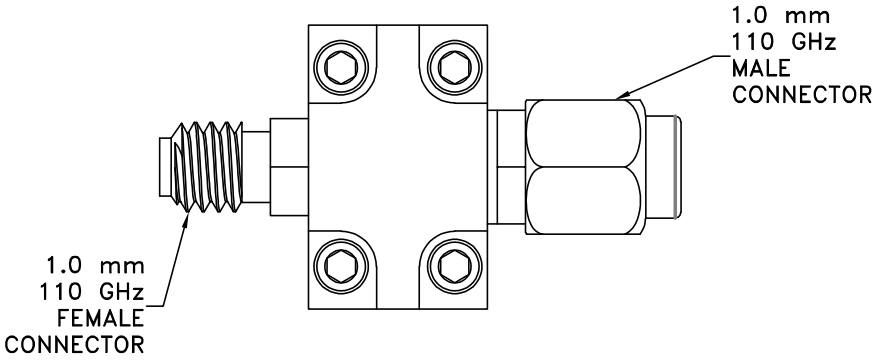


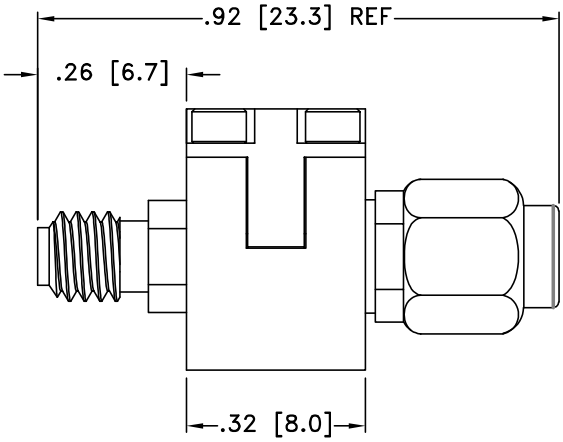


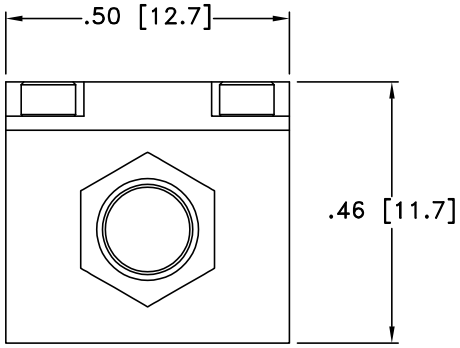
Case Style FF

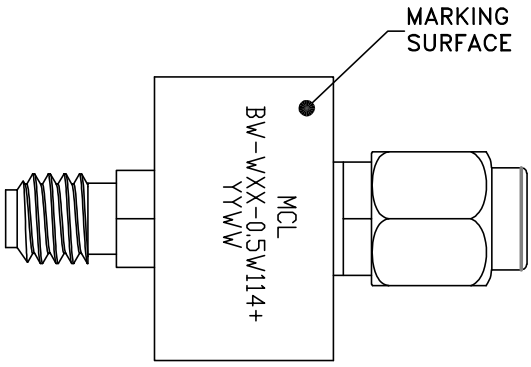
Outline Dimensions

FF3501









Weight: 7.0 grams MAX

Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03[.76]; 3 Pl. ± .015[.38] inches[mm]

Notes:

1. Case material: Aluminum Alloy.
2. Finish: Chemical conversion per MIL-STD-5541.

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Mini-Circuits

Environmental Specifications ENV142

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
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A except +100°C instead of 85°C
Connector Durability	100 Mating / Unmating Cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12
Burn-In	0.5W for 16 hours	Individual Model Data Sheet

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