COAXIAL MILLIMETER WAVE

Precision Fixed Attenuator BW-VF20-1W54+

50Ω 1 W 20 dB DC to 50 GHz 2.4 mm Female to Female

THE BIG DEAL

- DC to 50 GHz
- 2.4 mm Female to Female Connectors
- Excellent VSWR, 1.17 typ.
- Passivated Stainless Steel Connectors
- 1 W Power Handling



Generic photo used for illustration purposes only

Model No.	BW-VF20-1W54+
Case Style	DJ2477-4
Connectors	2.4 mm Female to Female

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

APPLICATIONS

- 5G MIMO and Back Haul Radio Systems
- LTE & 5G MIMO Infrastructure
- Broadband Telecom
- Satellite Communications
- Test and Measurement Equipment
- Radar, EW, and ECM Defense Systems

PRODUCT OVERVIEW

The BW-VF20-1W54+ is a 2.4 mm female to female variant of Mini-Circuits' catalog model BW-V20-1W54+ (2.4 mm female to male). This precision fixed 20 dB 1 W attenuator achieves extremely wide frequency range with excellent VSWR and supports a broad range of system and testing applications. Precise performance, excellent VSWR and wide band features make this model ideal solutions for systems requiring accurate attenuation across very wide frequency range.

KEY FEATURES

Features	Advantages
Extremely Wideband, DC to 50 GHz	Ideal for an exceptionally wide variety of applications.
Excellent VSWR, 1.17 Typ.	Efficient power utilization with low power reflected back to source.
Passivated Stainless Steel Connectors	Rugged construction withstands harsh environmental conditions for high reliability and long life of use.

REV. OR
ECO-015691
BW-VF20-1W54+
MCL NY
260812

Precision Fixed Attenuator BW-VF20-1W54+

50Ω 1 W 20 dB DC to 50 GHz 2.4 mm Female to Female

ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		50	GHz
Attenuation	DC–26.5	19.3	19.8	20.8	dB
	26.5–40	18.8	20.2	21.2	
	40–50	18.0	20.6	22.0	
VSWR	DC–26.5	–	1.07	1.35	:1
	26.5–40	–	1.24	1.6	
	40–50	–	1.21	1.75	
Input Power[1]	DC–50	–	–	1	W

1. Max. power at +25 °C ambient, derate linearly to 0.1 W at +100 °C.

ABSOLUTE MAXIMUM RATINGS

Parameter	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. Connectors need to be mated to ensure no damage occur over temperature extremes

COAXIAL MILLIMETER WAVE

Precision Fixed Attenuator BW-VF20-1W54+

50Ω 1 W 20 dB DC to 50 GHz 2.4 mm Female to Female

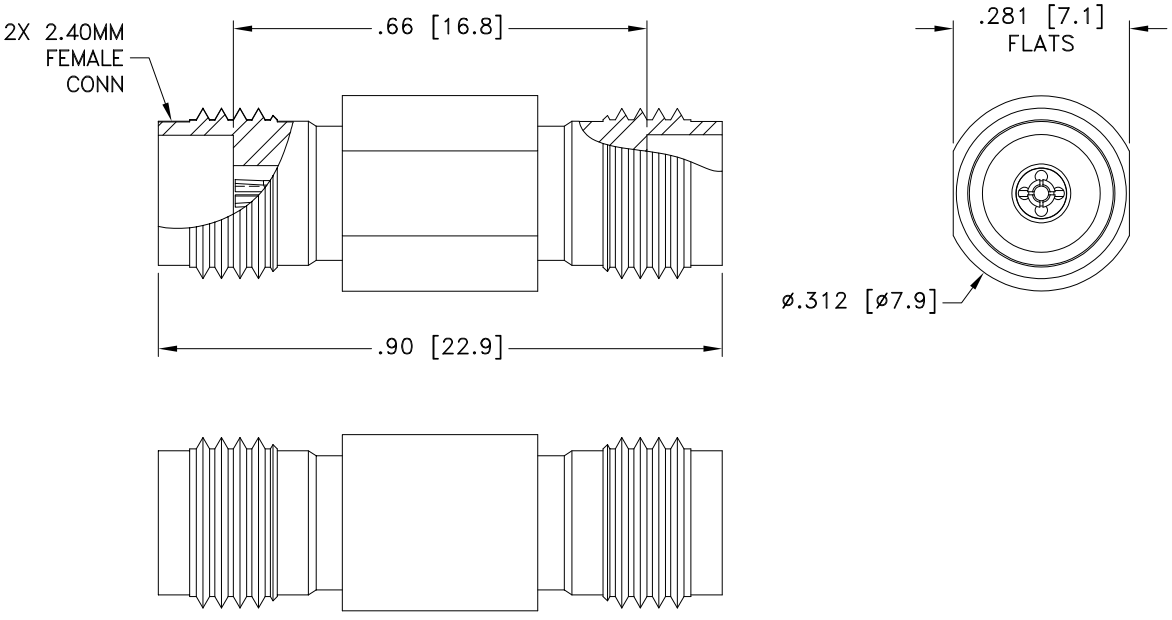
COAXIAL CONNECTIONS

Input	2.4 mm Female
Output	2.4 mm Female

CONNECTOR INFORMATION

Description	Connector 1	Connector 2
Type	2.4 mm Female	2.4 mm Female
Orientation	Straight	
Mounting Type	Standard	
Impedance	50Ω	
Contact	BeCu, Gold Plated	
Housing	Passivated Stainless Steel	
Dielectric	High Temperature Plastic Bead	

OUTLINE DRAWING



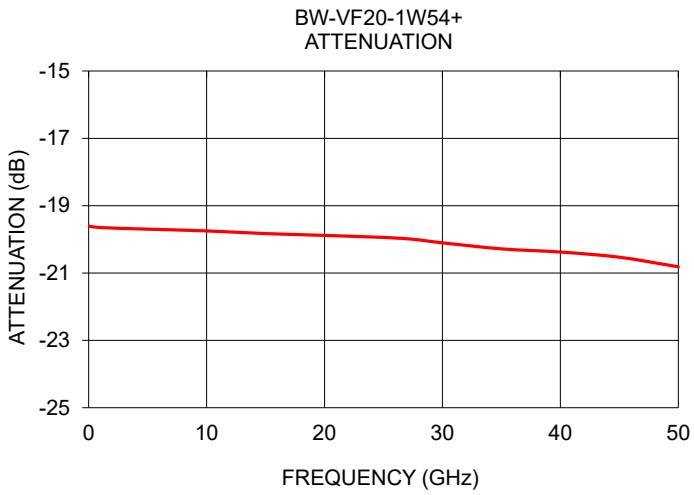
Weight: 3.44 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03[.76]; 3 Pl. ±.010[.25]

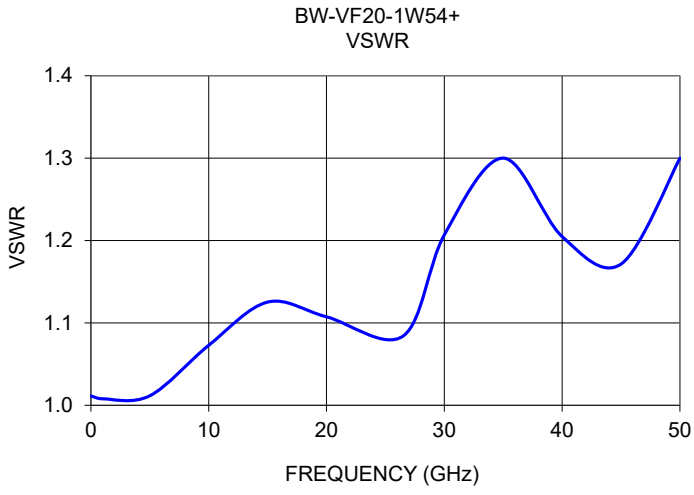
Precision Fixed Attenuator BW-VF20-1W54+

50Ω 1 W 20 dB DC to 50 GHz 2.4 mm Female to Female

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (GHz)	Attenuation (dB)	VSWR (:1)
0.01	19.6	1.01
1.0	19.6	1.01
5.0	19.7	1.01
10.0	19.7	1.07
15.0	19.8	1.13
20.0	19.8	1.11
26.5	19.9	1.08
30.0	20.1	1.21
35.0	20.2	1.30
40.0	20.3	1.20
45.0	20.5	1.17
50.0	20.8	1.30





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

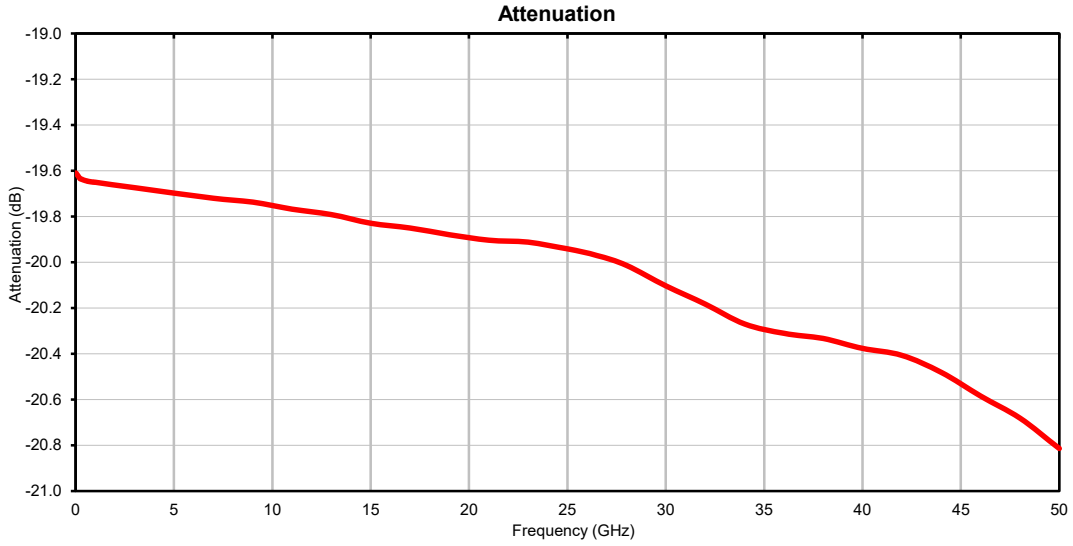
Fixed Attenuator BW-VF20-1W54+

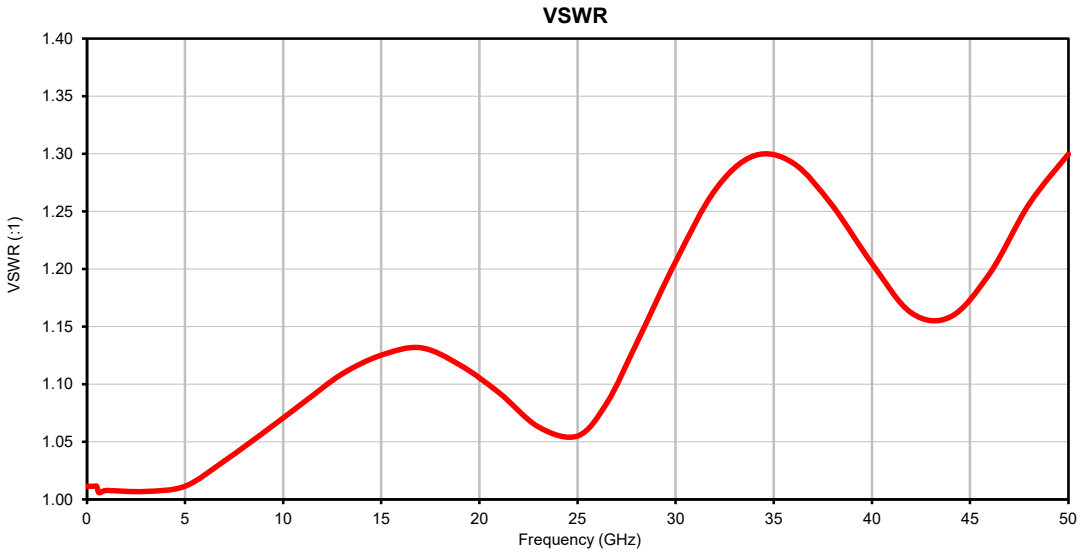
Typical Performance Data

FREQUENCY (GHz)	ATTENUATION (dB)	VSWR (:1)
0.01	19.61	1.01
0.2	19.63	1.01
0.3	19.64	1.01
0.4	19.64	1.01
0.5	19.64	1.01
0.6	19.65	1.01
0.7	19.65	1.01
0.8	19.65	1.01
0.9	19.65	1.01
1.0	19.65	1.01
3.0	19.67	1.01
5.0	19.70	1.01
7.0	19.72	1.03
9.0	19.74	1.06
11.0	19.77	1.08
13.0	19.79	1.11
15.0	19.83	1.13
17.0	19.85	1.13
19.0	19.88	1.12
21.0	19.90	1.09
23.0	19.91	1.06
25.0	19.94	1.06
26.5	19.97	1.08
28.0	20.01	1.14
30.0	20.10	1.21
32.0	20.18	1.27
34.0	20.27	1.30
36.0	20.31	1.29
38.0	20.33	1.25
40.0	20.38	1.20
42.0	20.41	1.16
44.0	20.48	1.16
46.0	20.58	1.20
48.0	20.68	1.26
50.0	20.81	1.30

Fixed Attenuator BW-VF20-1W54+

Typical Performance Curves

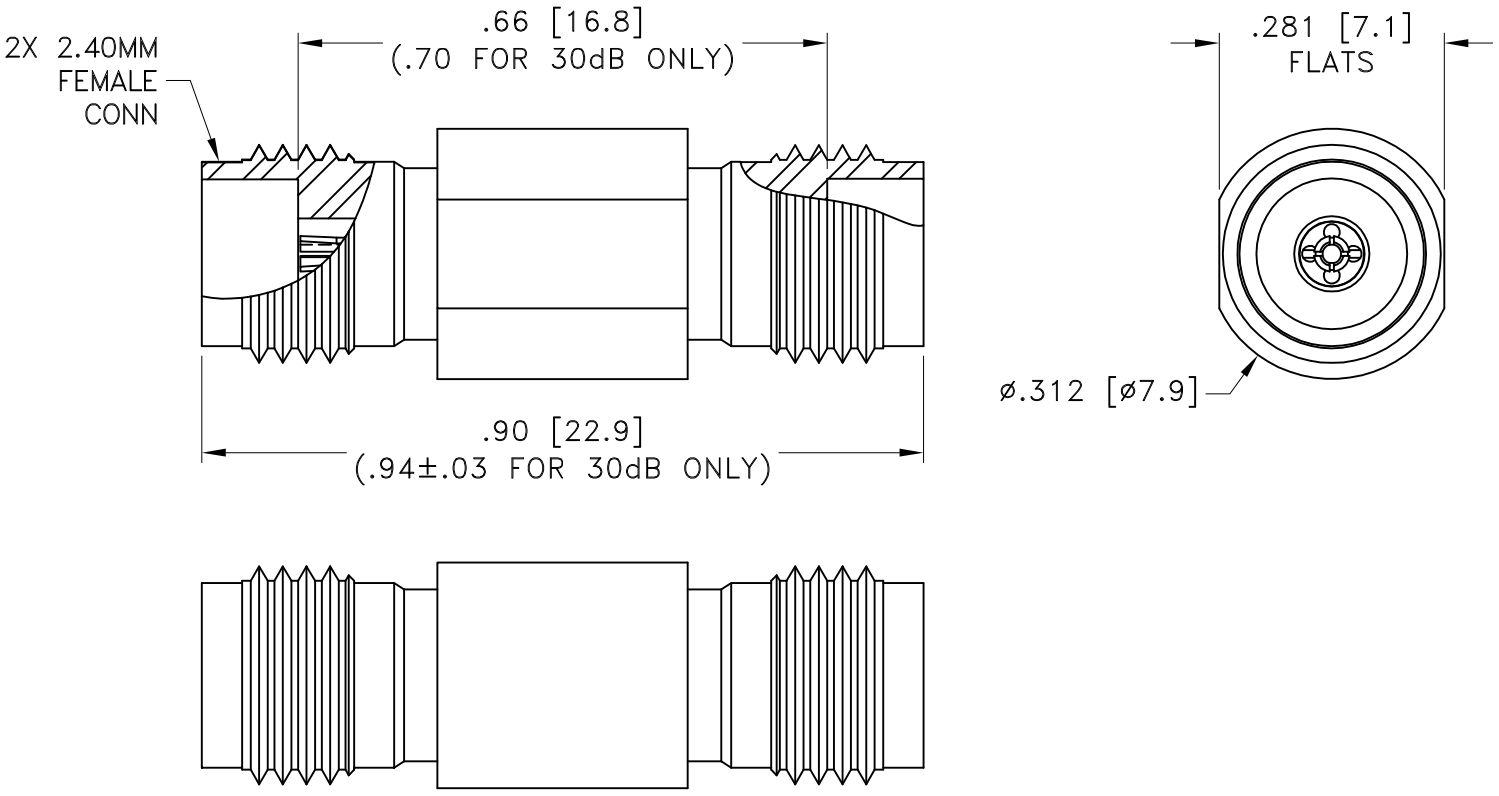




Case Style DJ

Outline Dimensions

DJ2477-4



Weight: 3.44 grams

Dimensions are in inches (mm). Tolerances: 2 Pl.±.03[.76]; 3 Pl. ±.010[.25]

Notes:

Case material:	Stainless steel.
Case Finish:	Passivated.

Mini-Circuits®

INTERNET http://www.minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

*Mini-Circuits **ISO 9001 & ISO 14001** Certified*

This document and its contents are the property of Mini-Circuits

Mini-Circuits

Environmental Specifications **ENV87**

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 G, Condition A (Except 100°C Instead of 85°C)
Average Power Burn-in	1W, 16 hours	Individual Model Data Sheet.
Connector Durability	500 Mating / Unmating Cycles	MIL-PRF-390 / 2E, Paragraph 4, 6, 12

This document and its contents are the property of Mini-Circuits.