

Coaxial, Millimeter Wave

Precision Fixed Attenuator

BW-VX-1W54+ Series

50Ω 1W 3,6,10,20 dB DC to 50 GHz

The Big Deal

- Extremely wideband, DC to 50 GHz
- 2.4mm Female - 2.4 mm Male
- Excellent VSWR



CASE STYLE: DJ2264

Product Overview

The BW-VX-1W54+ Series of precision fixed attenuators achieves extremely wide frequency range with excellent VSWR. Available in a variety of attenuation values for different requirements, these units support a broad range of system and testing applications. Precise performance, excellent VSWR (1.2:1 typ.) and wide band features make these models ideal solutions for systems requiring precise attenuation across very wide frequency range.

Key Features

| Feature | Advantages |
|---------------------------------------|--|
| Extremely wideband, DC to 50 GHz | Ideal for an exceptionally wide variety of applications. |
| Excellent VSWR, 1.20 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. |

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-Circuit's 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/MCLStore/terms.jsp



Coaxial, Millimeter Wave Precision Fixed Attenuator

BW-V10-1W54+

50Ω 1W 10dB DC to 50 GHz

Maximum 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.

Features

- DC to 50 GHz
- precise attenuation
- excellent VSWR, 1.20 typ.
- passivated stainless steel connectors



CASE STYLE: DJ2264

| | |
|---------------------------|--------------|
| Connectors | Model |
| 2.4mm-Female - 2.4mm Male | BW-V10-1W54+ |

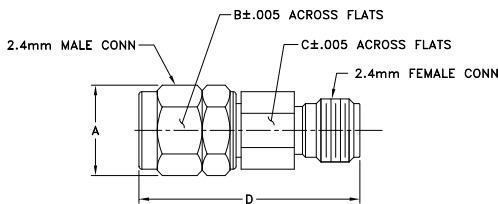
+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Applications

- matching
- instrumentation
- test set-ups

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | wt |
|-------|-------|-------|-------|----|-------|
| 0.360 | 0.312 | 0.281 | 0.871 | -- | grams |
| 9.14 | 7.93 | 7.14 | 22.12 | -- | 5.44 |

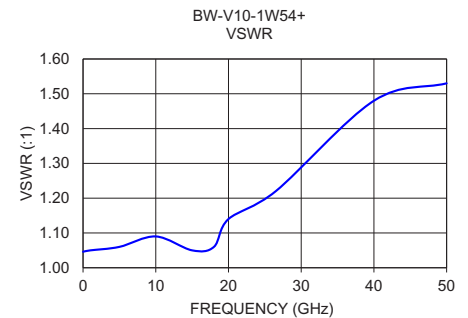
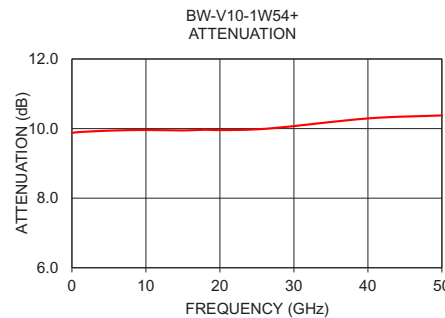
Electrical Specifications at 25°C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|--------------------------------|-----------------|------|------|------|------|
| Frequency Range | | DC | — | 50 | GHz |
| Attenuation | DC - 26.5 | 9.5 | 10.0 | 10.5 | dB |
| | 26.5 - 40 | 9.0 | 10.1 | 11.0 | |
| | 40 - 50 | 8.5 | 10.2 | 11.5 | |
| VSWR | DC - 26.5 | — | 1.2 | 1.35 | :1 |
| | 26.5 - 40 | — | 1.5 | 1.6 | |
| | 40 - 50 | — | 1.5 | 1.75 | |
| Input Power¹ | DC - 50 | — | — | 1 | W |

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

Typical Performance Data

| Frequency (GHz) | Attenuation (dB) | VSWR (:1) |
|-----------------|------------------|-----------|
| 0.01 | 9.88 | 1.05 |
| 1.00 | 9.90 | 1.05 |
| 5.00 | 9.94 | 1.06 |
| 10.00 | 9.96 | 1.09 |
| 15.00 | 9.95 | 1.05 |
| 18.00 | 9.97 | 1.06 |
| 20.00 | 9.96 | 1.14 |
| 26.50 | 10.00 | 1.22 |
| 40.00 | 10.29 | 1.48 |
| 50.00 | 10.38 | 1.53 |



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Fixed Attenuator

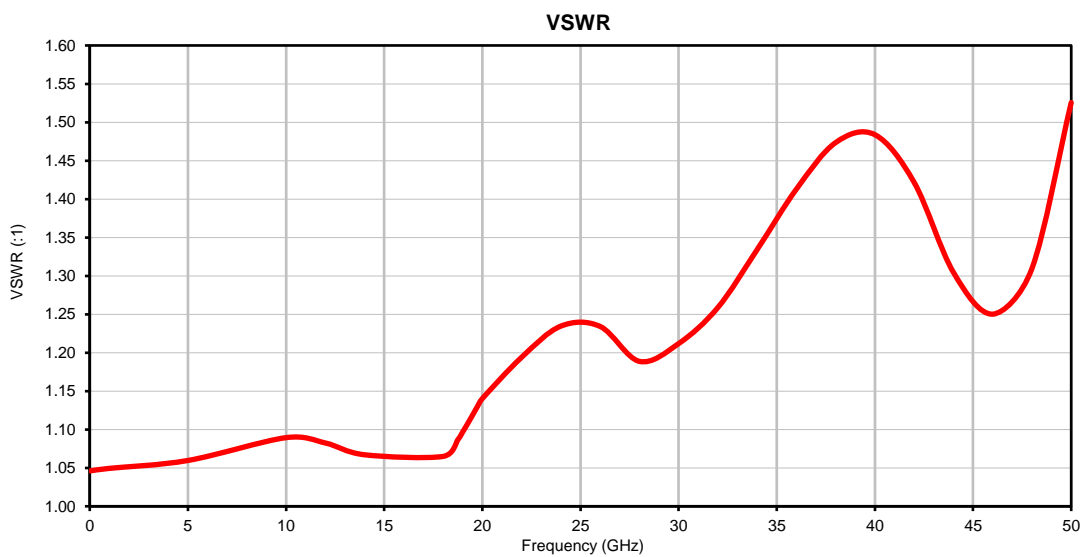
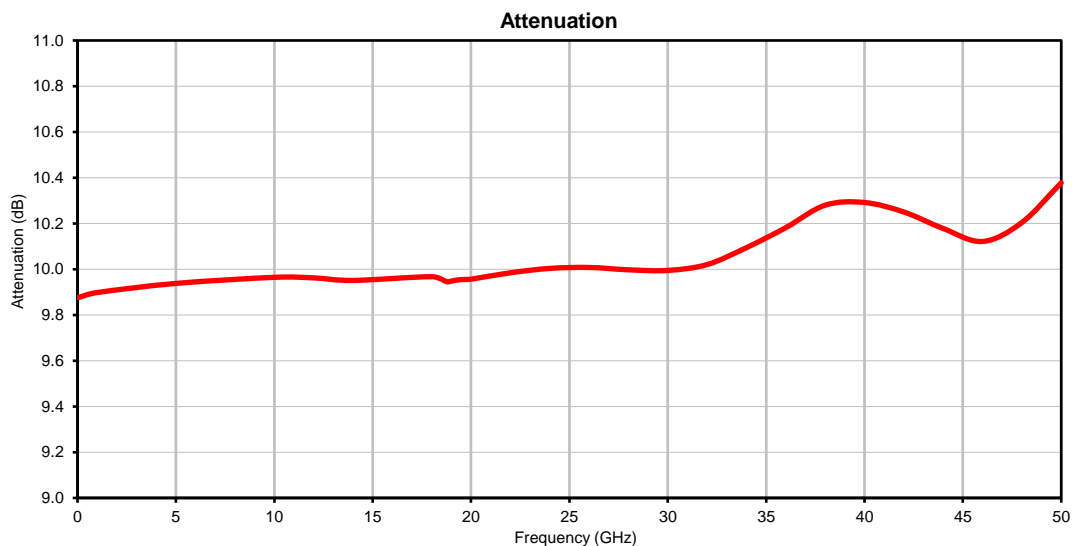
BW-V10-1W54+

Typical Performance Data

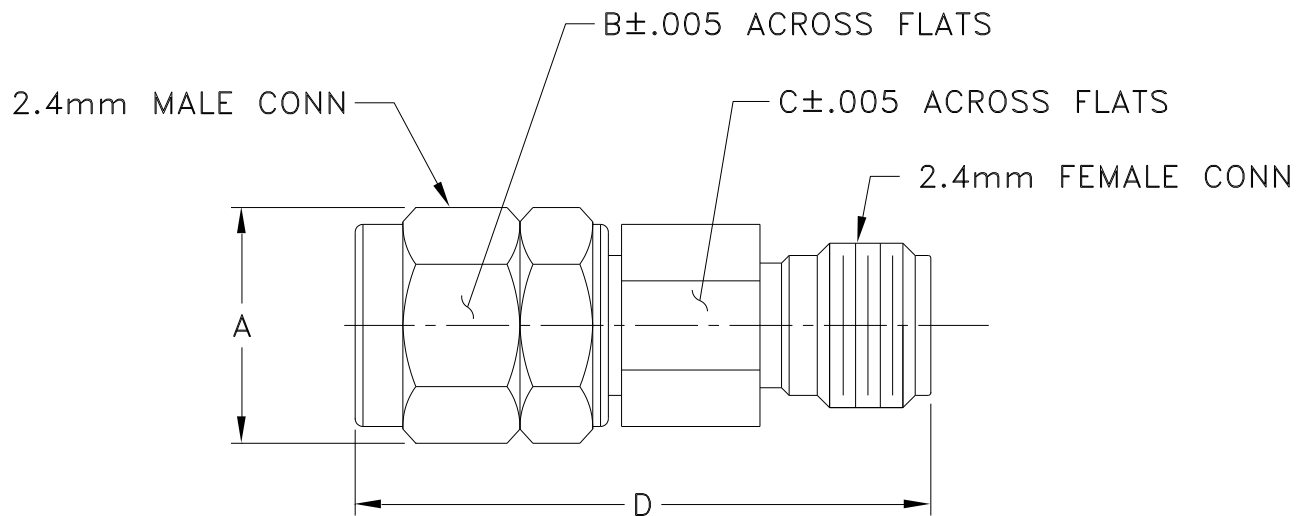
| FREQUENCY (GHz) | ATTENUATION (dB) | VSWR (:1) |
|--------------------|---------------------|--------------|
| 0.01 | 9.88 | 1.05 |
| 1.0 | 9.90 | 1.05 |
| 5.0 | 9.94 | 1.06 |
| 10 | 9.96 | 1.09 |
| 12 | 9.96 | 1.08 |
| 14 | 9.95 | 1.07 |
| 18 | 9.97 | 1.06 |
| 19 | 9.95 | 1.09 |
| 19 | 9.95 | 1.10 |
| 19 | 9.95 | 1.11 |
| 20 | 9.95 | 1.12 |
| 20 | 9.96 | 1.13 |
| 20 | 9.96 | 1.14 |
| 22 | 9.98 | 1.19 |
| 24 | 10.00 | 1.23 |
| 26 | 10.01 | 1.23 |
| 28 | 10.00 | 1.19 |
| 30 | 9.99 | 1.21 |
| 32 | 10.02 | 1.26 |
| 34 | 10.09 | 1.33 |
| 36 | 10.18 | 1.41 |
| 38 | 10.28 | 1.47 |
| 40 | 10.29 | 1.48 |
| 42 | 10.25 | 1.42 |
| 44 | 10.18 | 1.30 |
| 46 | 10.12 | 1.25 |
| 48 | 10.20 | 1.31 |
| 50 | 10.38 | 1.53 |



Typical Performance Curves



Outline Dimensions



| CASE # | A | B | C | D | E | WT. GRAM |
|--------|---------------|----------------|----------------|-----------------|----------|----------|
| DJ2264 | .36 (9.14) | .312 (7.93) | .281 (7.14) | .871 (22.12) | -- -- | 5.44 |

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .030$; 3Pl. $\pm .015$

Notes:

1. Case material:Stainless Steel.
2. Finish: Passivation.



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

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.

| 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 |