COAXIAL

Precision Fixed Attenuator BW-20N250W+

50Ω 250W 20dB DC to 8000 MHz N-Male to N-Female

THE BIG DEAL

- Wideband Operation, DC to 8000 MHz
- High Power Handling, 250W
- Excellent VSWR, 1.14 Typ.
- Excellent Flatness, ±0.6 dB Typ.
- Uni-directional power rating

Generic photo used for illustration purposes only

Model No.	BW-20N250W+
Case Style	GH3249
Connectors	N-Male to N-Female

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

APPLICATIONS

- Test and Measurement Equipment
- LTE & 5G MIMO Infrastructure
- Satellite Communications
- Radar, EW, and ECM Defense Systems

PRODUCT OVERVIEW

Mini-Circuits' BW-20N250W+ is a 20 dB coaxial precision fixed unidirectional attenuator providing high power handling of up to 250W over the DC to 8 GHz frequency range. This model supports many of high-power applications requiring precise attenuation over a broad frequency range including high-power measurement, instrumentation and more. It provides excellent VSWR (1.14 typ.), outstanding attenuation flatness (±0.6 dB) and excellent thermal stability from -55 to 125˚C. It features rugged construction with N-male to N-female connectors and heat dissipation fins for efficient cooling.

KEY FEATURES

Features	Advantages
Wideband Operation, DC to 8000 MHz	Wide frequency range makes the BW-20N250W+ suitable for a wide variety of applications.
High power handling to 250W	Supports high-power test lab and system applications by protecting sensitive test equipment that is often damaged when exposed to high RF input power.
Excellent VSWR, 1.14:1 typ.	Well-matched for 50Ω systems; reduces effects of phase variation
Excellent flatness, ±0.6 dB	Provides consistent attenuation performance across the entire frequency band.
Rugged construction	Excellent durability for a long lifetime of use
Wide operating temperature range, -55 to 125˚C	Designed with heat dissipation fins for efficient cooling, the BW-20N250W+ provides reliable performance over extreme operating conditions. Note: See max power derating at high temperature.

REV. OR
ECO-016158
BW-20N250W+
MCL NY
221215

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ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range	-	DC	-	8000	MHz
Attenuation	DC-2000	19	19.8	21	dB
	2000-4000	19	20.0	21	
	4000-6000	18.5	20.3	21.5	
	6000-8000	17.5	20.7	22.5	
Attenuation Flatness (±)	DC-8000	-	0.6	-	dB
VSWR	DC-2000	-	1.06	1.20	:1
	2000-4000	-	1.12	1.35	
	4000-6000	-	1.19	1.40	
	6000-8000	-	1.18	1.50	
Input Power (N- Male Input)[1]	DC-8000	-	-	250	W
Input Power (N- Female Output)	DC-8000	-	-	15	W

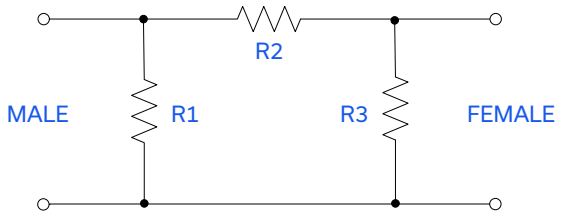
1. Max. input power at 25°C ambient, derate to 25W at 125°C.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Case Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Input Power (N-Male Input)	250 Watt
Input Power (N-Female Output)	15 Watt
Input Peak Power[2]	1000 Watt.

1. Permanent damage may occur if any of these limits are exceeded.
2. Peak power <5 µSEC. PW, /<0.1% duty cycle.
⚠This model is uni-directional relative to the specific power rating i.e the power rating at the N-Male port is not equal to the power rating for signals input to the N-Female port.

FUNCTIONAL DIAGRAM



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COAXIAL CONNECTIONS

Input	N-Male
Output	N-Female

CONNECTOR SPECIFICATIONS

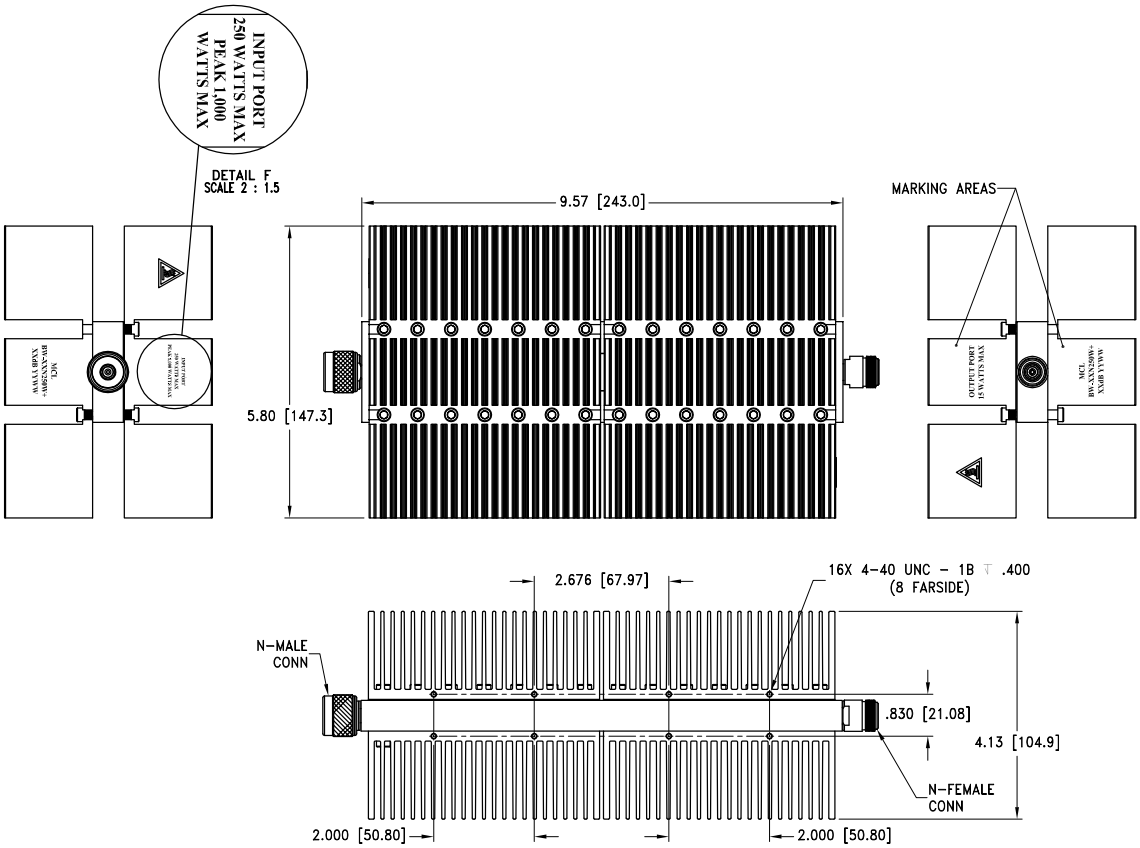
Description	Connector 1	Connector 2
Type	N-Male	N-Female
Orientation	Straight	
Mounting Type	Standard	
Impedance	50 Ω	
Coupling Nuts	Stainless Steel, Silver Plated	
Center Contacts	BeCu, Silver Plated	

MECHANICAL SPECIFICATIONS

Housing	Aluminum Alloy, Chemical Conversion Coat
Heat Sinks	Aluminum Alloy, Black Anodize Finish (0.5°C/Watt)[1]
Internal Resistive Elements	Beryllium Oxide Or Aluminum Nitride Ceramic With Thick Film And/Or Thin Film Resistor

1. Heat sink thermal rise (calculated)

OUTLINE DRAWING



Weight (MAX.): 3820 grams
Dimensions are in inches (mm). Tolerances: 2 Pl.±.05[1.27]; 3 PL ±.030[.77]

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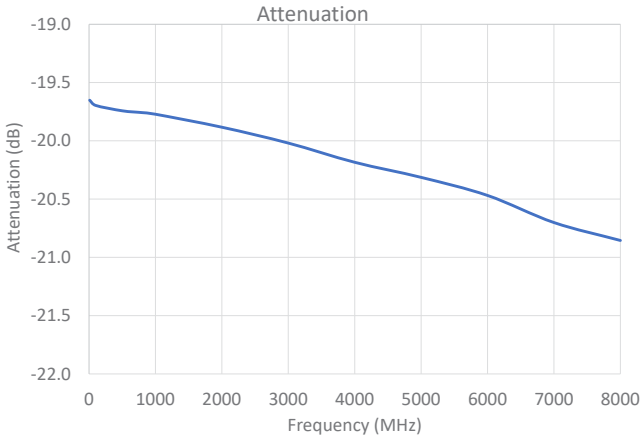
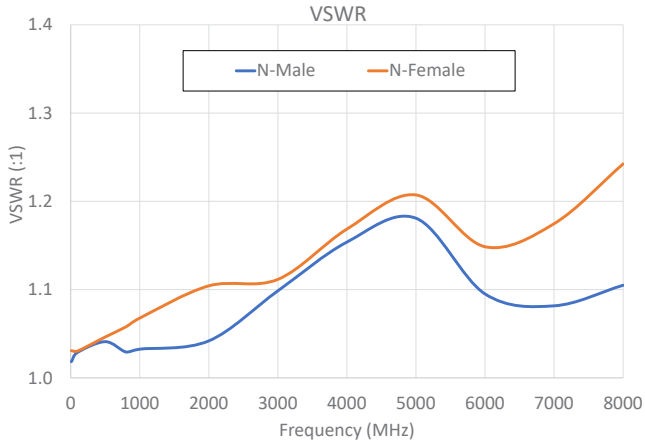
TYPICAL PERFORMANCE CURVES





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/terms/viewterm.html

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