



Mini-Circuits

COAXIAL

# Precision Fixed Attenuator **BW-30N250W+**

50Ω 250W 30dB DC to 8000 MHz N-Male to N-Female

## THE BIG DEAL

- Wideband Operation, DC to 8000 MHz
- High Power Handling, 250W
- Excellent VSWR, 1.11 Typ.
- Excellent Flatness,  $\pm 0.4$  dB Typ.
- Uni-directional power rating.

## APPLICATIONS

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



Generic photo used for illustration purposes only

Model No.	BW-30N250W+
Case Style	GH3249
Connectors	N-Male to N-Female

### +RoHS Compliant

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

## PRODUCT OVERVIEW

Mini-Circuits' BW-30N250W+ is a 30 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 (1.11 typ.), outstanding attenuation flatness ( $\pm 0.4$  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-30N250W+ 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, 1.11:1 typ.	Well-matched for 50Ω systems; reduces effects of phase variation
Excellent flatness, $\pm 0.4$ 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-30N250W+ provides reliable performance over extreme operating conditions. Note: See max power derating at high temperature.





COAXIAL

Precision Fixed Attenuator **BW-30N250W+**

50Ω 250W 30dB DC to 8000 MHz N-Male to N-Female

## ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range	-	DC	-	8000	MHz
Attenuation	DC-2000	29	29.8	31	dB
	2000-4000	29	29.9	31	
	4000-6000	28.5	29.8	31.5	
	6000-8000	27.5	29.4	32.5	
Attenuation Flatness ( $\pm$ )	DC-8000	-	0.4	-	dB
VSWR	DC-2000	-	1.05	1.20	:1
	2000-4000	-	1.11	1.35	
	4000-6000	-	1.18	1.40	
	6000-8000	-	1.10	1.50	
Input Power (N- Male Input) <sup>1</sup>	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

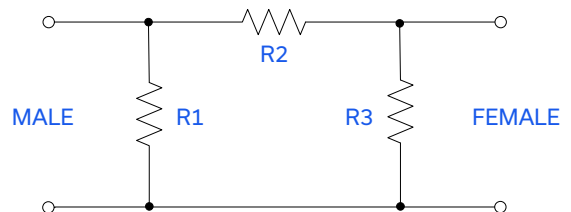
Parameter	Ratings
Operating Case Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Input Power (N-Male Input)	250 Watt
Input Power (N-Female Output)	15 Watt
Input Peak Power <sup>2</sup>	1000 Watt.

1. Permanent damage may occur if any of these limits are exceeded.

2. Peak power <5  $\mu$ SEC. 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





## COAXIAL

# Precision Fixed Attenuator **BW-30N250W+**

Mini-Circuits

50  $\Omega$  250W 30dB DC to 8000 MHz N-Male to N-Female

### COAXIAL CONNECTIONS

Input	N-Male
Output	N-Female

### CONNECTOR SPECIFICATIONS

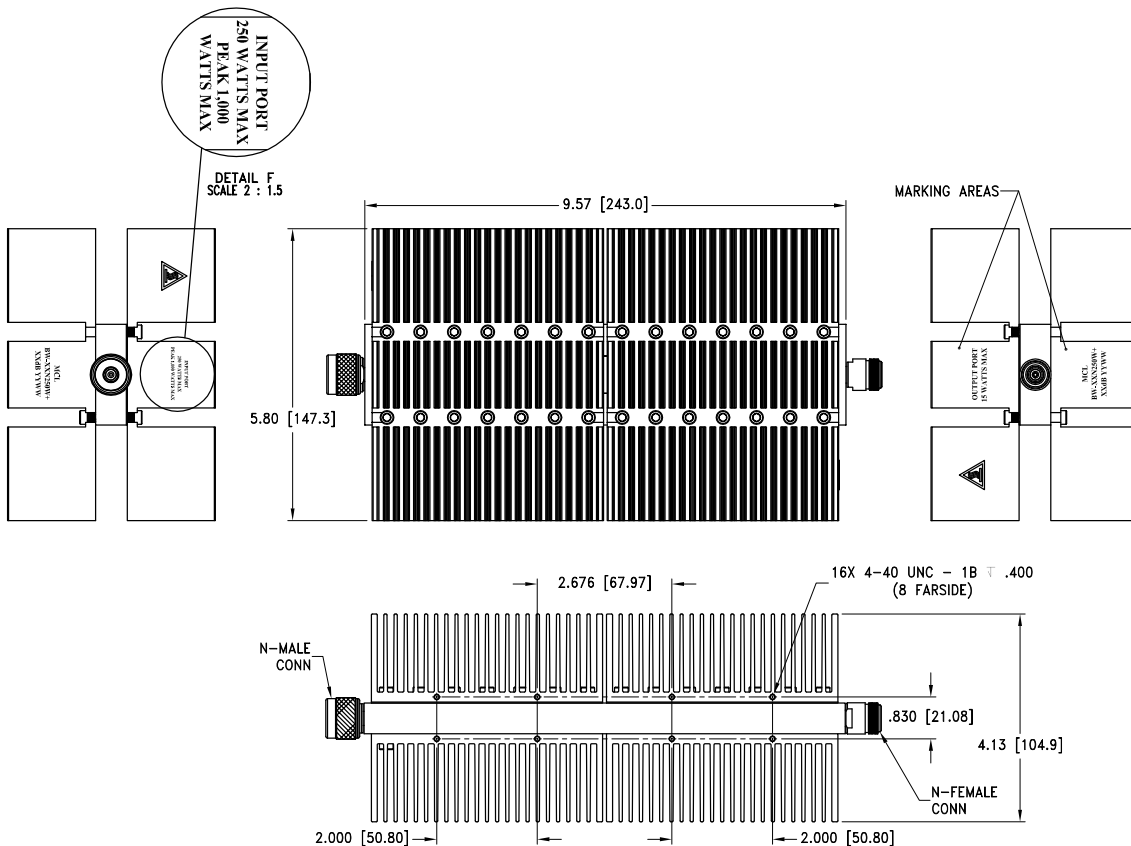
Description	Connector 1	Connector 2
Type	N-Male	N-Female
Orientation	Straight	
Mounting Type	Standard	
Impedance	50 $\Omega$	
Coupling Nuts	Stainless Steel, Silver Plated	
Center Contacts	BeCu, Silver Plated	

### MECHANICAL SPECIFICATIONS

Housing	Aluminum Alloy, Chemical Conversion Coat
Heat Sinks	Aluminum Alloy, Black Anodize Finish (0.5°C/Watt) <sup>1</sup>
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  $\pm 0.05$  [1.27]; 3 PL  $\pm 0.030$  [77]





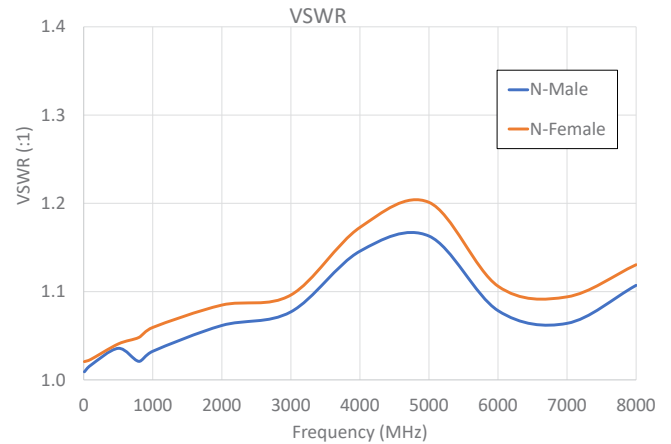
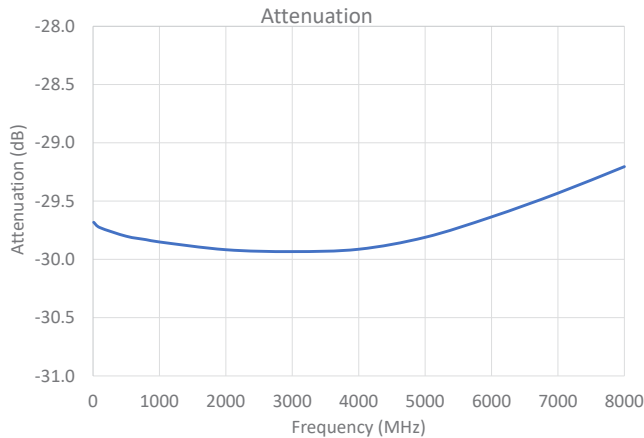
COAXIAL

# Precision Fixed Attenuator **BW-30N250W+**

Mini-Circuits

50Ω 250W 30dB DC to 8000 MHz N-Male to N-Female

## TYPICAL PERFORMANCE CURVES



### NOTES

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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)



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Mini-Circuits:](#)

[BW-30N250W+](#)