



1.85mm Precision Calibrated Noise Source Module, Output ENR of 7 dB, +28 VDC, 100 MHz to 60 GHz, Calibration Standard

Noise Generators Technical Data Sheet

PE85N1009

Features

- 10 MHz to 6 GHz Bandwidth
- Excellent Stability
- Noise Output Temperature Variation: $<0.01 \text{ dB/}^{\circ}\text{C}$
- Noise Output Variation $<0.1 \text{ dB/\%V}$
- Rugged Package Design supports output Female SMA connector
- Designed to meet MIL-STD-202F environmental test conditions
- Calibrated Precision Noise Source
- VSWR $< 1.35:1$
- Output Noise ENR 14 dB typical
- Highly Stable and Accurate Performance
- Maximum Reverse Power 1 Watt
- Internal Voltage Regulation

Applications

- Noise Figure Measurements
- Built-In Test equipment for signal strength calibrators and radar applications
- Automatic Test Equipment (ATE)
- Jamming
- Baseband Signal Simulation
- Additive White Gaussian Noise (AWGN) source for Error Rate Measurements
- Increase dynamic range of A/D Converters
- SATCOM for bit error rate (BER) and noise figure
- Can be used as a Jitter source.

Description

The PE85N1009 is a coaxial packaged calibrated precision Noise Source module which operates over a ultra wide frequency range from 0.1 GHz to 60 GHz. This design features very low VSWR $< 1.5:1$ typical that significantly increases measurement accuracy and is ideal for Noise Figure measurements and built-in applications. This model operates at +28 Vdc and features an output ENR level ranging from 7 to 21 dB with 10 MHz calibration points every GHz. Highly stable and accurate performance is specified over -55°C to $+85^{\circ}\text{C}$ with Noise Output Temperature Variation $<0.009 \text{ dB/}^{\circ}\text{C}$ and Noise Output Variation $< 0.002 \text{ dB/\%V}$. Maximum Reverse Power is 1 Watt. The rugged industry standard profile package design supports an input Female BNC connector for DC bias and an output Male 1.85mm (V) connector. Additionally, the model is designed to meet a variety of demanding MIL-STD-202F environmental test conditions including Humidity, Thermal Shock, and Vibration for added confidence for highly reliable operation.

Electrical Specifications

RF Characteristics

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		60	GHz
Impedance		50		Ohms
Output ENR	7		21	dB
Output Variation vs Input Voltage			0.002	dB/%V
Output Variation vs Temperature			0.009	dB/deg C
Bias Voltage 1	22	28 ± 2	30	Volts
Input Current 1			30	mA
Reverse Power			1	Watt
Calibration Points		Every GHz		

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [1.85mm Precision Calibrated Noise Source Module, Output ENR of 7 dB, +28 VDC, 100 MHz to 60 GHz, Calibration Standard PE85N1009](#)



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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	0.1 to 5	5 to 18	18 to 26	26 to 40		GHz
VSWR, Typ	1.15:1	1.25:1	1.35:1	1.5:1		

Mechanical Specifications

Size

Length	3.86 in [98.04 mm]
Width/Dia.	1.18 in [29.97 mm]
Height	0.8 in [20.32 mm]
Weight	0.032 lbs [14.51 g]
Package Type	Connectorized Module

Connectors

DC Connector	BNC Female
Output Connector	1.85mm Male

Environmental Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +125 deg C

Environment

Humidity	MIL-STD-202F, Method 103, Cond B (96 hrs@95% R.H.)
Shock	MIL-STD-202F, Method 213, Cond B (100g, 6 msec)
Vibration	MIL-STD-202F, Method 204, Cond B (0.6" 2x ampl or 15g)
Altitude	MIL-STD-202F, Method 105, Condition B (50,000 ft)
Temperature Cycle	MIL-STD-202F, Method 105C, Condition D (5 cycles)
Thermal Shock	MIL-STD-202F, Method 107, Condition A (5 cycles)
ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.



Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

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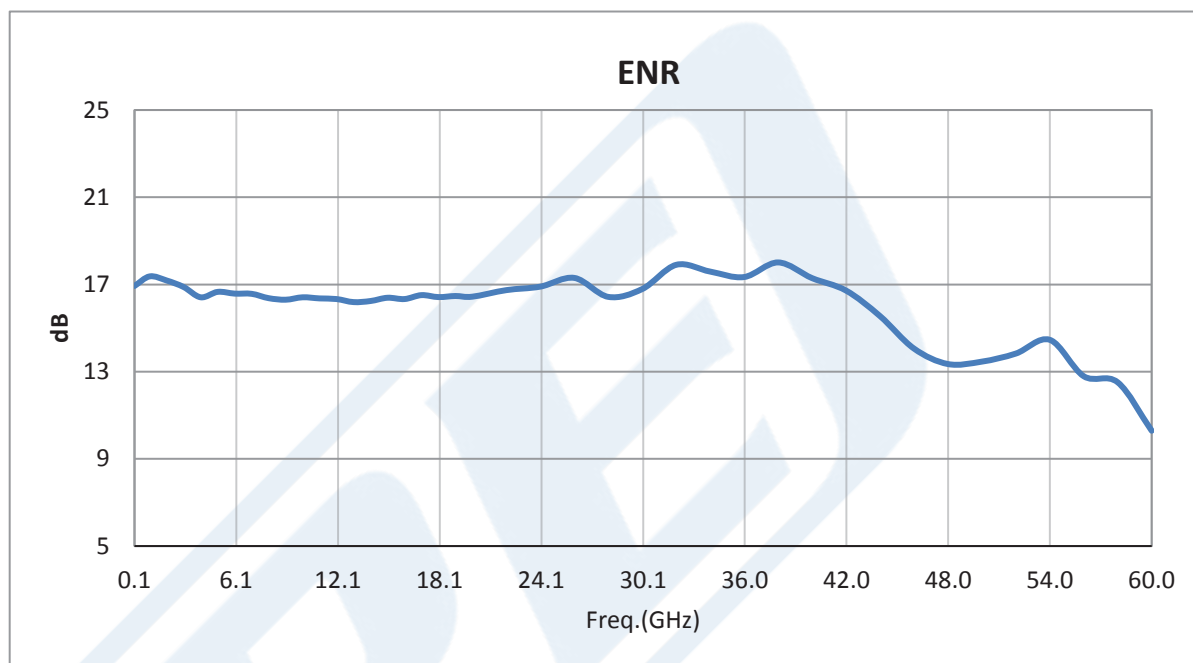


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Typical Performance Data



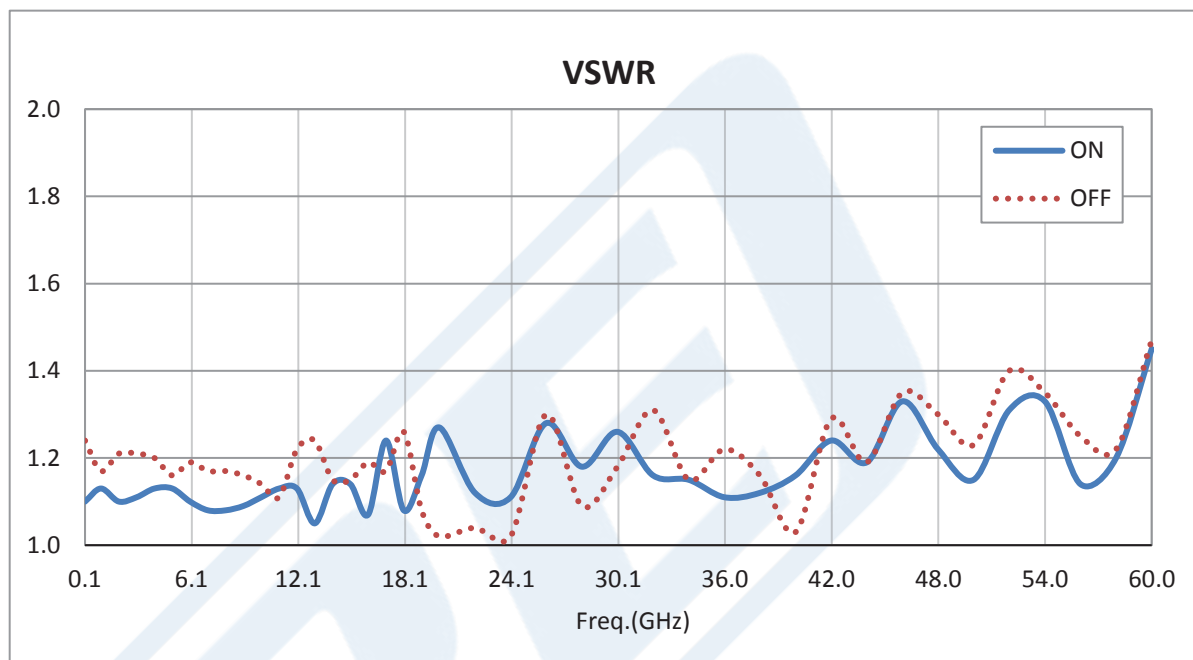
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PE PASTERNAK®
THE ENGINEER'S RF SOURCE

Pasternack Enterprises, Inc.
P.O. Box 16759 | Irvine | CA | 92623

Phone: (949) 261-1920 | **Fax:** (949) 261-7451
Website: www.pasternack.com | **E-Mail:** sales@pasternack.com