



SMA Calibrated Noise Source Module, Output  
ENR of 15.5 dB, +28 VDC, 4 GHz to 8 GHz

## Noise Generators Technical Data Sheet

PE8502

### Features

- 4 to 8 GHz Frequency Range
- Calibrated in 1 GHz Steps
- Output ENR 15.5 dB Typ
- +28 VDC Operation
- BNC Female Voltage Bias
- SMA Male Output

### Applications

- Noise Figure Measurements
- Built-In Test Equipment (BITE)
- Automated Test Equipment (ATE)
- Jamming
- Baseband Signal Simulation
- Additive White Gaussian Noise (AWGN) Source for Error Rate Measurements
- SATCOM Bit Error Rate (BER) and Noise Figure Measurements
- Jitter Source

### Description

The PE8502 is a calibrated noise source module (also known as a noise generator) which operates over a wide frequency range from 4 to 8 GHz. Pasternack's noise source design is calibrated in 1 GHz increments and is ideal for noise figure measurements and a variety of built-in test applications. This noise source model operates at +28 Vdc and features an output excess noise ratio (ENR) level of 15.5 dB typical. The package design supports an input BNC female connector for DC biasing, and an output SMA male connector.

### Electrical Specifications

#### RF Characteristics

| Description                       | Minimum          | Typical | Maximum | Units    |
|-----------------------------------|------------------|---------|---------|----------|
| Frequency Range                   | 4                |         | 8       | GHz      |
| Impedance                         |                  | 50      |         | Ohms     |
| Output ENR                        | 15               | 15.5    | 16      | dB       |
| VSWR                              |                  |         | 1.2:1   |          |
| Output Variation vs Input Voltage |                  |         | 0.1     | dB/%V    |
| Output Variation vs Temperature   |                  |         | 0.01    | dB/deg C |
| Bias Voltage 1                    |                  | 28      |         | Volts    |
| Input Current 1                   |                  | 10      | 25      | mA       |
| Rise/Fall Time                    |                  |         | 1       | μs       |
| Calibration Points                | 1 GHz increments |         |         |          |

### Mechanical Specifications

#### Size

|            |                   |
|------------|-------------------|
| Length     | 3.37 in [85.6 mm] |
| Width/Dia. | 0.76 in [19.3 mm] |
| Height     | 0.76 in [19.3 mm] |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMA Calibrated Noise Source Module, Output ENR of 15.5 dB, +28 VDC, 4 GHz to 8 GHz PE8502](#)



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Weight 0.151 lbs [68.49 g]

### Connectors

DC Connector

BNC Female

Output Connector

SMA Male

### Environmental Specifications

#### Temperature

Operating Range

-55 to +85 deg C

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

RoHS Compliant

REACH Compliant

12/17/2015

### Plotted and Other Data

Notes:

SMA Calibrated Noise Source Module, Output ENR of 15.5 dB, +28 VDC, 4 GHz to 8 GHz from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

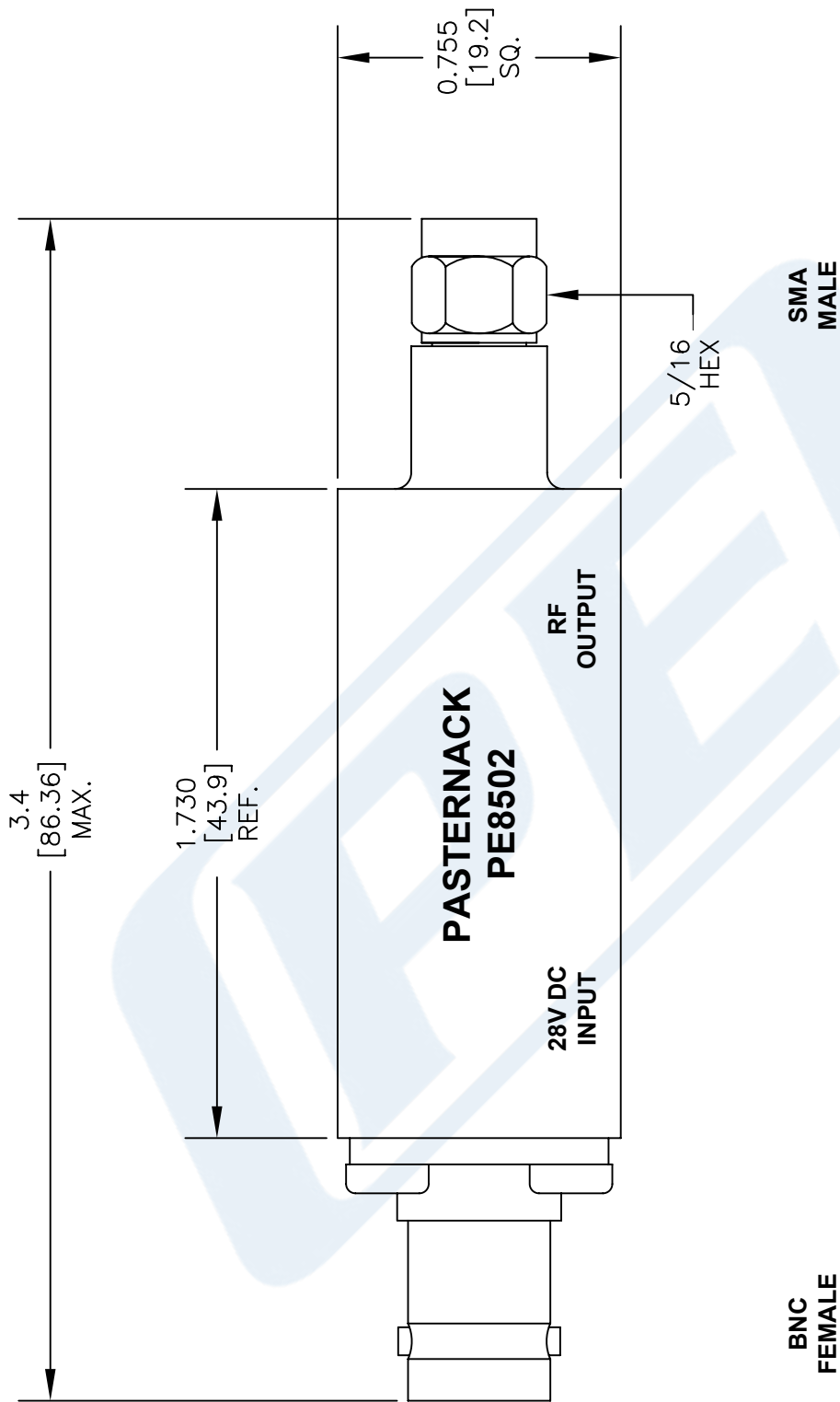
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMA Calibrated Noise Source Module, Output ENR of 15.5 dB, +28 VDC, 4 GHz to 8 GHz PE8502](http://www.pasternack.com/50-ohm-sma-noise-source-output-15.15-db-4000-mhz-8000-mhz-pe8502-p.aspx)

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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

PE8502 CAD Drawing

SMA Calibrated Noise Source Module, Output ENR of 15.5 dB, +28 VDC, 4 GHz to 8 GHz



| STANDARD TOLERANCES |  |        |  |
|---------------------|--|--------|--|
| DECIMAL             |  |        |  |
| .XX                 |  | ±0.01  |  |
| .XXX                |  | ±0.005 |  |

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

| Frequency (GHz)  | 4     | 5     | 6     | 7     | 8     |
|------------------|-------|-------|-------|-------|-------|
| ENR (dB) @+28Vdc | 15.68 | 15.48 | 15.28 | 15.09 | 15.23 |

**PASTERNAK®**  
THE ENGINEER'S RF SOURCE  
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DWG TITLE  
**PE8502**  
FSCM NO. 53919

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

|          |        |       |     |      |   |      |
|----------|--------|-------|-----|------|---|------|
| CAD FILE | 052616 | SCALE | N/A | SIZE | A | 3045 |
|----------|--------|-------|-----|------|---|------|