



## 14 Pin DIP Packaged Noise Source Module, Output Pout of -5 dBm, +15 VDC, 10 MHz to 3 GHz

### Noise Generators Technical Data Sheet

PE85NS5003

#### Features

- Industry Standard 14 Pin DIP Packaged Noise Source module
- Frequency Range: 10 MHz to 3 GHz
- Noise Output Level: -5 dBm
- Internal Filtering to limit bandwidth
- Maximum Flatness:  $\pm 2$  dB
- White Gaussian Noise Output
- Minimum power level -100 dBm/Hz
- DC Voltage: +15 Vdc
- -55°C to +125°C Operating Temperature
- Crest Factor: 5:1

#### Applications

- Noise Figure Test & Measurement
- Built-In Test Equipment
- Dithering for Increased Dynamic Range for A/D Converters
- Source for Bit Error Rate Testing

#### Description

The PE85NS5003 is a dual in-line packaged (DIP) noise source module which operates over a frequency range from 10 MHz to 3 GHz. The industry standard 14 pin DIP package is particularly useful in circuit board applications used for built-in test equipment, dithering for increased dynamic range of A/D converters, and as a source for bit error rate testing. The design utilizes internal filtering to limit bandwidth and operates at +15 Vdc. Noise Output level of -5 dBm with maximum flatness of  $\pm 2$  dB. The output White Gaussian Noise has a minimum power level of -100 dBm/Hz and a Crest Factor of 5:1. Operating temperature range is -55°C to +125°C with a temperature coefficient of 0.025 dB/°C.

#### Electrical Specifications

##### RF Characteristics

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.01		3	GHz
Impedance		50		Ohms
Flatness			$\pm 2$	dB
Output Variation vs Temperature		0.025		dB/deg C
Output Power		-5		dBm
Output Power Spectral Density		-100		dBm/Hz
Bias Voltage 1		15		Volts
Input Current 1			100	mA
Crest Factor		5:1		

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [14 Pin DIP Packaged Noise Source Module, Output Pout of -5 dBm, +15 VDC, 10 MHz to 3 GHz PE85NS5003](#)



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### Mechanical Specifications

**Size**

Length	1.38 in [35.05 mm]
Width/Dia.	0.795 in [20.19 mm]
Height	0.7 in [17.78 mm]

Package Type	Drop In
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### Environmental Specifications

**Temperature**

Operating Range	-55 to +125 °C
Storage Range	-65 to +150 °C

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

### Plotted and Other Data

Notes:

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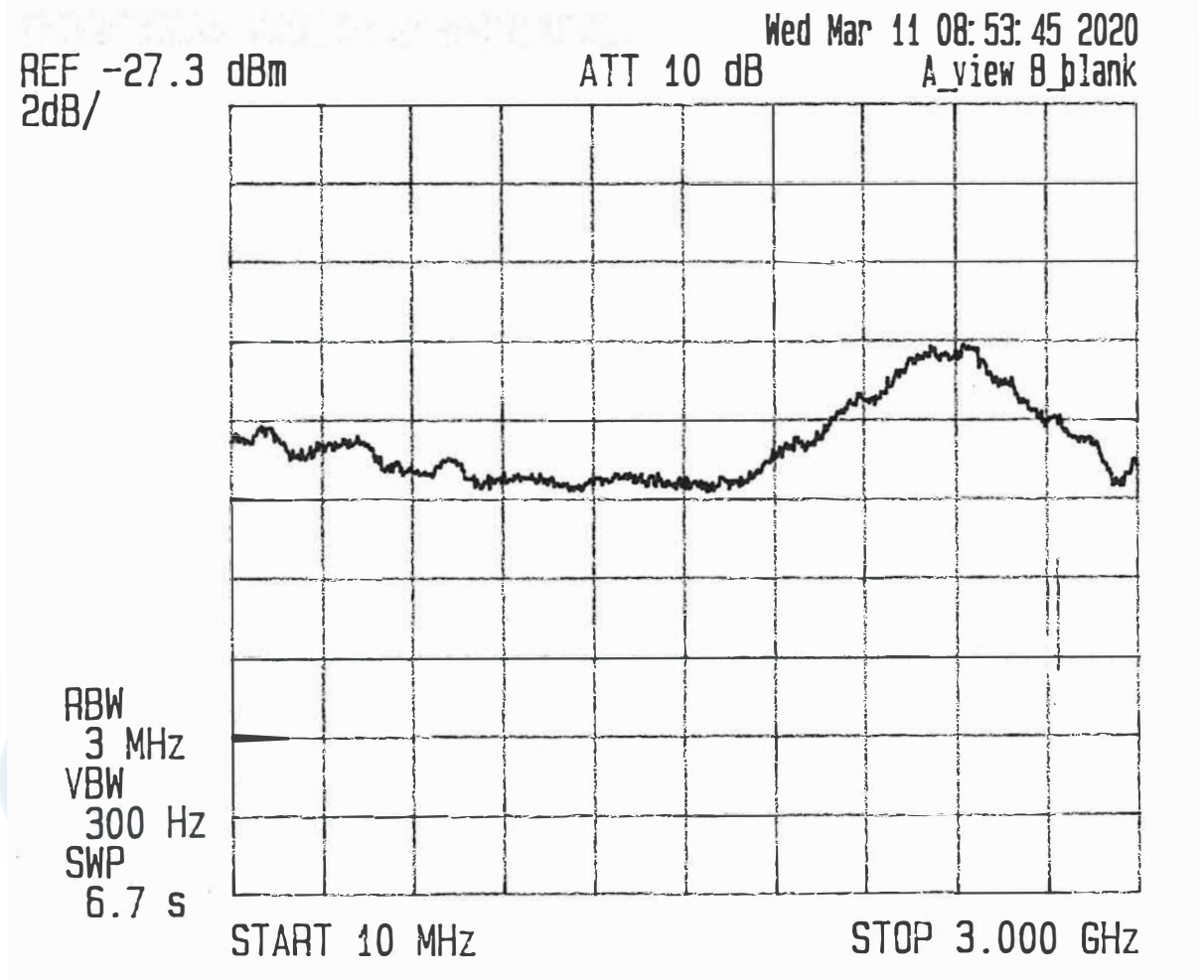


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Typical Performance Data



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URL: <https://www.pasternack.com/noise-source-pout-negative-5-dbm-3-ghz-pe85ns5003-p.aspx>

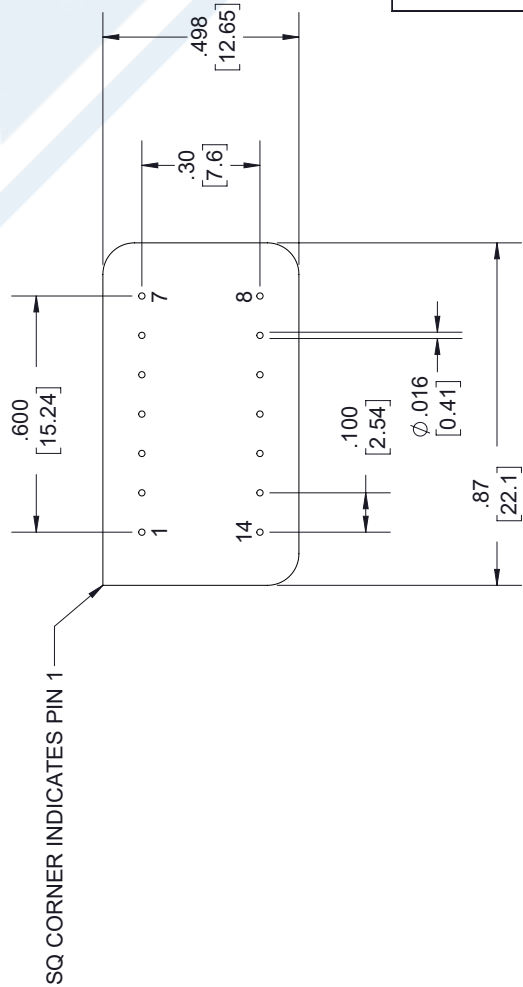
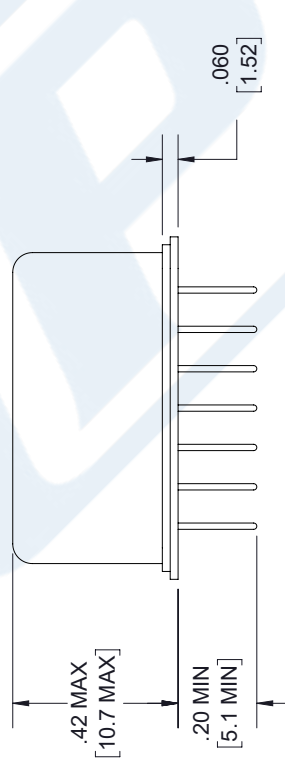
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# PE85NS5003 CAD Drawing

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## REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	02/18/2020	TGALLA
B	ADDED PIN DESCRIPTIONS	08/11/2020	TGALLA



**B**  
**14 PIN**  
 Pin 14 = +VCC  
 Pin 8 = Output  
 Pin 7 = TTL Option  
 All other Pins Ground

UNLESS OTHERWISE SPECIFIED  
 LEADING DIMENSIONS ARE INCHES  
 DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:  
 .X = ±.2 [5.08] FRACTIONS  
 .XX = ±.02 [.51] ±.1/32  
 .XXX = ±.005 [.13] ANGLES ± 1°  
 CABLE LENGTH (L) TOLERANCES:  
 L ≤ 12 [305] = ±.1 [25] / -0  
 12 [305] < L ≤ 60 [1524] = +.2 [51] / -0  
 60 [1524] < L ≤ 120 [3048] = +.4 [102] / -0  
 120 [3048] < L ≤ 300 [7620] = +.6 [152] / -0  
 300 [7620] < L = +.5% L / -0  
 ALL DIMENSIONS SHOWN  
 ARE FOR REFERENCE ONLY.



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SHEET 1 OF 1

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SIZE A

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