



10 MHz to 40 GHz Power Detector, Negative Output Slope, +23 dBm Max Pin, SMA Output

## Detectors Technical Data Sheet

**PE80P1007**

### Features

- Power Detector with Negative Output Slope
- 10 MHz to 40 GHz
- High Voltage Sensitivity 0.3 mV/uW typ
- Tangential Signal Sensitivity (TSS) -25 dBm min
- VSWR 1.5:1 typ
- Maximum RF Input Power Handling +23 dBm
- No DC Bias Required
- 50 Ohm Design
- Field Replaceable 2.92mm Connectors, Male input and Female output
- Operational Temperature Range -40°C to +85°C
- Rugged and Compact Aluminum Gold Plated Package Design
- Guaranteed Environmental Test Conditions Altitude, Vibration, Humidity, Shock

### Applications

- Test & Measurement
- Military and Commercial Communications
- Military Electronic Systems
- Research & Development

### Description

The PE80P1007 is a coaxial packaged Power Detector that operates across an ultra broadband frequency from 10 MHz to 40 GHz. The 50 Ohm design provides a negative output voltage that's proportional to the RF input signal level. Impressive performance includes high voltage sensitivity of 0.3 mV/uW, tangential signal sensitivity (TSS) of -25 dBm min, and typical low VSWR of 1.5:1. The unit does not require a DC bias voltage, and has maximum RF input power handling of +23 dBm. The low profile pin package is aluminum with Gold plating and supports field replaceable 2.92mm connectors, with a Male RF connector on the input port and a Female RF connector on the output port. With the connectors removed, the package can be drop mounted onto a PWB. The module has an operational temperature range from -40°C to +85°C and is guaranteed to meet a series of environmental test conditions for Altitude, Vibration, Humidity, and Shock.

### Electrical Specifications (@ +25°C)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.01		40	GHz
VSWR		1.5:1	2:01	
Voltage Sensitivity	0.1	0.3		mV/uW
Input Power			23	dBm
Tangential Signal Sensitivity (TSS)	-25			dBm
Operating Temperature Range	-40		85	deg C
Output Polarity		Negative		

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [10 MHz to 40 GHz Power Detector, Negative Output Slope, +23 dBm Max Pin, SMA Output PE80P1007](#)



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### Mechanical Specifications

#### Size

Length	0.63 in [16 mm]
Width	0.37 in [9.4 mm]
Height	0.41 in [10.41 mm]
Weight	0.01 lbs [4.54 g]
Connector 1	Field Replaceable 2.92mm Male
Connector 2	Field Replaceable SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-40 to +85 deg C
Storage Range	-50 to +105 deg C
Humidity	100% RH at 35 degrees C, 95% RH at 40 degrees C
Shock	20G for 11ms Half Sine Wave, 3 Axis Both Directions
Vibration	25g RMS (15 degrees 2KHz) Endurance, 1 Hour Per Axis
Altitude	30,000 ft (Epoxy Sealed Controlled Environment)

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**Detectors Technical Data Sheet**

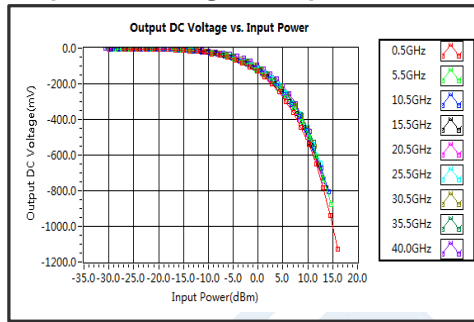
**PE80P1007**

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

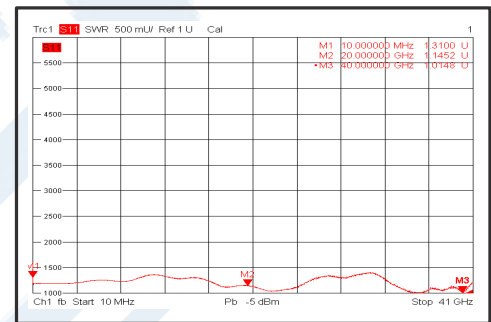
**Plotted and Other Data**

Notes:

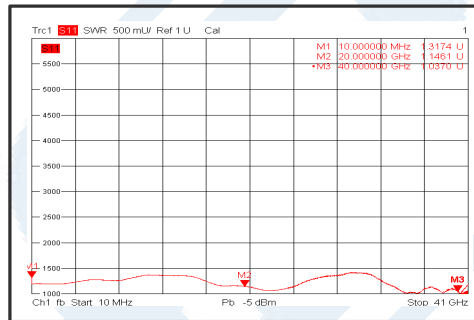
**Output DC Voltage vs. Input Power**



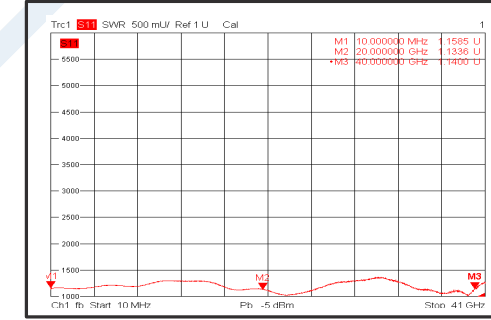
**VSWR @+25°C**



**VSWR @-40°C**



**VSWR @+85°C**



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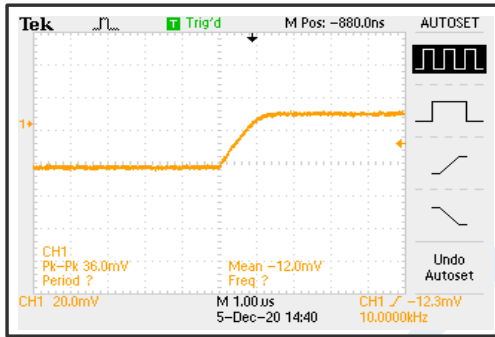


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Slope, +23 dBm Max Pin, SMA Output

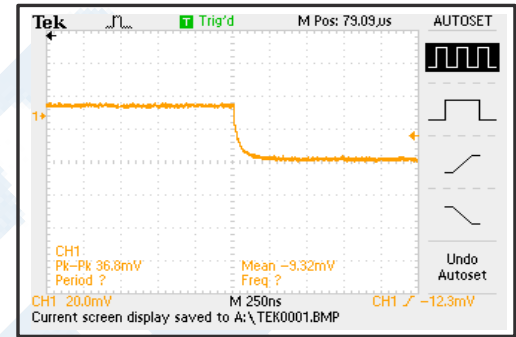
## Detectors Technical Data Sheet

**PE80P1007**

Rise Time



Fall Time



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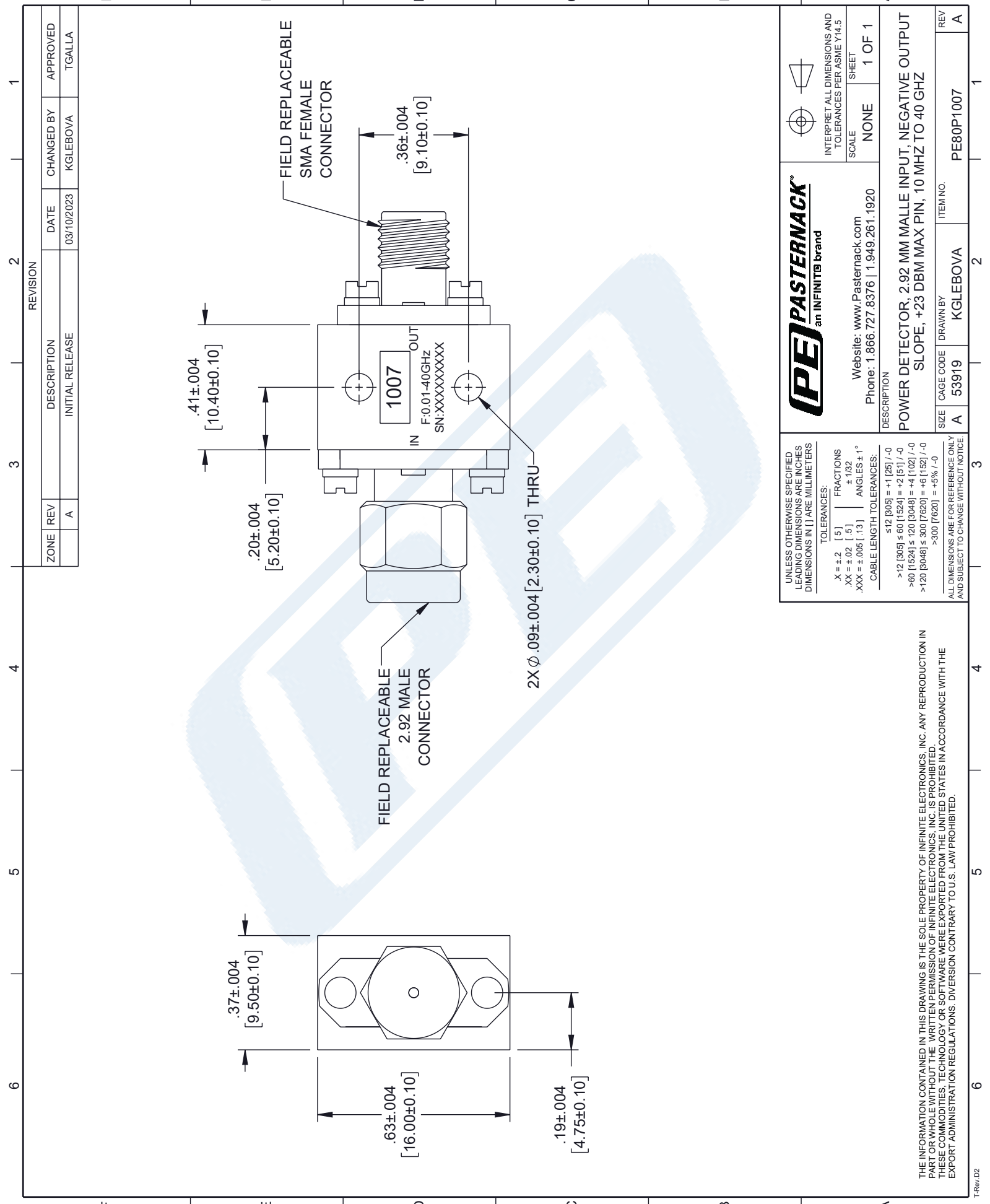
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [10 MHz to 40 GHz Power Detector, Negative Output Slope, +23 dBm Max Pin, SMA Output PE80P1007](https://www.pasternack.com/power-detector-2.92mm-negative-10-mhz-40-ghz-pe80p1007-p.aspx)

URL: <https://www.pasternack.com/power-detector-2.92mm-negative-10-mhz-40-ghz-pe80p1007-p.aspx>

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.

# PE80P1007 CAD Drawing

10 MHz to 40 GHz Power Detector, Negative Output Slope, +23 dBm Max Pin, SMA Output



REVISION		DATE	CHANGED BY	APPROVED
ZONE	REV	DESCRIPTION		
	A	INITIAL RELEASE	KGLEBOVA	TGALLA

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

TOLERANCES:

X = ±.2 [ .5 ] FRACTIONS  
 .XX = ±.02 [ .5 ] ± 1/32  
 .XXX = ±.005 [ .13 ] ANGLES ± 1°

CABLE LENGTH TOLERANCES:

≤12 [305] = +1 [25] / -0  
 >12 [305] ≤ 60 [1524] = +2 [51] / -0  
 >60 [1524] ≤ 120 [3048] = +4 [102] / -0  
 >120 [3048] ≤ 300 [7620] = +6 [152] / -0  
 >300 [7620] = +5% / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION  
**POWER DETECTOR, 2.92 MM MALLE INPUT, NEGATIVE OUTPUT SLOPE, +23 DBM MAX PIN, 10 MHZ TO 40 GHZ**

SCALE NONE SHEET 1 OF 1

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

SIZE A CAGE CODE A 53919 DRAWN BY KGLEBOVA ITEM NO. PE80P1007 REV A

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