



10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA

Detectors Technical Data Sheet

PE80P1003

Features

- Power Detector with Positive Output Slope
- 10 MHz to 18 GHz
- High Voltage Sensitivity 0.5 mV/uW typ
- Tangential Signal Sensitivity (TSS) -35 dBm typ
- VSWR 1.5:1 typ
- Maximum RF Input Power Handling +23 dBm
- No DC Bias Required
- 50 Ohm Design
- Field Replaceable SMA 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 & Commercial Communications
- Military Electronic Systems
- Research & Development

Description

The PE80P1003 is a coaxial packaged Power Detector that operates across an ultra broadband frequency from 10 MHz to 18 GHz. The 50 Ohm design provides a positive output voltage that's proportional to the RF input signal level. Impressive performance includes high voltage sensitivity of 0.5 mV/uW typ, tangential signal sensitivity (TSS) -35 dBm typ, and low VSWR of 1.5:1 typ. 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 SMA 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		18	GHz
VSWR		1.5:1	1.8:1	
Voltage Sensitivity		0.5		mV/uW
Input Power			23	dBm
Tangential Signal Sensitivity (TSS)	-25	-35		dBm
Operating Temperature Range	-40		85	deg C
Output Polarity		Positive		

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 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA PE80P1003](#)



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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 SMA 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

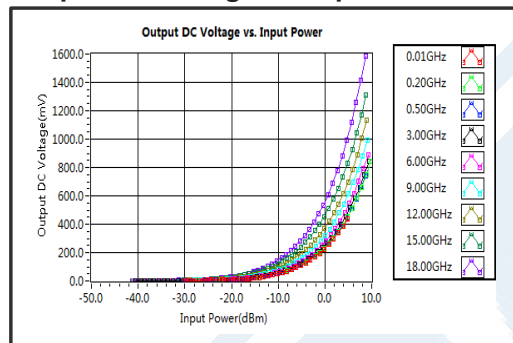
PE80P1003

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

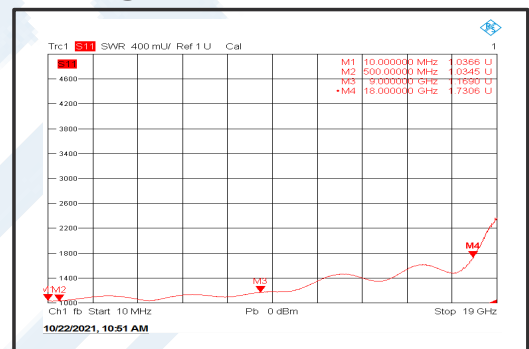
Plotted and Other Data

Notes:

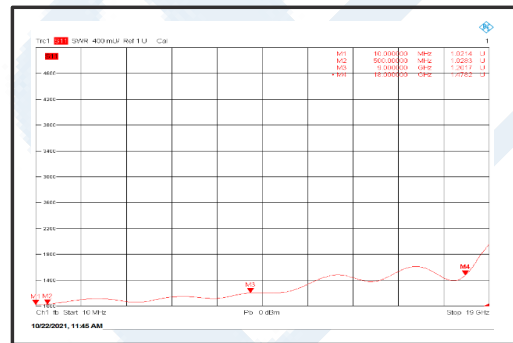
Output DC Voltage vs. Input Power



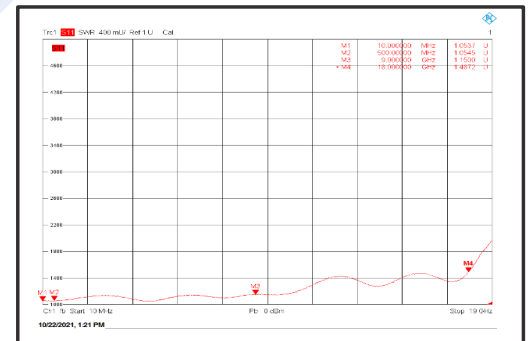
VSWR @+25°C



VSWR @-40°C



VSWR @+85°C



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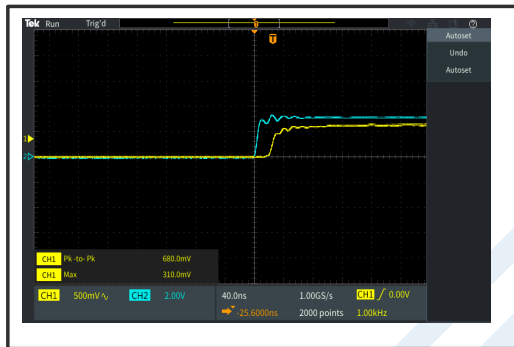


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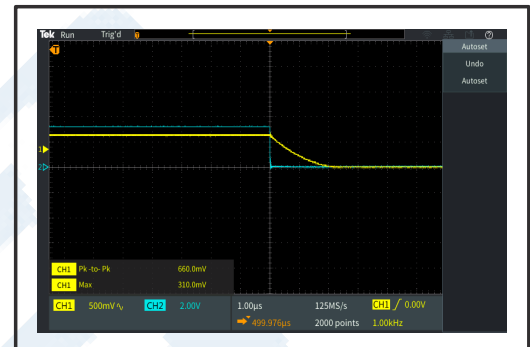
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Rise Time



Fall Time



10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

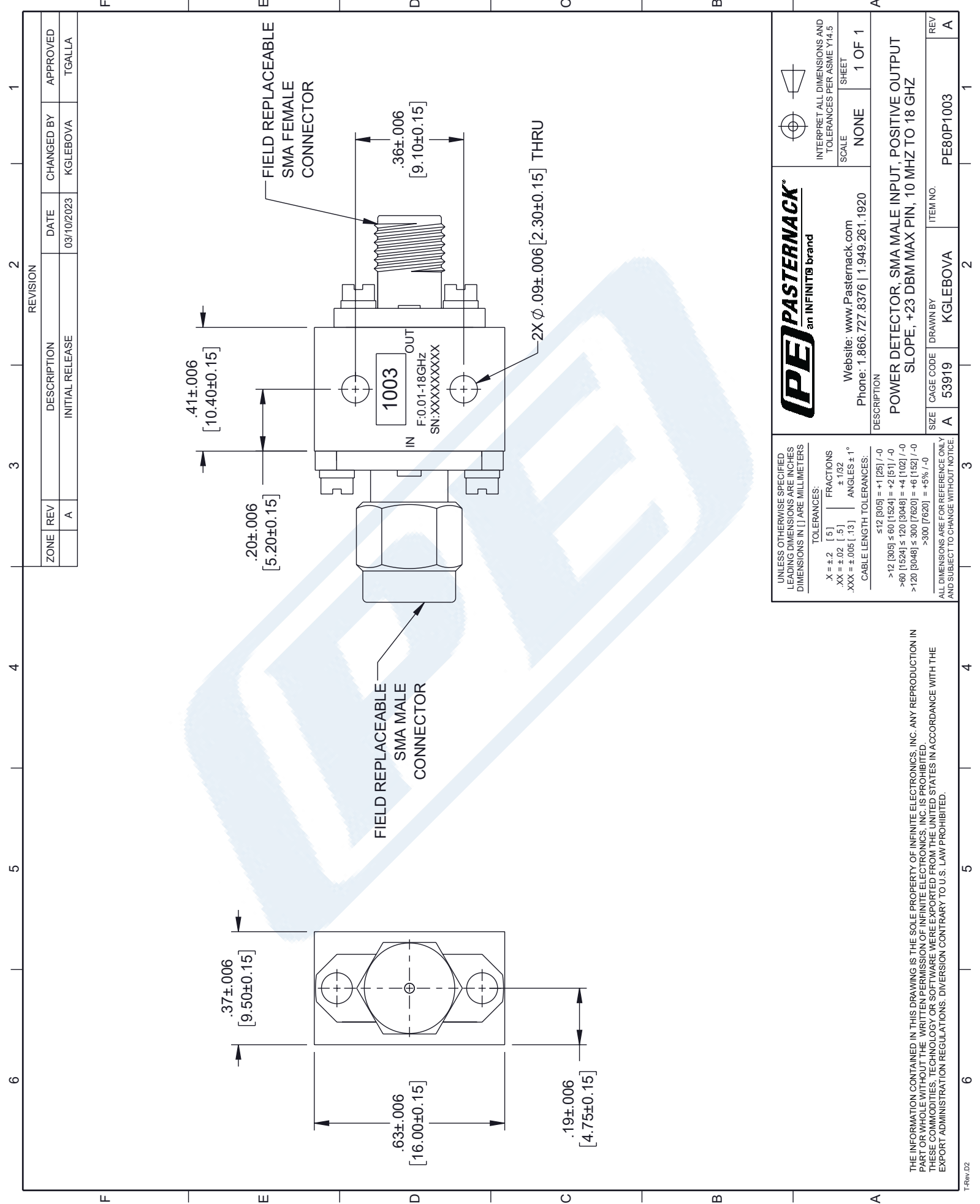
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA PE80P1003](https://www.pasternack.com/power-detector-sma-positive-10-mhz-18-ghz-pe80p1003-p.aspx)

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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.

PE80P1003 CAD Drawing

10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA



REVISION			1		
ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	03/10/2023	KGLEBOVA	TGALLA

PE PASTERNAK an INFINITI® brand		Website: www.Pasternack.com Phone: 1.866.727.8376 1.949.261.1920	SCALE NONE	SHEET 1 OF 1	INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5
DESCRIPTION POWER DETECTOR, SMA MALE INPUT, POSITIVE OUTPUT SLOPE, +23 DBM MAX PIN, 10 MHZ TO 18 GHZ					
SIZE A	CAGE CODE 53919	DRAWN BY KGLEBOVA	ITEM NO. PE80P1003	REV A	

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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