



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

Detectors Technical Data Sheet

PE80P1004

Features

- Power Detector with Positive Output Slope
- 6 GHz to 18 GHz
- High Voltage Sensitivity 0.5 mV/uW typ
- Tangential Signal Sensitivity (TSS) -25 dBm min
- VSWR 1.4:1 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 and Commercial Communications
- Military Electronic Systems
- Research & Development

Description

The PE80P1004 is a coaxial packaged Power Detector that operates across a broadband frequency from 6 GHz 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) of -25 dBm min, and low VSWR of 1.4:1 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	6		18	GHz
VSWR		1.4:1	1.5:1	
Voltage Sensitivity		0.5		mV/uW
Input Power			23	dBm
Tangential Signal Sensitivity (TSS)	-25			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: [6 GHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA PE80P1004](#)



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Mechanical Specifications

Size

Length

0.4 in [10.16 mm]

Width

0.37 in [9.4 mm]

Height

0.62 in [15.75 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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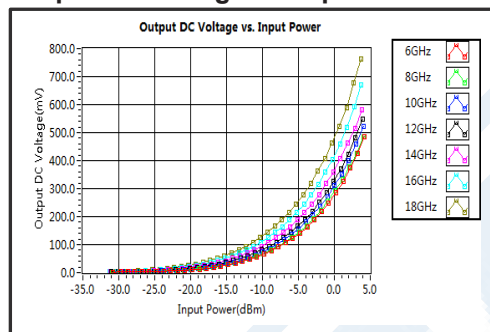
PE80P1004

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

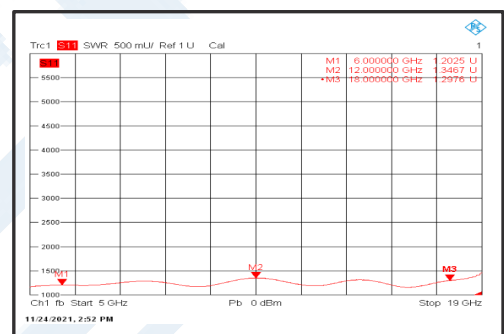
Plotted and Other Data

Notes:

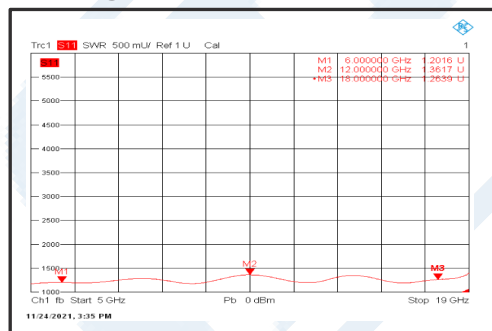
Output DC Voltage vs. Input Power



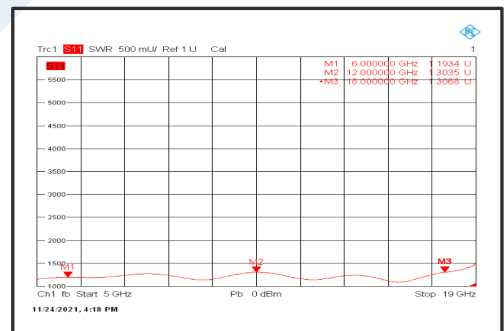
VSWR @+25°C



VSWR @-40°C



VSWR @+85°C



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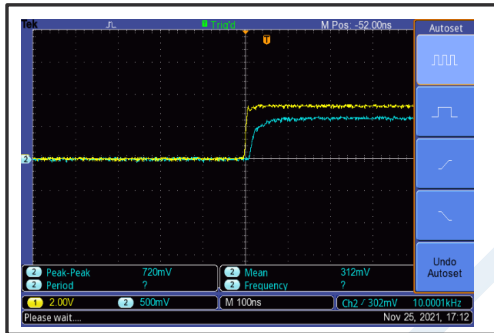


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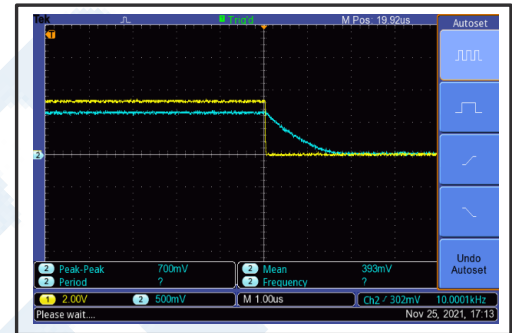
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Rise Time



Fall Time



6 GHz 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.

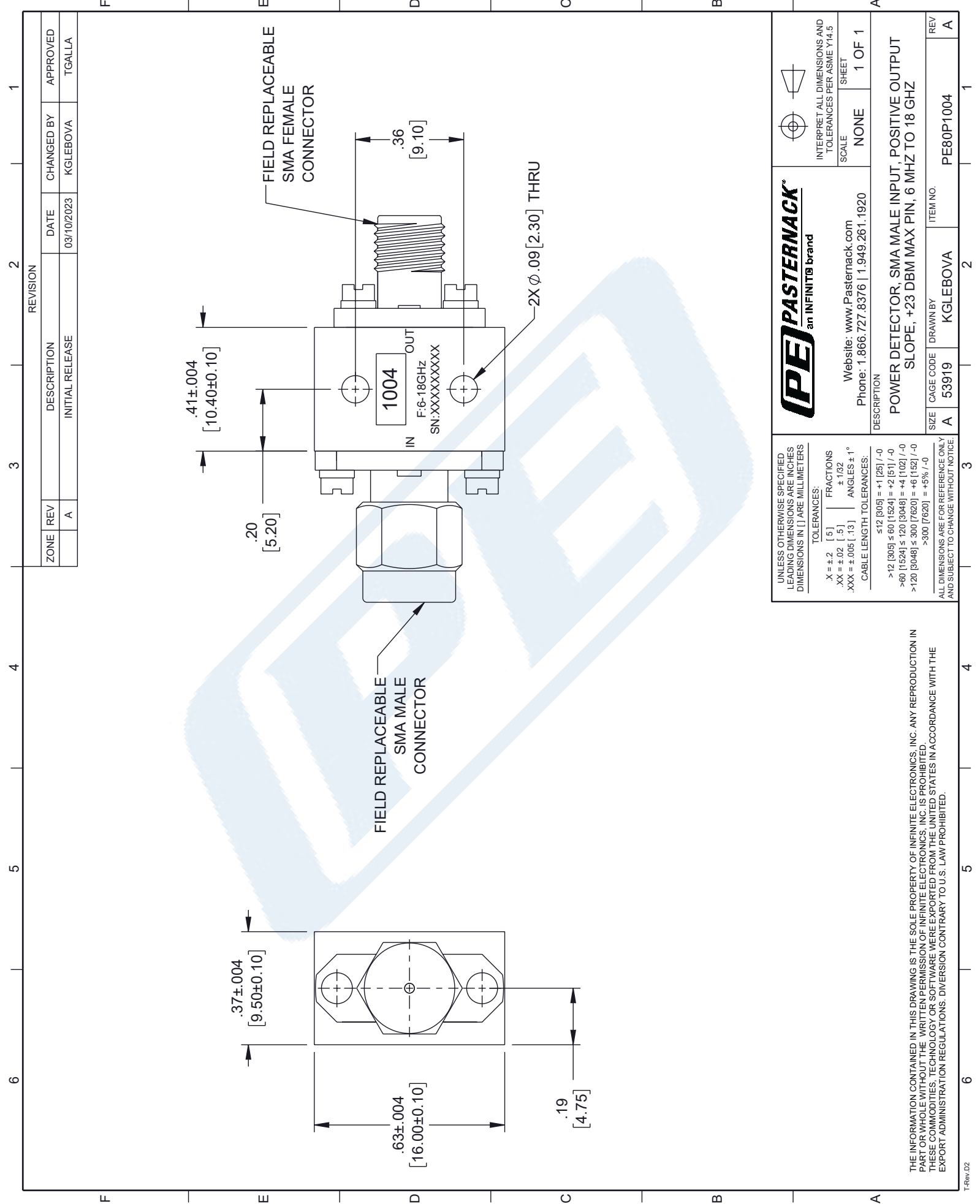
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [6 GHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA PE80P1004](https://www.pasternack.com/power-detector-sma-positive-6-18-ghz-pe80p1004-p.aspx)

URL: <https://www.pasternack.com/power-detector-sma-positive-6-18-ghz-pe80p1004-p.aspx>

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PE80P1004 CAD Drawing

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



3			2		1	
REVISION						
ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED	
	A	INITIAL RELEASE	03/10/2023	KGLEBOVA	TGALLA	

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS		TOLERANCES:	
X = ±.2	[.5]	FRACTIONS	± 1/32
.XX = ±.02	[.5]	ANGLES ± 1°	
.XXX = ±.005	[.13]	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]	±.8 [203] / -0
ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE			

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INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5		SCALE	NONE
		SHEET	1 OF 1
DESCRIPTION POWER DETECTOR, SMA MALE INPUT, POSITIVE OUTPUT SLOPE, +23 DBM MAX PIN, 6 MHZ TO 18 GHZ			
SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	KGLEBOVA	PE80P1004
REV			
A			

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