



Threshold Detector, SMA, Video Out,
+10 dBm max Pin, 2 GHz to 18 GHz

Detectors Technical Data Sheet

PE80T1001

The PE80T1001 is a High Speed, TTL Logic Output Adjustable Threshold Detector Designed to Operate from 2 to 18 GHz. This Detector incorporates additional gain stages for higher input dynamic range that covers from -45 to -20 dBm for operational performance, and has a fast response time of 45ns Max. The absolute maximum input power handling without damage is +10 dBm. The Rugged Compact Package Design utilizes field replaceable SMA Connectors, voltages and ground pins, and has a mechanically adjustable screw to set the threshold level. The TTL Video output pin supports a Field Replaceable SMA Connector. This module is designed to meet MIL-STD-202F Environmental Conditions that includes Humidity, Shock, and Vibration.

Features

- Ultra-High Speed Frequency Detector
- 2 GHz to 18 GHz Frequency Range
- Minimum Signal Level -45 dBm
- TTL Logic Output
- Propagation Delay 10 ns Typ
- Designed to meet MIL-STD-202F Environmental Conditions
- Fast Response Time 45 ns max
- Field Replaceable SMA Connectors

Applications

- Electronic Warfare
- Test & Measurement
- System Monitoring
- AM Noise Measurements
- Military & Space
- Radar
- Pulsed RF Measurements in Ultra Broadband Applications
- Leveling Pulse Signal Sources
- Military Communications Systems

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	2		18	GHz
Input Power (No Damage)			+10	dBm
Dynamic Range	-45		-20	dBm
Propagation Delay (from 50% Logic Output on Leading Edge for an input of -45 dBm)		10	20	ns
Propagation Delay (from 50% RF Input to 50% logic when input is -20 dBm)		10	20	ns
Response Time			45	ns
Detected Video Output	TTL TTL="1" on Video Out For Signals Above Threshold Setting TTL="0" on Video Out For Signals Below Threshold Setting			

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Threshold Detector, SMA, Video Out, +10 dBm max Pin, 2 GHz to 18 GHz PE80T1001](#)



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DC Power Supply @ +12 Volts (No Load)	250	mA
DC Power Supply @ -12 Volts (No Load)	120	mA
Operating Temperature Range	-55	+85 deg C

Mechanical Specifications

Size	
Length	2.5 in [63.5 mm]
Width	2 in [50.8 mm]
Height	0.5 in [12.7 mm]
Weight	0.205 lbs [92.99 g]
Connector 1	SMA Female
Connector 2	SMA Female
Pins	Solder Pin

Environmental Specifications

Temperature	
Operating Range	-55 to +85 deg C
Storage Range	-65 to +125 deg C
Temperature Cycle	MIL-STD-202F, METHOD 107D COND. A
Humidity	MIL-STD-202F, METHOD 103B COND. B
Shock	MIL-STD-202F, METHOD 213B COND. B
Vibration	MIL-STD-202F, METHOD 204D COND. B
Altitude	MIL-STD-202F, METHOD 105C COND. B

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

Plotted and Other Data

Notes:

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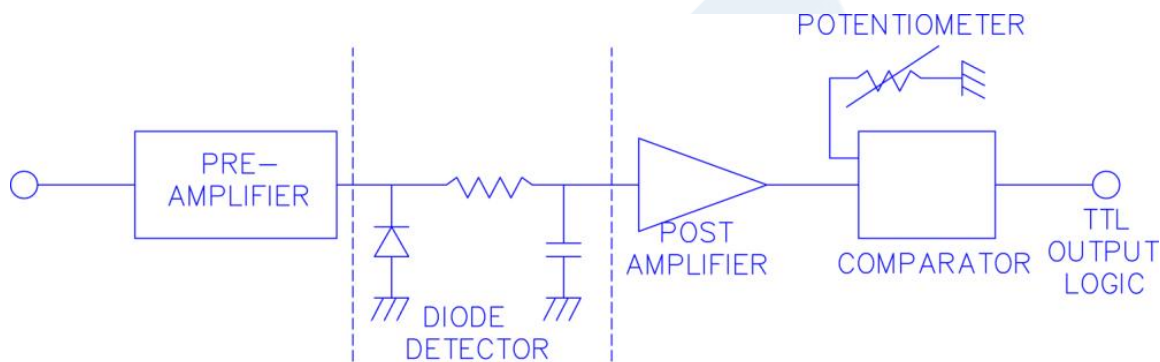


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Block Diagram



Block Diagram of PE80T1001

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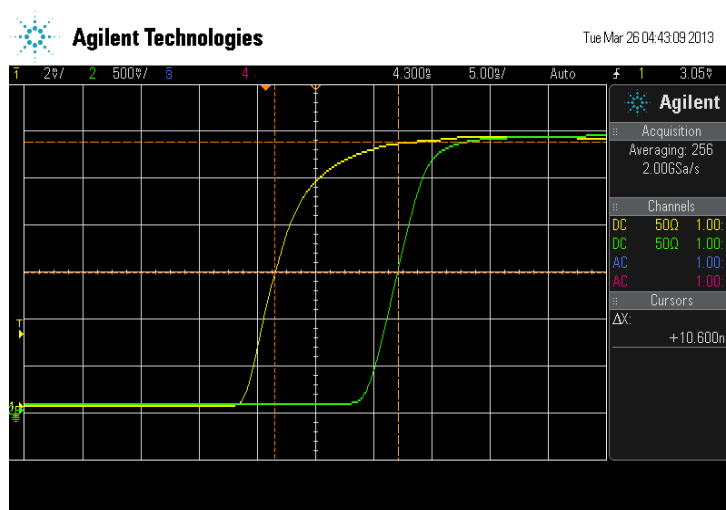


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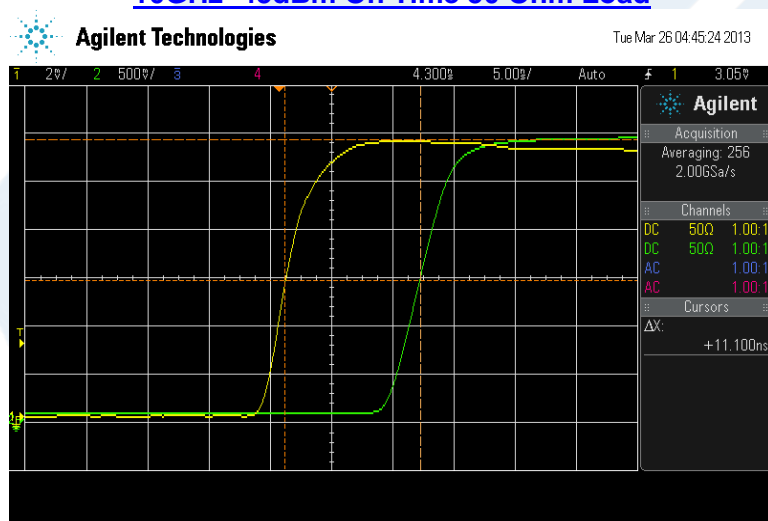
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Typical Performance Data



10GHz -45dBm On Time 50 Ohm Load



Channel 1 (Yellow): Using Crystal Detector at signal source.
Channel 2 (Green): Video Output from Threshold Detector.

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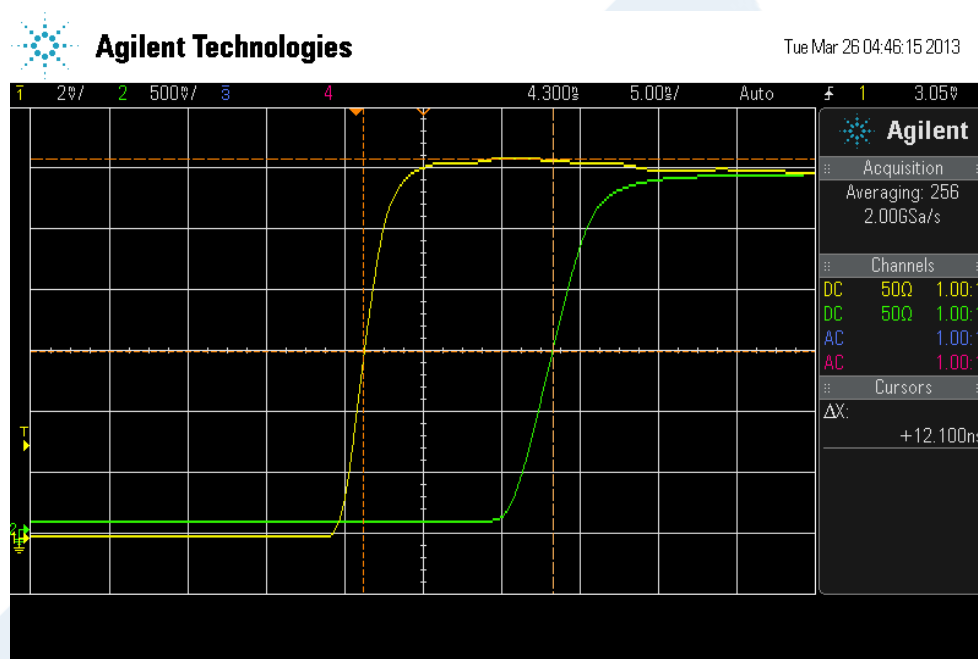


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18GHz -45dBm On Time 50 Ohm Load



Channel 1 (Yellow): Using Crystal Detector at signal source.

Channel 2 (Green): Video Output from Threshold Detector.

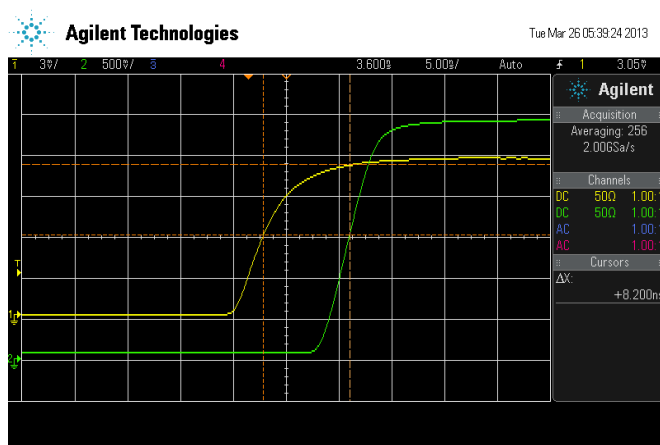
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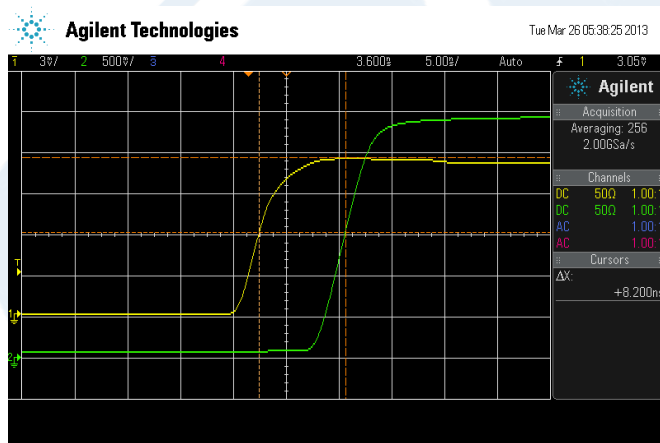
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10GHz -20dBm On Time 50 Ohm Load



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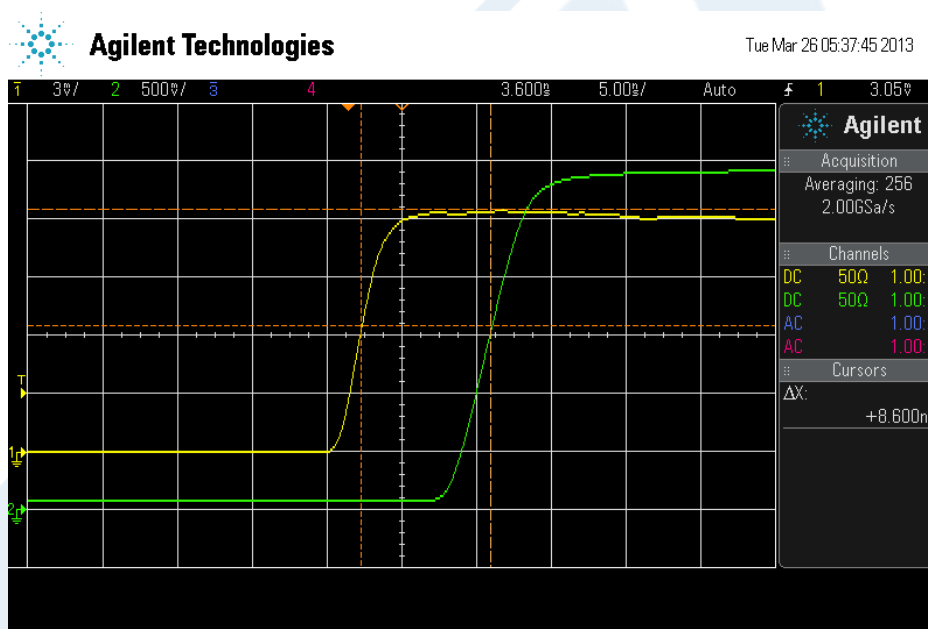


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18GHz -20dBm On Time 50 Ohm Load



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Threshold Detector, SMA, Video Out, +10 dBm max Pin, 2 GHz to 18 GHz 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.

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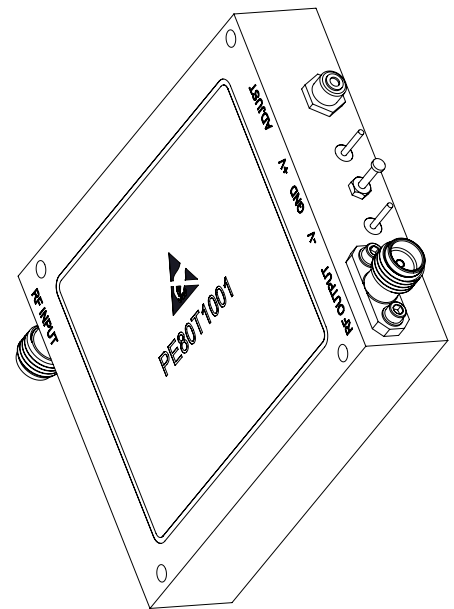
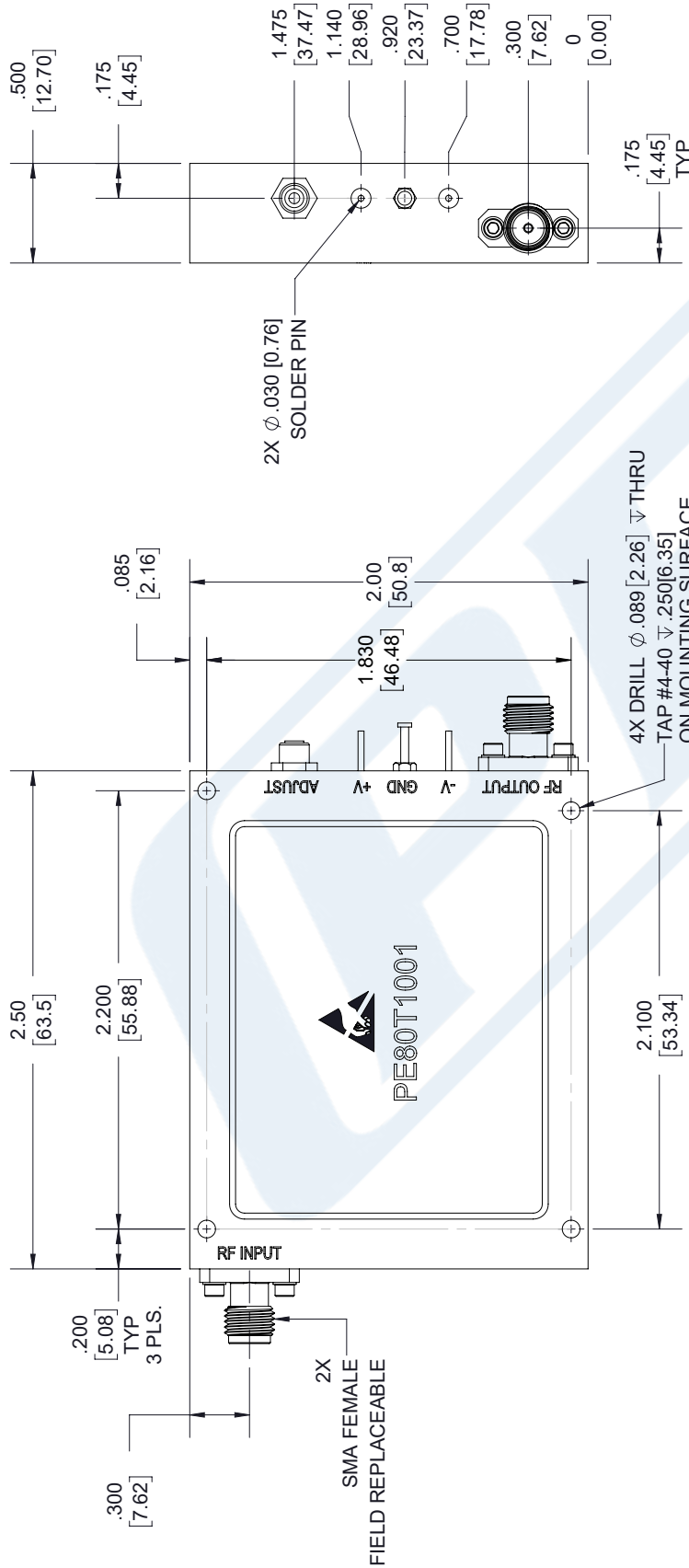
URL: <https://www.pasternack.com/sma-detector-10-propagation-2-18-ghz-pe80t1001-p.aspx>

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PE80T1001 CAD Drawing

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1.1	PCR PE80T1001 03282019	03/28/19	T. GALLA



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE IN INCHES DIMENSIONS IN [] ARE MILLIMETERS	
TOLERANCES:	FRACTIONS
X \pm .2 [5.08]	\pm .132
XX \pm .01 [0.25]	\pm .005
XXX \pm .005 [0.13]	\pm .001
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.	
THIRD-ANGLE PROJECTION	

PE PASTERNAK an INFINITI [®] brand	
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SIZE	A
CAGE	53919
DRAWN BY	K.DANG
PART NUMBER	PE80T1001
REV	A

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SCALE	N/A

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