



Threshold Detector, SMA, Video Out, 2 GHz to 18 GHz

TECHNICAL DATA SHEET

PE80T1001

The PE80T101 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, and has a fast response time of 45ns Max. 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 an SMA Connector. This module is designed to meet MIL-STD-202F Environmental Conditions.

Features

- Ultra-High Speed Frequency Detector
- 2 GHz to 18 GHz Frequency Range
- Minimum Signal Level -45 dBm
- Propagation Delay 10 ns Typ
- Designed to meet MIL-STD-202F Environmental Conditions

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 GHz		18 GHz	
Input Power			+10	dBm
Signal Level for Logic 1 @ 18 GHz		-20		dBm
Signal Level for Logic 0	-20			dBm
Propagation Delay from 50% of		10	20	ns
Propagation Delay from 50% of -20 dBm		10	20	ns
DC Power Supply @ +12 Volts			+250	mA
DC Power Supply @ -12 Volts			120	mA

Mechanical Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +125 deg C

Size

Length	2.5 in [63.5 mm]
Width	2 in [50.8 mm]
Height	0.5 in [12.7 mm]

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

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, 2 GHz to 18 GHz PE80T1001](#)



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Altitude

MIL-STD-202F, METHOD 105C COND. B

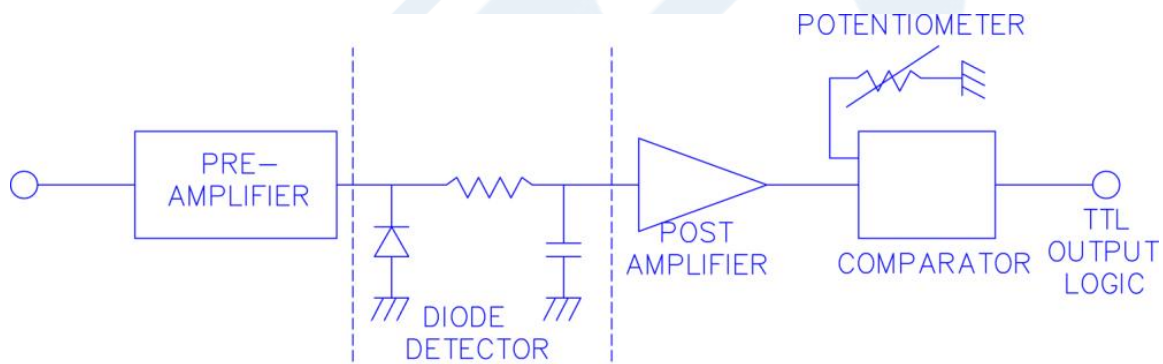
Compliance Certifications (visit www.Pasternack.com for current document)
Not RoHS Compliant

Plotted and Other Data

Notes:

- Values at +25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Block Diagram



Block Diagram of PE80T1001

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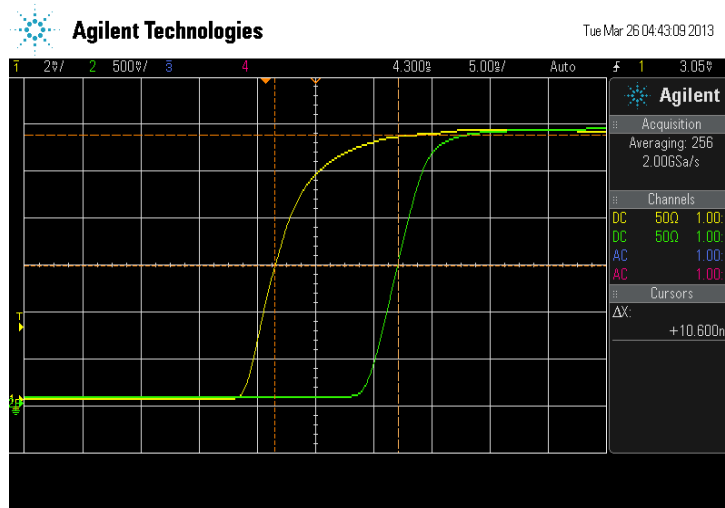


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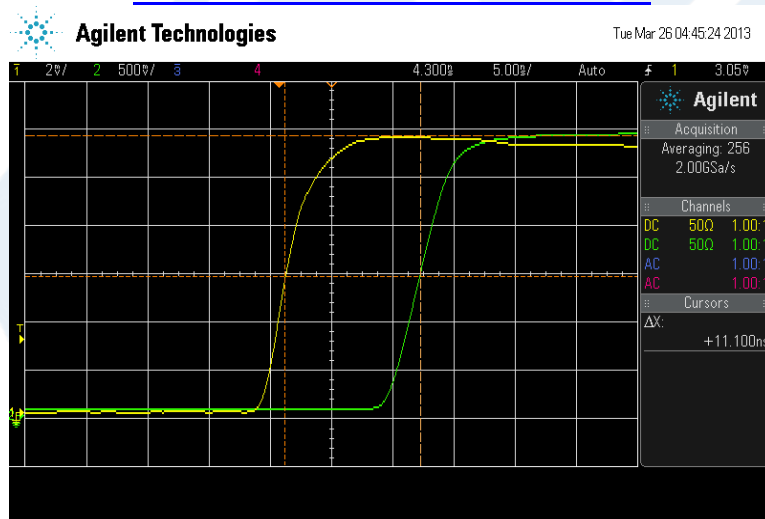
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Typical Performance Data



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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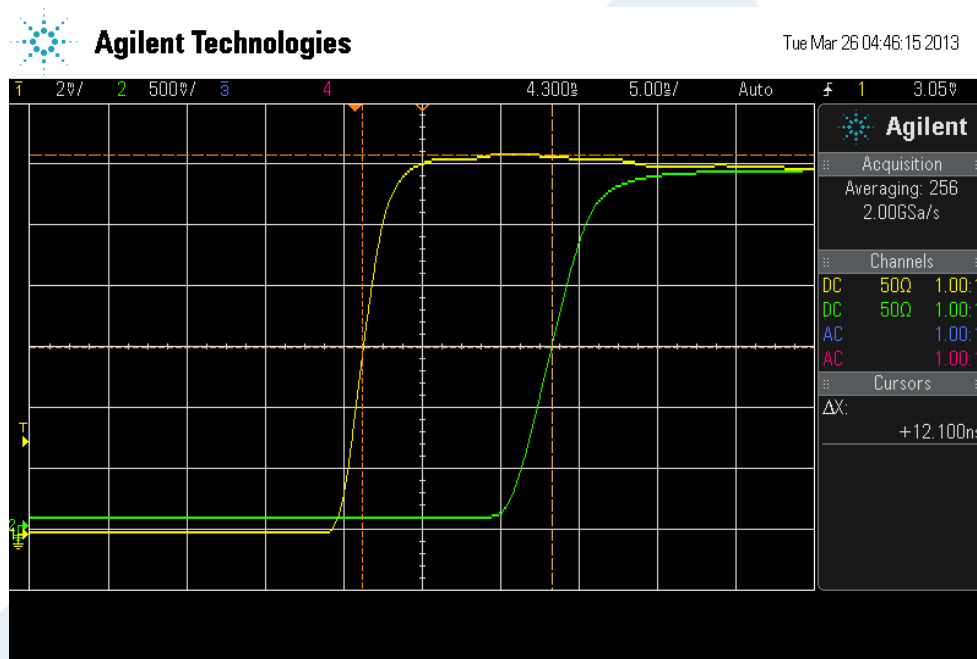


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18GHz -45dBm On Time 50 Ohm Load



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

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

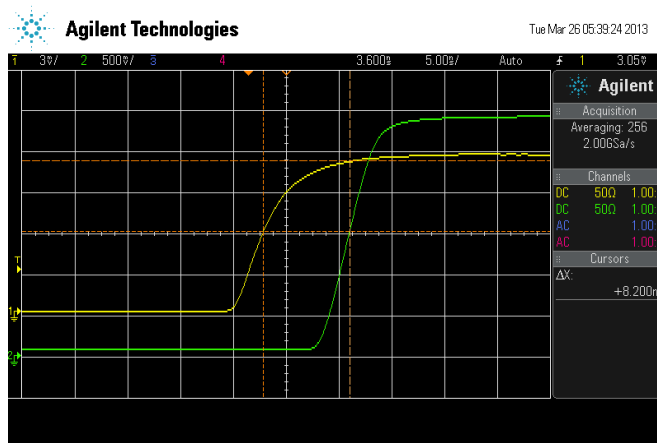
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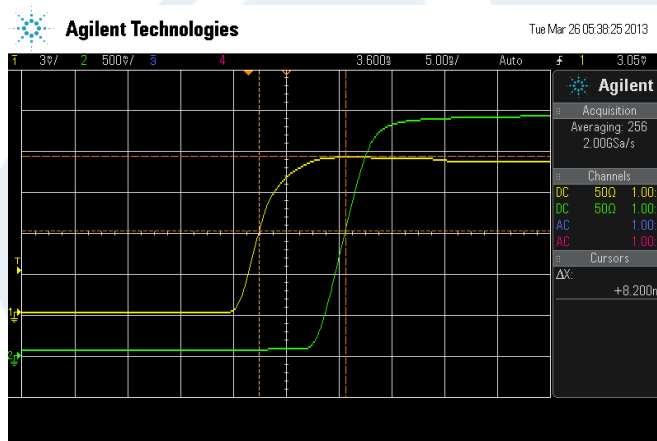
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10GHz -20dBm On Time 50 Ohm Load

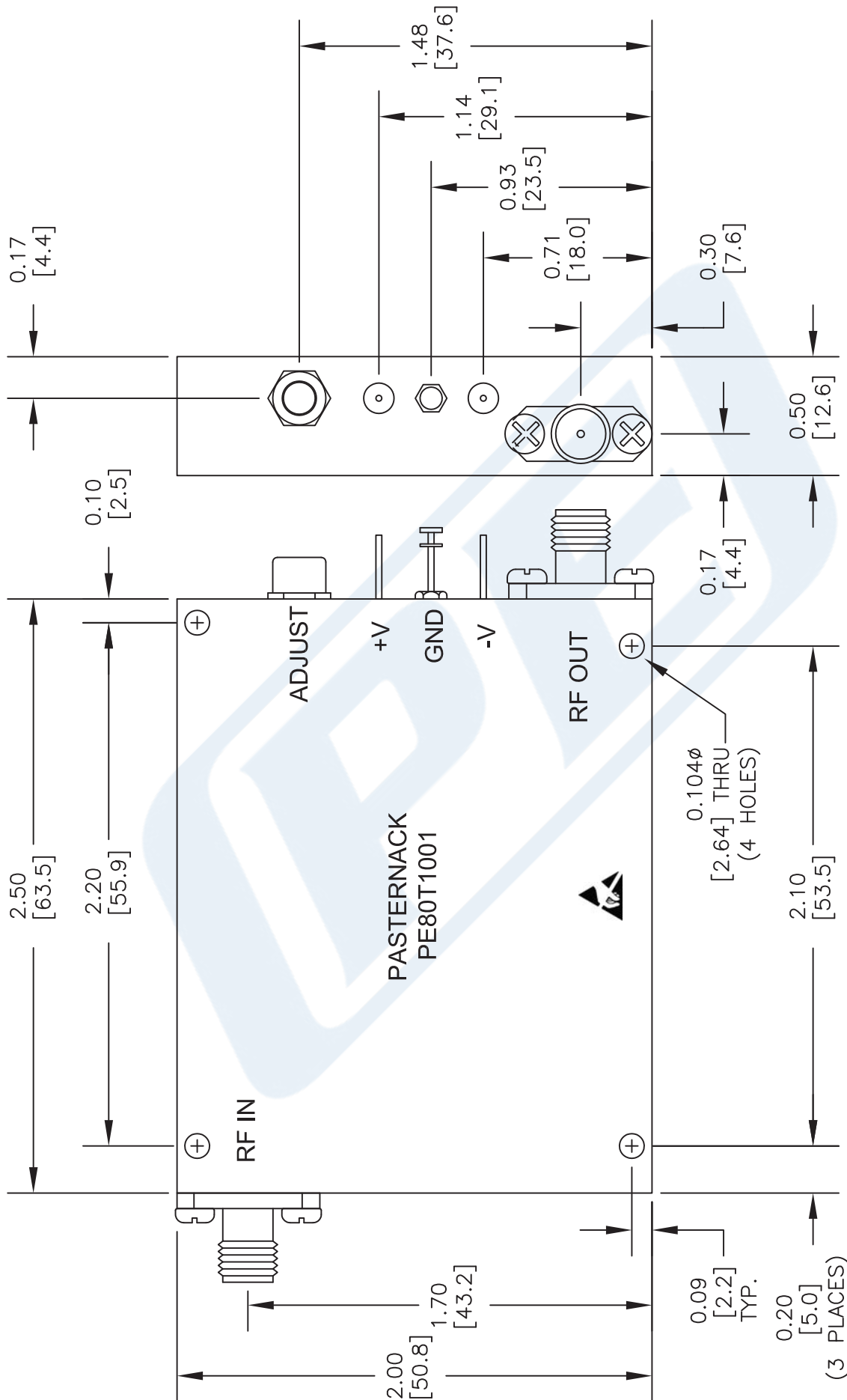


Channel 1 (Yellow): Using Crystal Detector at signal source.

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

PE80T1001 CAD Drawing

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NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

DWG TITLE
PE80T1001

FSCM NO. 53919

CAD FILE 031914

SCALE N/A

SIZE A

150

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