



## Threshold Detector, 2.92mm, Video Out, 16 GHz to 40 GHz

### TECHNICAL DATA SHEET

PE80T1002

The PE80T1002 is a High Speed, TTL Logic Output Adjustable Threshold Detector Designed to Operate from 16 GHz to 40 GHz. This Detector incorporates additional gain stages for higher input dynamic range that covers -20 to 0 dBm, and has a fast response time of 100 ns Max. The Rugged Ultra Compact Package Design utilizes field replaceable 2.92mm connectors and control pins for voltage, ground and threshold adjustment, and TTL Video output. The threshold pin can support an external adjustable resistor. This module is designed to meet MIL-STD-202F Environmental Conditions.

#### Features

- High Speed Threshold Detector
- 16 GHz to 40 GHz Frequency Range
- Input Operating Range -20 to 0 dBm
- Threshold Adjustment
- Pin Max +17 dBm
- Response Time 100 ns Max
- 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	16 GHz		40 GHz	
VSWR			2.5:1	
Input Power			+17	dBm
Dynamic Range	-20		+0	dBm
Response Time			100	ns
Detected Video Output	TTL TTL="1" FOR GREATER THAN THRESHOLD TTL="0" FOR LESS THAN THRESHOLD			
DC Power Supply @ +15 Volts			+66	mA

#### Mechanical Specifications

##### Temperature

Operating Range	-20 to +55 deg C
Storage Range	-55 to +100 deg C

##### Size

Length	1 in [25.4 mm]
Width	0.62 in [15.75 mm]
Height	0.22 in [5.59 mm]
Temperature Cycle	MIL-STD-202F, METHOD 107

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Threshold Detector, 2.92mm, Video Out, 16 GHz to 40 GHz PE80T1002](#)



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Humidity  
Shock  
Vibration  
Altitude

MIL-STD-202F, METHOD 103B COND. B  
MIL-STD-202F, METHOD 213B COND. B  
MIL-STD-202F, METHOD 204D COND. B  
MIL-STD-202F, METHOD 105C COND. B

**Compliance Certifications** (visit [www.Pasternack.com](http://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.

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### Typical Performance Data

#### Return Loss



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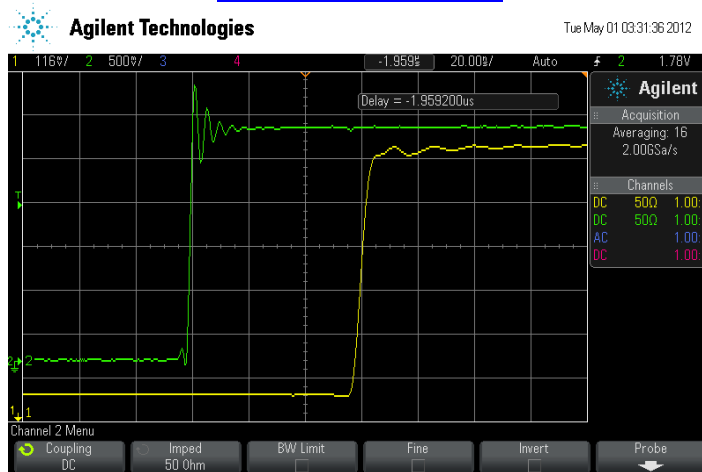
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## TECHNICAL DATA SHEET

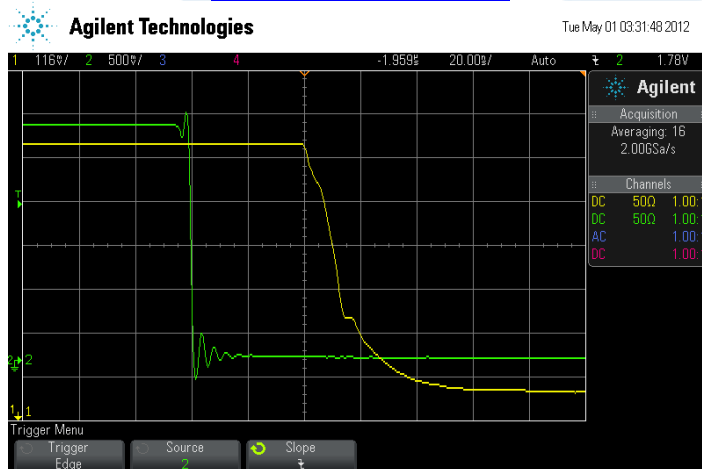
PE80T1002

### Propagation Delay

#### ON Delay (20ns per Div.)



#### OFF Delay (20ns per Div.)



Green Trace = RF Input Pulse  
Yellow Trace = TTL Output

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Threshold Detector, 2.92mm, Video Out, 16 GHz to 40 GHz from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

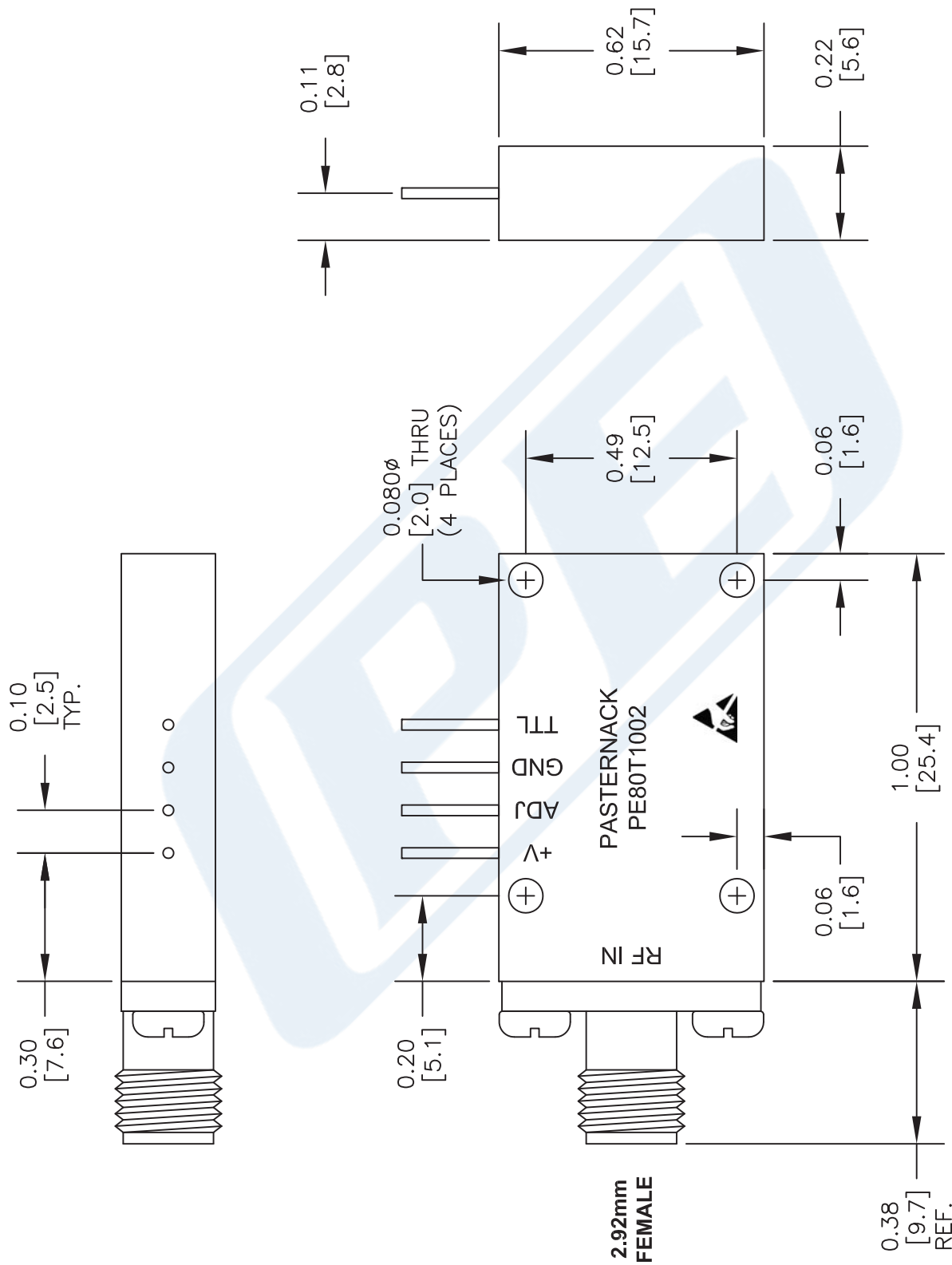
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Threshold Detector, 2.92mm, Video Out, 16 GHz to 40 GHz PE80T1002](http://www.pasternack.com/2.92mm-frequency-detector-16-40-ghz-pe80t1002-p.aspx)

URL: <http://www.pasternack.com/2.92mm-frequency-detector-16-40-ghz-pe80t1002-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.

PE80T1002 CAD Drawing

Threshold Detector, 2.92mm, Video Out, 16 GHz to 40 GHz



<div><div><div><div><div></div><div>PE</div></div></div><div><div><div>PASTERNACK®</div><div>THE ENGINEER'S RF SOURCE</div></div></div><div><div>Pasternack Enterprises, Inc.</div><div>P.O. Box 16759   Irvine   CA   92623</div><div>Phone: (949) 261-1920   Fax: (949) 261-7451</div><div>Website: <a href="http://www.pasternack.com">www.pasternack.com</a>   E-Mail: <a href="mailto:sales@pasternack.com">sales@pasternack.com</a></div></div></div></div>			DWG TITLE		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].						
PE80T1002		FSCM NO. 53919			CAD FILE	031914	SCALE	N/A	SIZE	A	150