



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

TECHNICAL DATA SHEET

PE80T1000

The PE0T1000 is a High Speed, TTL Logic Output Fixed Threshold Detector designed to Operate from 2 to 18 GHz. This Detector incorporates additional gain stages for higher input dynamic range that covers from -20 to +10 dBm, and has a fast response time of 100 ns. Max. Input Power from -20 to +10 dBm gives a TTL "1" video output. Input power from no signal to -25dBm gives a TTL "0" video output. The rugged Compact Package design utilizes field replaceable SMA connectors, voltage and ground pins. The TTL Video out put pin supports an SMA connector. This module is designed to meet MIL-STD-202F Environmental Conditions.

Features

- High Speed Threshold Detector
- 2 GHz to 18 GHz Frequency Range
- Minimum Signal Level -20 dBm @ 2 GHz -17 dBm @ 18 GHz
- Propagation Delay 15 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	2 GHz		18 GHz	
VSWR			3:1	
Input Power			+10	dBm
Threshold Variation Over Temperature		0.5		dB
Signal Level for Logic 1 @ 18 GHz		-17		dBm
Signal Level for Logic 0	-25			dBm
Dynamic Range	-20		+10	dBm
Propagation Delay from 50% of			15	ns
Propagation Delay from 50% of -17 dBm			15	ns
DC Power Supply @ +15 Volts			+100	mA
DC Power Supply @ -15 Volts			100	mA

Mechanical Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +100 deg C

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 PE80T1000](#)



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

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

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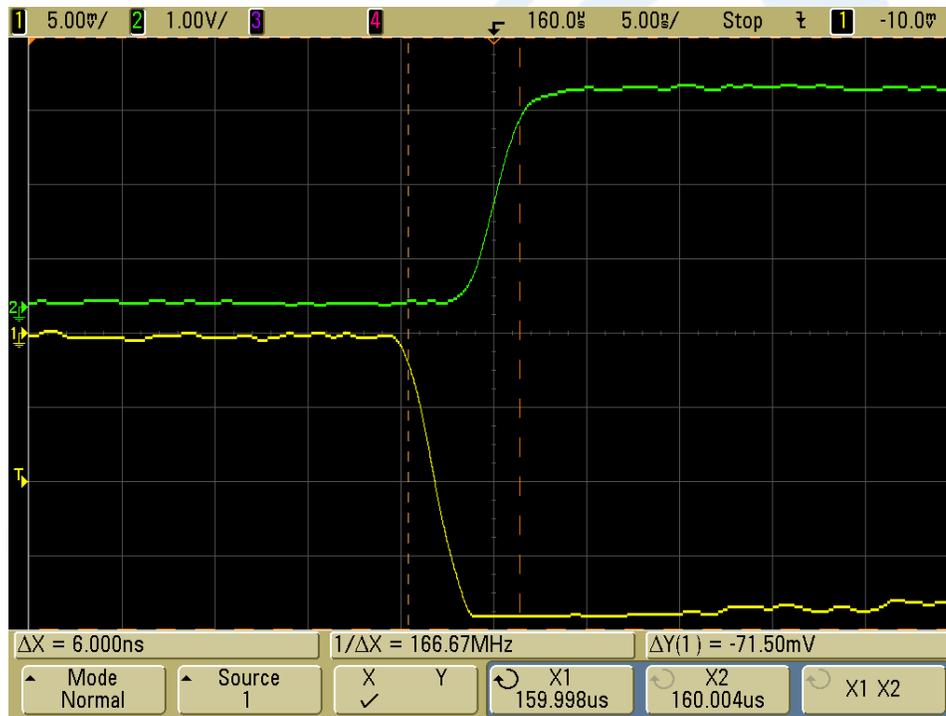
PE80T1000

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.

[On Time 50 Ohm Load](#)



[Channel 1 \(Yellow\): +6 dBm Input Power Using Crystal Detector with Negative Voltage Output \(When RF Power is present, Negative Voltage is seen\)](#)

[Channel 2 \(Green\): Video Output from Threshold Detector](#)

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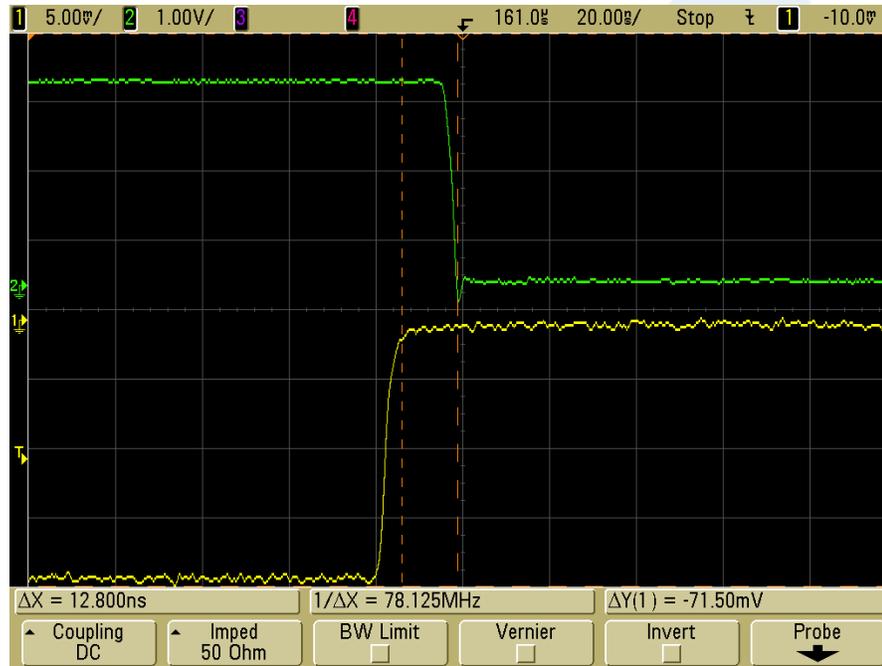


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Off Time 50 Ohm Load



Channel 1 (Yellow): +6 dBm Input Power Using Crystal Detector with Negative Voltage Output (When RF Power is present, Negative Voltage is seen)

Channel 2 (Green): Video Output from Threshold Detector

Off Time: Threshold Level is set for -20 dBm, which cannot be detected using the crystal detector, so the output does not start switching off until Channel 1 reaches virtually 0 V

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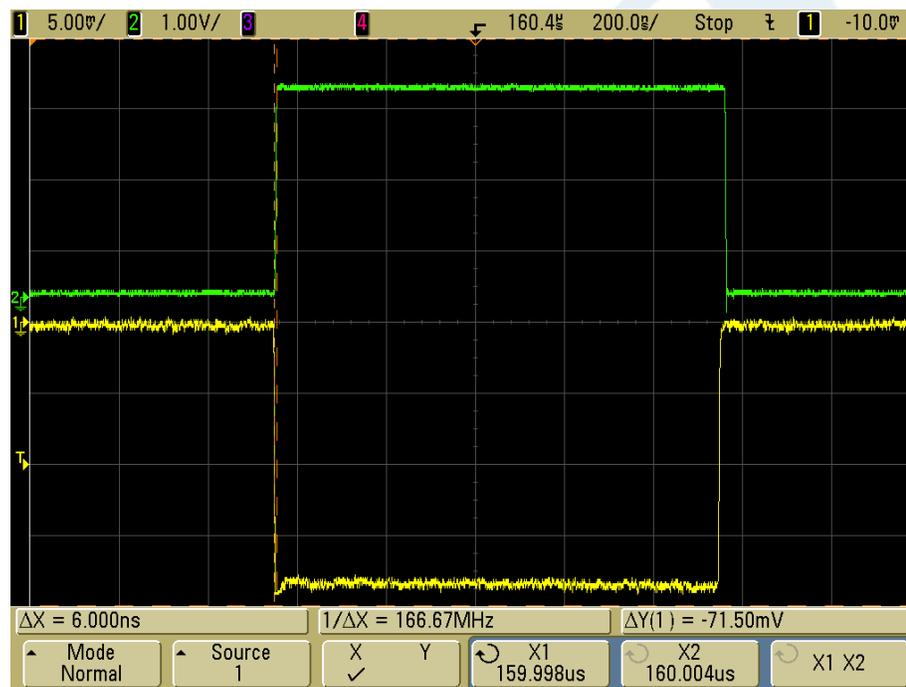


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Full Pulse 50 Ohm Load



Channel 1 (Yellow): +6 dBm Input Power Using Crystal Detector with Negative Voltage Output (When RF Power is present, Negative Voltage is seen)

Channel 2 (Green): Video Output from Threshold Detector

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