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# Tunnel Diode Detector, SMA, 5 nsec Pulse Risetime, Positive Video Out, +17 dBm max Pin, 2 GHz to 18 GHz

## Detectors Technical Data Sheet PE80T6007

The PE80T6007 is a coaxial packaged Tunnel Diode Detector that features rugged Germanium (Ge) planar construction and operates over a broadband frequency range of 2.0 to 18.0 GHz. The zero biased design features extremely low video output resistance of 125 ohms typical, and an extremely fast pulse response risetime of 5 nsec typical. Additional desirable features include excellent dynamic range with very efficient low level RF signal detection, wide video bandwidth, and excellent loaded voltage output sensitivity. The Detector exhibits an extremely stable and flat Positive Output Polarity response across a wide frequency band and has excellent temperature stability across an operating temperature range of -65°C to +115°C. Maximum CW input power handling is +17 dBm. The compact cylindrical package features an SMA male RF input connector and an SMA female Video output connector.

### Features

- Tunnel Diode Detector
- Rugged Germanium (Ge) Planar Construction
- Broadband Frequency: 0.1 to 2 GHz
- Zero Bias Design
- Positive Video Output
- Operational Temperature: -65°C to +115°C
- Extremely Fast Pulse Video Response: 5 nsec typ. risetime
- Max CW Input Power +17 dBm
- Extremely Low Video Resistance: 125 ohms typical
- SMA Male RF Input and SMA Female Video Output Connectors
- Excellent Temperature Stability
- Excellent Dynamic Range with Very Efficient Low Level Signal Detection
- Excellent Loaded Voltage Output Sensitivity

### Applications

- Transmitter Monotoring
- Radar Equipment
- Missile Guidance Systems
- Input to Low Noise Amplifiers
- ECM Receivers
- Power and Signal Monitors
- Doppler Radar and Beacon Receivers
- Test & Measurement
- Pulse Applications

### Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Frequency Range | 2 GHz | | 18 GHz | |
| VSWR | | 3.5:1 | | |
| Pulse Video Response Risetime | | 5 | | ns |
| Voltage Sensitivity | | 500 | | mV/mW |
| Flatness | | | ±1 | dB |
| Input Power | | | +17 | dBm |
| Video Output Resistance | | 125 | | Ohms |
| Video Capacitance | | 20 | | pF |
| Tangential Signal Sensitivity (TSS) | | -47 | | dBm |
| Operating Temperature Range | -65 | | +115 | deg C |

Electrical Specification Notes:
Typical values are measured at +25°C and are not guaranteed. TSS is measured with a 2 MHz video bandwidth and 2 dB NF amplifier. Input Power is 17 dBm or 3 ERG Spike Max

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Tunnel Diode Detector, SMA, 5 nsec Pulse Risetime, Positive Video Out, +17 dBm max Pin, 2 GHz to 18 GHz PE80T6007

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## Mechanical Specifications

**Size**

| | |
|---|---|
| Length | 1.21 in [30.73 mm] |
| Width | 0.81 in [20.57 mm] |

## Environmental Specifications

**Temperature**

| | |
|---|---|
| Operating Range | -65 to +115 deg C |
| Storage Range | -65 to +125 deg C |

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

## Plotted and Other Data

Notes:

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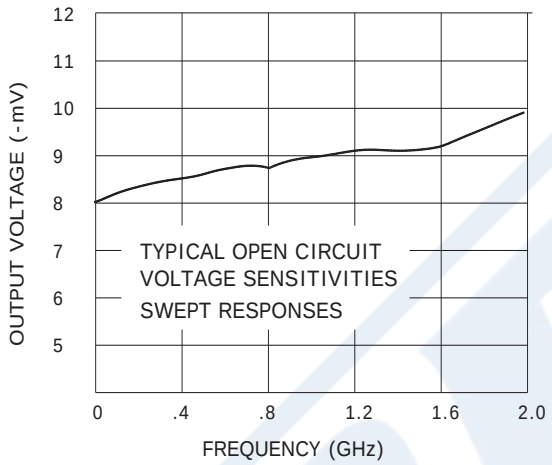


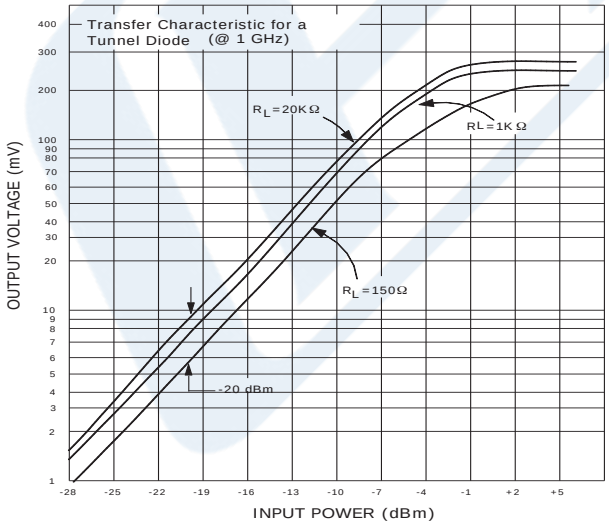
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## Typical Performance Data

Typical Performance at +25° C




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## Detectors Technical Data Sheet PE80T6007

Tunnel Diode Detector, SMA, 5 nsec Pulse Risetime, Positive Video Out, +17 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/tunnel-diode-detector-sma-positive-2-18-ghz-pe80t6007-p.aspx

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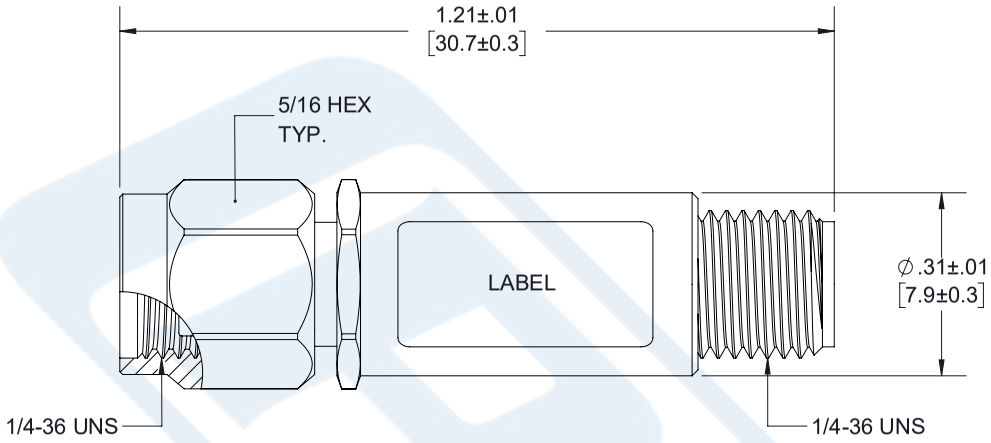
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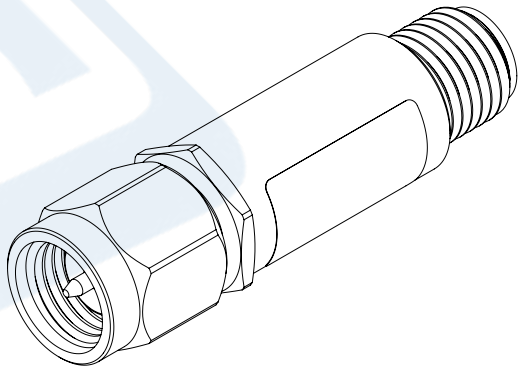
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| REVISIONS | | | |
|---|---|---|---|
| REV. | DESCRIPTION | DATE | APPROVED |
| A | INITIAL RELEASE | 01/14/19 | T.GALLA |

# PE80T6007 CAD Drawing

Tunnel Diode Detector, SMA, 5 nsec Pulse Risetime, Positive Video Out, +17 dBm max Pin, 2 GHz to 18 GHz



LABEL:

**PASTERNACK**

J1 **PE80T6007** J2

S/N: XXXXX

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LEADING DIMENSIONS ARE INCHES
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TOLERANCES:

| | |
|---|---|
| .X=± .2 [5.08] | FRACTIONS |
| .XX=± .01 [.25] | ± 1/32 |
| .XXX=± .005 [.13] | ANGLES ± 1° |

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

| SIZE | CAGE | DRAWN BY | PART NUMBER | REV |
|---|---|---|---|---|
| A | 53919 | KDANG | PE80T6007 | A |