

Tunnel Diode Detector, 12 GHz to 18 GHz, SMA, Positive Video Out, +17 dBm max Pin, 5 nsec Pulse Rise-time

The FMMT6023 is a coaxial packaged Tunnel Diode Detector that features rugged Germanium (Ge) planar construction and operates over a broadband frequency range of 12.0 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.

Electrical Specifications

| Description | Min | Typ | Max | Unit |
|-------------------------------|--------|-----|--------|-------|
| Frequency Range | 12 GHz | | 18 GHz | |
| VSWR | | 3:1 | | |
| Pulse Video Response Risetime | | 5 | | ns |
| Voltage Sensitivity | | 700 | | mV/mW |
| Flatness | | | ±0.7 | dB |
| Input Power | | | +17 | dBm |
| Video Output Resistance | | 125 | | Ohms |
| Video Capacitance | | 10 | | pF |
| 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



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 Monitoring
- 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

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Mechanical Specifications

Size

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

Environmental Specifications

Temperature

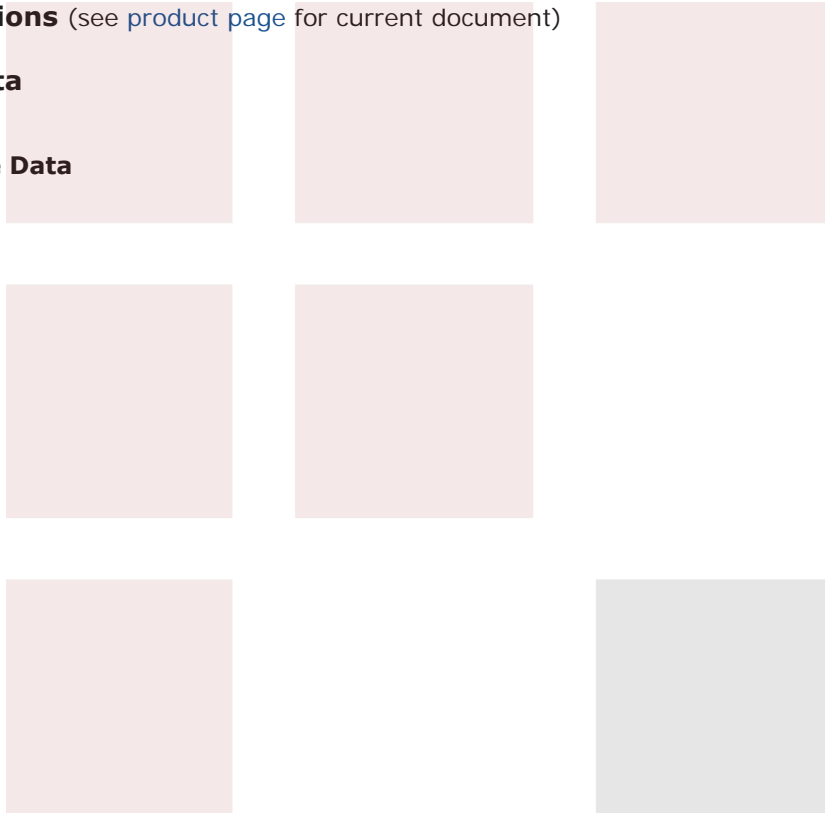
Operating Range -65 to +115 deg C
Storage Range -65 to +125 deg C

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

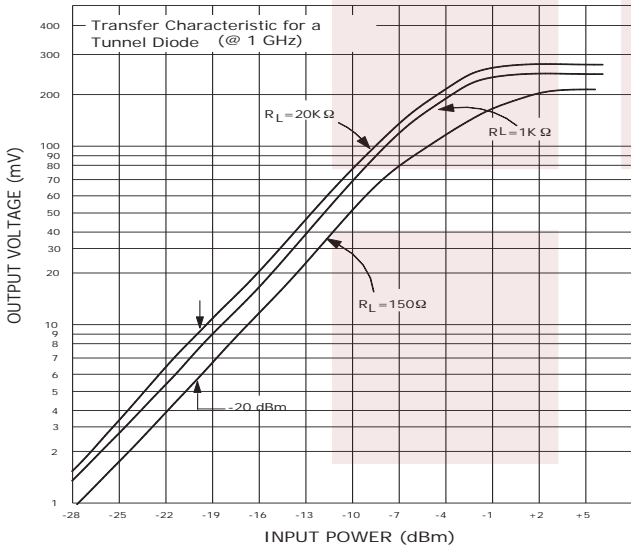
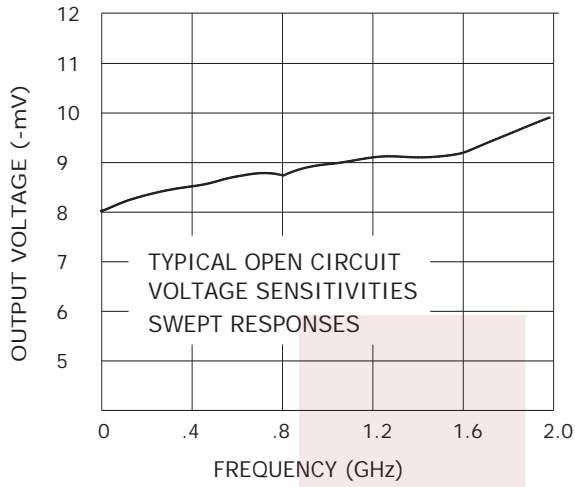
Plotted and Other Data

Notes:

Typical Performance Data



Typical Performance at +25° C

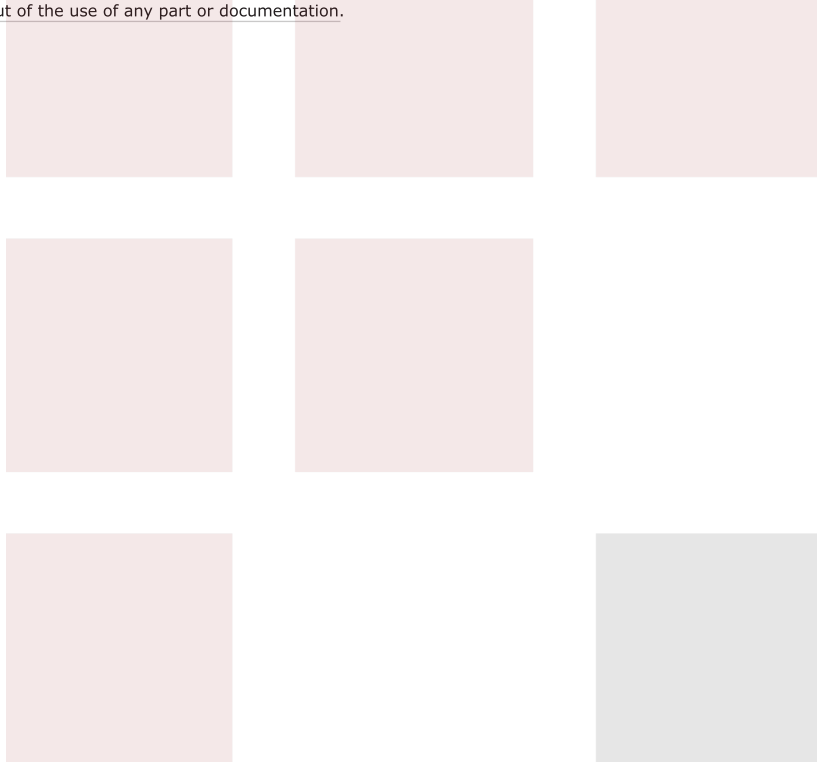


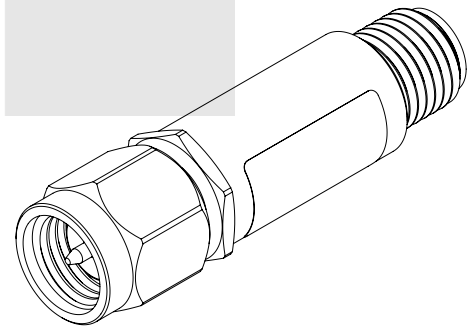
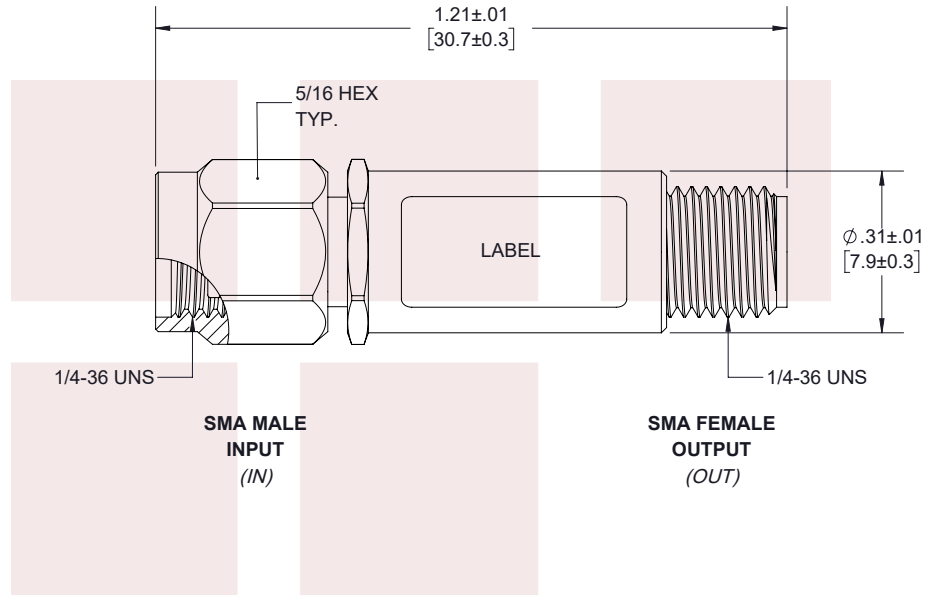
Tunnel Diode Detector, 12 GHz to 18 GHz, SMA, Positive Video Out, +17 dBm max Pin, 5 nsec Pulse Risetime from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Tunnel Diode Detector, 12 GHz to 18 GHz, SMA, Positive Video Out, +17 dBm max Pin, 5 nsec Pulse Risetime FMMT6023](#)

URL: <https://www.fairviewmicrowave.com/tunnel-diode-detector-sma-male-12-18-ghz-fmmt6023-p.aspx>

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LABEL

FAIRVIEW MICROWAVE
 IN **FMMT6023** OUT
 SN: XXXXXXXXX

STANDARD TOLERANCES
 .X ±0.2
 .XX ±0.01
 .XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



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].

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|---|---------------------------|-----------------|---------------------------|-----------|------|--|
| TITLE Tunnel Diode Detector, 12 GHz to 18 GHz, SMA, Positive Video Out, +17 dBm max Pin, 5 nsec Pulse Risetime | DWG NO FMMT6023 | | CAGE CODE 3FKR5 | | | |
| | CAD FILE 01/14/19 | SHEET 1 OF 1 | SCALE N/A | SIZE A | 7361 | |