HIGH FREQUENCY TUNNEL DETECTORS

Exceptional thermal stability and flatness vs. frequency characterize these tunnel detectors from Advanced Control Components, Inc. Several models are available which operate over all or a portion of the frequency range of 18 to 40 GHz. The temperature stability is +/- 0.3dB over the range of -65°C to +100°C. The typical output impedance is 115Ω. This allows for extremely fast video response when operating in the square law range, typically -20dBm or lower. The input power rating is +14dBm maximum.

Each detector model contains:

- DC Return
- RF Bypass Capacitor
- Detector Diode

Features:

- Exceptional Temperature Stability
- Low Video Resistance (115Ω typical)
- Broadband Performance
- No Bias Required

Applications:

- Transmitter Monitoring
- Missile Guidance Systems
- Input to Low-Noise Amplifiers
- Broadband Or Narrowband ECM Receivers
- Power and Signal Monitors
- Doppler Radar and Beacon Receivers
- Matched units available for Multi-channel Receivers, Amplitude Comparator Systems and Discriminators

Frequency Range (GHz)	Part Number	Flatness vs Frequency (+/-dB)	Minimum Output Voltage (mV)	Standard Case Styles	Optional Case Styles
18 - 26	**ACTP1799N**	0.5	4	C36	C37,M22
18 - 30	**ACTP1796N**	0.5	4	C7	C63,M22
26 - 36	**ACTP1798N**	1	4	C7	C63,M22
36 - 39	**ACTP1797N**	0.4	4	C7	C63M22
18 - 40	**ACTP1795N**	1	4	C7	C63,M22

NOTES:

1) Connectors may be removed leaving a module (M22) for stripline or microstrip mounting.

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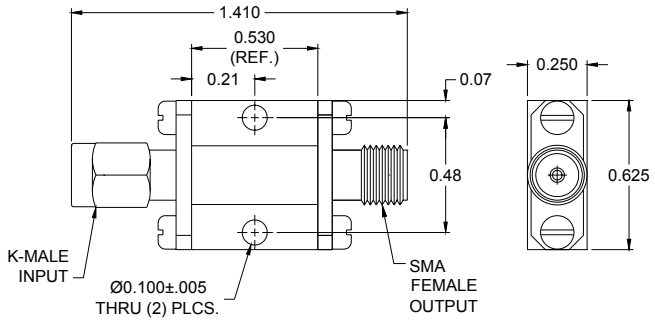
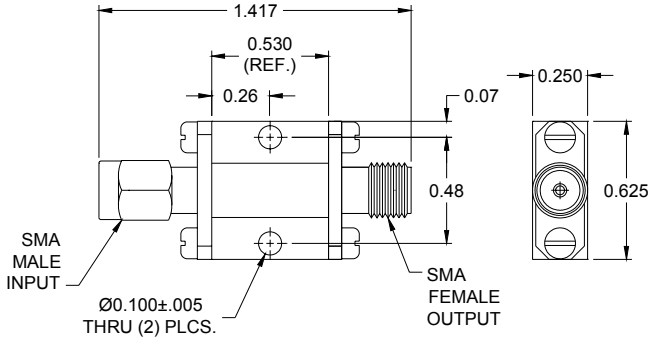
ENVIRONMENTAL SPECIFICATIONS:
MIL-E-5400, MIL-STD-202, MIL-E-16400
Operating Temp: -65°C to +100°C
Storage Temp: -65°C to +100°C
Humidity: MIL-STD-202F, M103, Cond B
Shock: MIL-STD-202F, M213, Cond B
Altitude: MIL-STD-202F, M105, Cond B
Vibration : MIL-STD-202F, M204, Cond B
Thermal Shock: MIL-STD-202F, M107, Cond A
Temperature Cycle: MIL-STD-202F, M105C, Cond D
Maximum Input Power: +14dBm
(This allows for 3dB margin from possible burnout at +17dBm)

SCREENING :
Standard Screening:
Internal Visual per MIL-STD-883, Method 2017
Temperature Cycle: -65°C to +100°C, 10 cycles
Optional High-Rel Screening (Ref MIL-PRF-38534):
Internal Visual per MIL-STD-883, Method 2017
Stabilization Bake per MIL-STD-883, Method 1008
Temperature Cycle per MIL-STD-883, Method 1010
Constant Acceleration per MIL-STD-883, Method 2001
Burn-in per MIL-STD-883, Method 1015
Leak Test per MIL-STD-883, Method 1014
External Visual per MIL-STD-883, Method 2009



CASE STYLE C7



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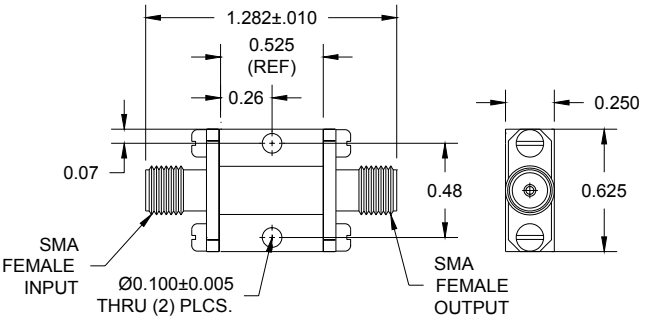

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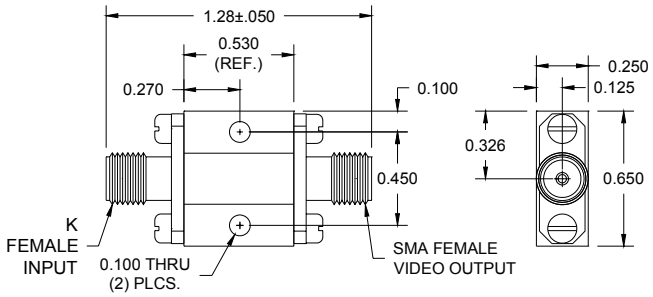

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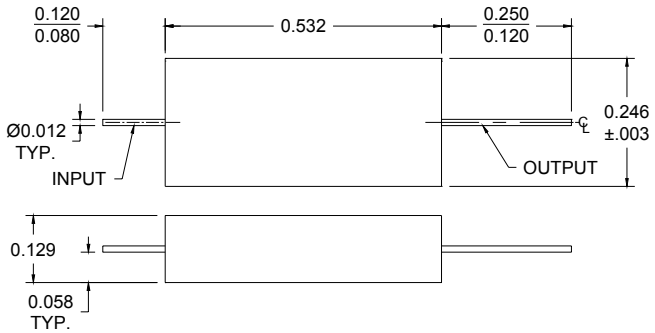

CASE STYLE M22

Part Number Ordering Information:
Example: ACTP1795NC7
ACTP1795: High Frequency Tunnel Diode Detector, 18 – 40GHz
N: Negative output polarity
C7: Package type

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