

BOLT CHANNEL SCHOTTKY DETECTORS

Static protection and easy mounting are important features of these high sensitivity detectors. They offer excellent octave or broadband RF performance and rugged construction for harsh environments. The static protection virtually eliminates damage due to handling or from video transients. The Bolt Channel package allows for very simple and reliable screw-on mounting. The modified package saves additional space by eliminating one thru hole. The standard output polarity is positive. Negative output versions are available with slightly lower sensitivity.

Each detector model contains:

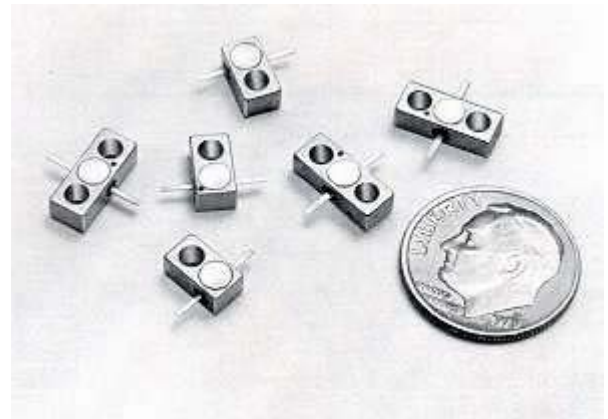
- DC return
- RF bypass capacitor
- Detector diode
- Video protection diode

Features:

- Microstrip or Stripline Compatible
- Static Protection
- High Sensitivity
- Small Size
- Easy Mounting

Applications:

- Transmitter Monitoring
- Radar Equipment
- 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 (1) Number	Minimum (5)	Flatness	Typical (2) TSS (dBm)	Nominal (3)	Standard Case Styles	Optional Case Styles
		Sensitivity K (mV/mW)	vs Frequency (+/-dB)		Video Capacitance (pF)		
0.95 - 1.25	ACSM2036P	2000	0.2	-53	20	M51	M50
1 - 1.5	ACSM2155P	1700	0.25	-52	75	M51	M50
2 - 6	ACSM2030P	2000	0.3	-53	12	M51	M50
2 - 12	ACSM2032P	2000	1.0	-52	12	M51	M50
2 - 18	ACSM2031P	1700	1.3	-51	12	M51	M50
8 - 18	ACSM2033P	1700	1.0	-51	12	M51	M50
12 - 18	ACSM2034P	1800	0.75	-51	12	M51	M50
17 - 18	ACSM2139P	1700	0.5	-51	9	M51	M50

NOTES:

- Standard output polarity is positive. If negative output is required, substitute "N" for "P" in part number.
- Tangential Signal Sensitivity (TSS) is a measure of low level sensitivity with respect to noise. It is measured using a video amplifier with a 2MHz bandwidth and a 3dB noise figure.
- Video capacitance is used for RF bypass. This value can be changed if required for video response time or other considerations. Contact the factory if value other than those shown are needed.
- Video protection is available on most models. This feature helps to prevent damage to the detector diode from incidents occurring at the video port. Transient electromagnetic spikes, static contact, or voltage surges can easily damage a detector diode. A video protection diode will clamp the voltage at a value less than the detector breakdown voltage. NOTE: Inclusion of this protection will cause the output voltage to compress and clamp. This occurs at about +10dBm input to the detector. If operation above +10dBm is required then the output protection should be modified or excluded. Adding a suffix "X" at the end of the model number will exclude the video protection feature. Contact the factory for assistance.
- Standard bias is 100uA.
- Zero bias schottky versions are available for most of listed biased schottky models with only minor differences in specifications.
 - The zero bias schottky has an impedance of several thousand ohms.
 - Zero bias schottky detectors exhibit less sensitive TSS due to the high diode impedance (typically a 3dB reduction).
 - The temperature performance of the zero bias schottky is poor when operating at low input power levels. This difference becomes small at high levels (above 0dBm input power). The part number of zero bias versions includes a "Z" following the polarity indicator.



ENVIRONMENTAL SPECIFICATIONS:

MIL-E-5400, MIL-STD-202, MIL-E-16400
 Operating Temp: -65°C to +125°C
 Storage Temp: -65°C to +150°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: +20dBm

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

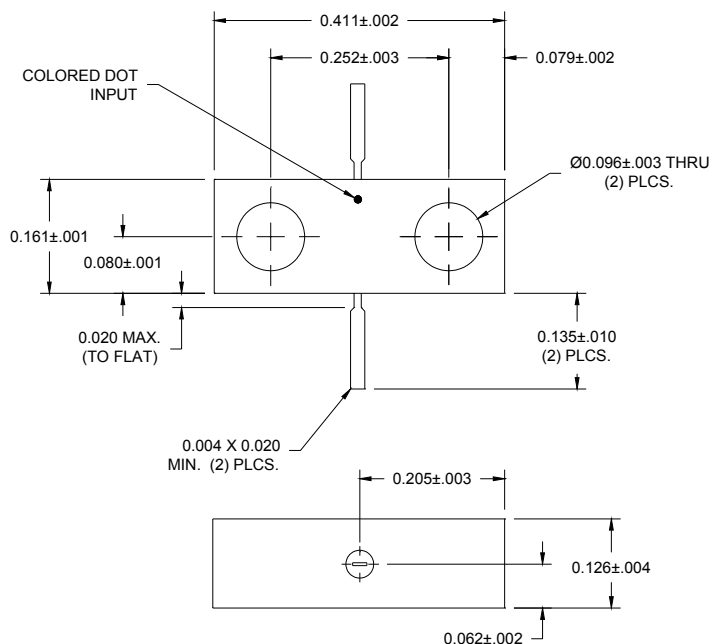
Temperature Cycle per MIL-STD-883, Method 1010

Constant Acceleration per MIL-STD-883, Method 2001

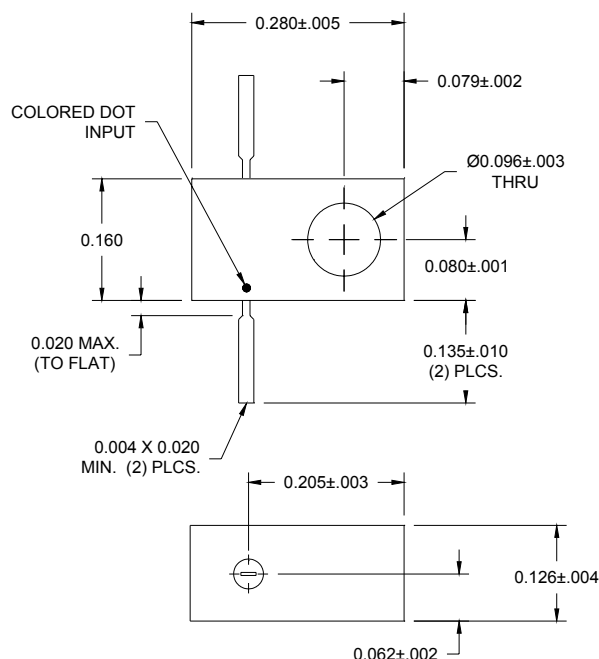
Burn-in per MIL-STD-883, Method 1015

Leak Test per MIL-STD-883, Method 1014

External Visual per MIL-STD-883, Method 2009



CASE STYLE M50



CASE STYLE M51

Part Number Ordering Information:

Example: ACSM2033PZM51X20

ACSM2033: Bolt Channel Schottky Detector, 8 - 18GHz

P: Positive output polarity

Z: Zero bias version (omit for biased version)

M51: Package type

X: No video protection (omit for inclusion of video protection)

20: 20pF custom output capacitance (omit for standard value)