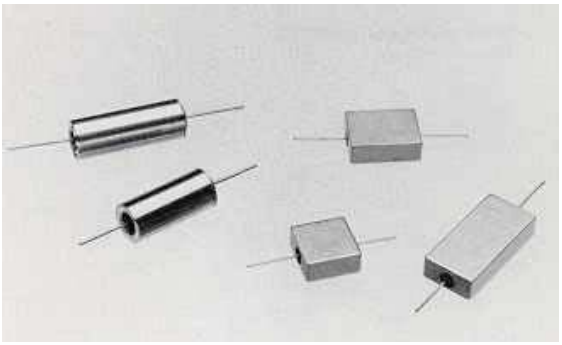
SCHOTTKY DIODE MODULE DETECTORS



High sensitivity and superior electrical and environmental reliability characterize these module detectors. They are hermetically sealed and contain internal RF matching, DC return, and RF bypass capacitor. In addition, the video port can be protected from static or transient voltages. This feature prevents damage due to handling (usually static) or system video transients. Models may be chosen for broadband RF performance or for optimized narrow bands. They may be used in microstrip or stripline applications for power monitoring, broadband ECM receivers, radar equipment, beacon or multi-channel receivers.

Each detector model contains:

- Input Impedance Matching
- DC return
- RF bypass capacitor
- Detector diode
- Video protection diode

Features:

- Static Protection
- High Sensitivity
- Small Size

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 Sensitivity K (mV/mW)	Flatness vs Frequency (+/-dB)	Typical (2) TSS (dBm)	Nominal (3) Video Capacitance (pF)	Standard Case Styles	Optional Case Styles
0.1 - 1	**ACSM2035N**	2000	0.25	-52	270	M12	M34, M35, M47
0.5 - 2	**ACSM2001N**	2000	0.4	-53	75	M12	M34, M35, M47
1 - 2	**ACSM2066N**	2000	0.2	-53	20	M12	M34,M35,M47,M50,M51
0.5 - 4	**ACSM2108N**	2000	0.4	-53	20	M12	M43, M50, M51
1 - 4	**ACSM2038N**	2000	0.4	-53	20	M12	M50, M51
2 - 4	**ACSM2002N**	2000	0.4	-53	20	M12	M50, M51
1 - 8	**ACSM2075N**	2000	0.5	-53	20	M12	—
2 - 8	**ACSM2014N**	2000	0.5	-53	20	M12	—
4 - 8	**ACSM2003N**	2000	0.4	-53	20	M12	M50, M51
2 - 12	**ACSM2007N**	2000	0.9	-52	20	M12	—
8 - 12	**ACSM2004N**	2000	0.65	-52	12	M12	—
1 - 18	**ACSM2047N**	1800	1.0	-51	20	M12	—
2 - 18	**ACSM2006N**	1800	1.0	-51	12	M12	—
8 - 18	**ACSM2015N**	1800	0.7	-52	12	M12	—
12 - 18	**ACSM2005N**	2000	0.6	-52	12	M12	—

NOTES:

1) Standard output polarity is negative. If negative output is required, substitute “P” for “N” in part number.
2) 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.
3) 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.
4) 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.
5) Zero bias schottky versions are available for most of listed biased schottky models with only minor differences in specifications.
    a. The zero bias schottky has an impedance of several thousand ohms.
    b. Zero bias schottky detectors exhibit less sensitive TSS due to the high diode impedance (typically a 3dB reduction).
    c. 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.

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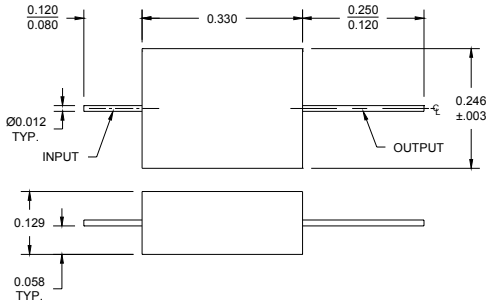
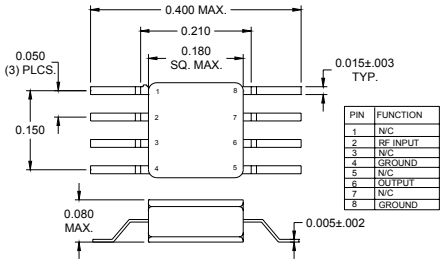
ENVIRONMENTAL SPECIFICATIONS:
MIL-E-5400, MIL-STD-202, MIL-E-16400
Operating Temp: -65°C to +125°C
Storage Temp: -65°C to +150°C
Humidity: MIL-STD-202F, M103, Cond B
Shock: MIL-STD-202F, M213, Cond B
Altitude: MIL-STD-202F, M105, Cond B
Vibration : MIL-STD-202F, M204, Cond B
Thermal Shock: MIL-STD-202F, 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 M12



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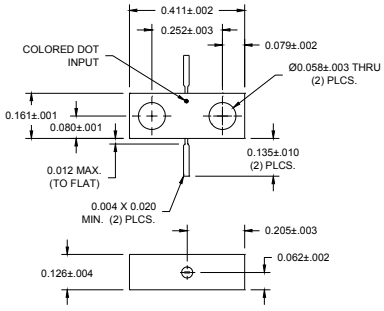
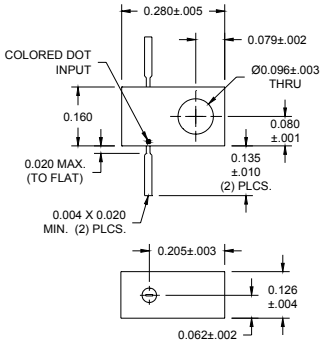


CASE STYLE M50



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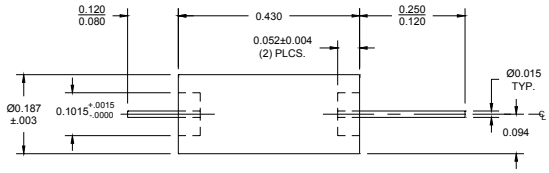

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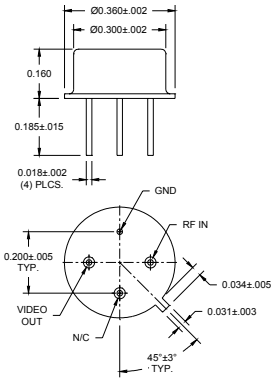
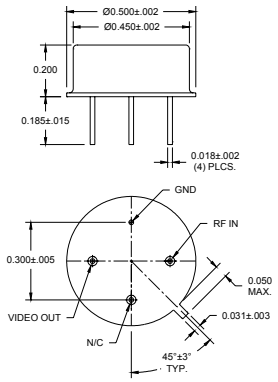


CASE STYLE M34



CASE STYLE M35

Part Number Ordering Information:

Example: ACSM2015NZM51X20
ACSM2015: Schottky Module Detector, 8 - 18GHz
N: Negative 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)

SM-0205

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