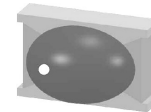


Features

- Close Matching of the Diode Characteristics
- Better Temperature Stability than Zero Bias
- Low Barrier Height
- Passivated with Silicon Nitride



Description

The MSS25-xxx-x Series of Schottky diodes are optimized for superior $1/f$ noise on P-type silicon epitaxial substrate with proprietary process. In general they require a small forward bias ($5 \sim 50 \mu\text{A}$) for small power levels below -30 dBm when used as microwave detectors. At higher powers they can be used as a Zero Bias Detectors.

Chip & Beam Lead Electrical Specifications @ $T_A = 25^\circ\text{C}$

Forward Voltage @ 1 mA = 220 - 330 mV

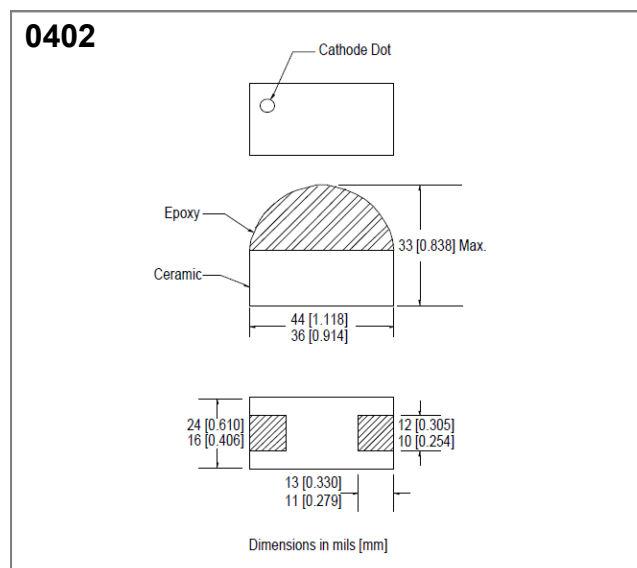
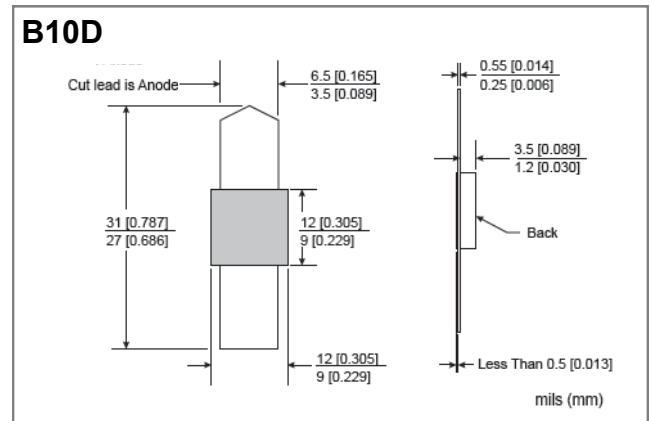
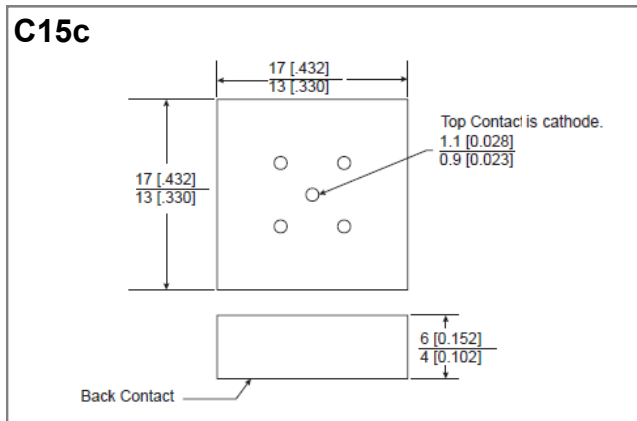
Breakdown Voltage @ 10 μA = 3 V min.

| Model | Forward Voltage (V_F) | | Junction Capacitance (C_J) | | Dynamic Resistance (R_D) | Frequency | Outline |
|------------------|---------------------------|------|--------------------------------------|------|------------------------------|-----------|---------|
| | mV | | pF | | Ω | GHz | |
| | Typ. | Max. | Typ. | Max. | Max. | Max. | |
| Chip | | | | | | | |
| MSS25-047-C15c | 260 | 300 | 0.08 | 0.10 | 65 | 18 | C15c |
| MSS25-049-C15c | 220 | 260 | 0.10 | 0.12 | 52 | 12 | C15c |
| Beam Lead | | | | | | | |
| MSS25-141-B10D | 280 | 330 | 0.06 | 0.08 | 65 | 40 | B10D |
| MSS25-143-B10D | 260 | 300 | 0.08 | 0.10 | 60 | 26 | B10D |
| MSS25-145-B10D | 220 | 260 | 0.10 | 0.12 | 52 | 18 | B10D |
| Packaged | | | | | | | |
| MSS25-141-0402 | 280 | 330 | 0.06 | 0.08 | 65 | 40 | 0402 |
| Test Conditions | $I_F = 1 \text{ mA}$ | | $V_R = 0.2 \text{ V}, 1 \text{ MHz}$ | | $I_F = 5 \text{ mA}$ | — | — |

Absolute Maximum Ratings

| Parameters | Rating |
|---------------------------------|---|
| Power Dissipation | 150 mW per junction, derated linearly to 0 @ $T_A = +150^\circ\text{C}$ |
| Operating & Storage Temperature | -65°C to $+150^\circ\text{C}$ |
| Soldering Temperature | $+230^\circ\text{C}$ for 5 seconds |

Outline Drawings



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