

MSS Series

Silicon Schottky Bridge Quad Diodes



Description

The Aeroflex / Metelics MSS CR Series of Schottky crossover quad diodes are fabricated on N-Type epitaxial substrates using proprietary processes that yield the highest FCOs in the industry. Barrier heights for LO power levels from 3 dBm to +17 dBm are available.

Features

- Available in four barrier heights
- Beam lead or packaged devices
- Hi-Rel screening per MIL-PRF-19500 and MIL-PRF-38534 available

Absolute Maximum Ratings

| Parameters | Rating |
|----------------------------------|--|
| Reverse Voltage | Rated V_{BR} |
| Forward Current | 50 mA |
| Operation Temperature | -65 °C to +150 °C |
| Storage Temperature | -65 °C to +150 °C |
| Power Dissipation | 100 mW per junction at $T_A = 25$ °C, derate linearly to zero at $T_A = +150$ °C |
| Soldering Temperature (Packaged) | + 260 °C for 5 sec. |
| Beam Lead Pull Strength | 4 grams minimum |

Beam Lead

Electrical Specifications, $T_A = 25$ °C

| Model | V_F TYP mV | V_{BR} MIN V | C_J TYP / MAX fF | NF TYP dB | R_D TYP Ω | R_D MAX Ω | Outline |
|-----------------|--------------------|----------------------|--------------------------|-----------------|--------------------------|--------------------------|---------|
| MSS30, B46-B45 | 300 | 3 | 0.10 / 0.13 | 6 | 20 | 25 | B45 |
| MSS30, B53-B45 | 270 | 3 | 0.20 / 0.25 | 6 | 10 | 15 | B45 |
| MSS40, B46-B45 | 470 | 3 | 0.10 / 0.13 | 6 | 20 | 25 | B45 |
| MSS40, B53-B45 | 430 | 3 | 0.20 / 0.25 | 6 | 10 | 15 | B45 |
| MSS50, B46-B45 | 530 | 3 | 0.10 / 0.13 | 6 | 15 | 20 | B45 |
| MSS50, B53-B45 | 500 | 3 | 0.20 / 0.25 | 6 | 10 | 15 | B45 |
| MSS60, B46-B45 | 670 | 3 | 0.10 / 0.13 | 6 | 20 | 25 | B45 |
| MSS60, B53-B45 | 670 | 3 | 0.20 / 0.25 | 6 | 13 | 18 | B45 |
| Test Conditions | $I_F = 1$ mA | $I_R = 10$ μ A | $V_R = 0$ V F = 1 MHz | | $I_F = 5$ mA | | |

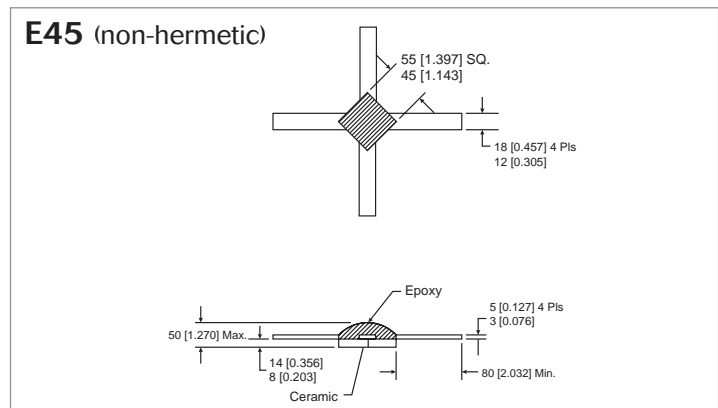
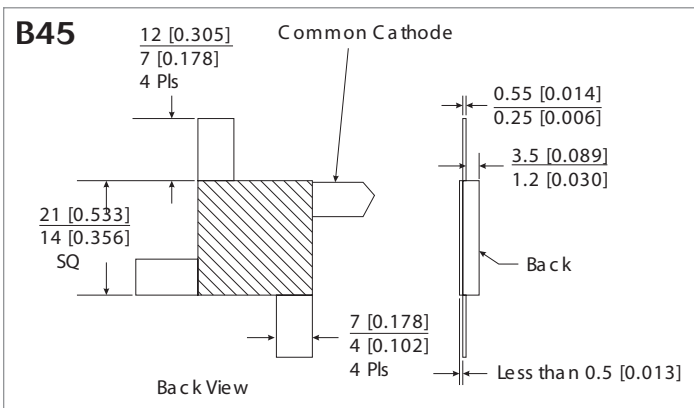


Packaged

Electrical Specifications, $T_A = 25^\circ\text{C}$

| Model | V_F TYP mV | V_{BR} MIN V | C_T TYP / MAX fF | NF TYP dB | R_D TYP Ω | R_D MAX Ω | Outline |
|-----------------|---------------------|-------------------------|--|-----------------|--------------------------|--------------------------|---------|
| MSS30, B46-E45 | 300 | 3 | 0.15 / 0.20 | 6 | 20 | 25 | E45 |
| MSS30, B53-E45 | 270 | 3 | 0.25 / 0.33 | 6 | 10 | 15 | E45 |
| MSS40, B46-E45 | 470 | 3 | 0.15 / 0.20 | 6 | 20 | 25 | E45 |
| MSS40, B53-E45 | 430 | 3 | 0.25 / 0.33 | 6 | 10 | 15 | E45 |
| MSS50, B46-E45 | 530 | 3 | 0.15 / 0.20 | 6 | 15 | 20 | E45 |
| MSS50, B53-E45 | 500 | 3 | 0.25 / 0.33 | 6 | 10 | 15 | E45 |
| MSS60, B46-E45 | 670 | 3 | 0.15 / 0.20 | 6 | 20 | 25 | E45 |
| MSS50, B60-E45 | 670 | 3 | 0.25 / 0.33 | 6 | 13 | 18 | E45 |
| Test Conditions | $I_F = 1\text{ mA}$ | $I_R = 10\ \mu\text{A}$ | $V_R = 0\text{ V}$ $F = 1\text{ MHz}$ | | $I_F = 5\text{ mA}$ | | |

Outline Drawings



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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.