

TECHNICAL DATA
DATA SHEET 4590, REV. B

HERMETIC SCHOTTKY RECTIFIER

Very Low Forward Voltage Drop

Features:

- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics

Maximum Ratings

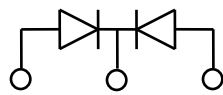
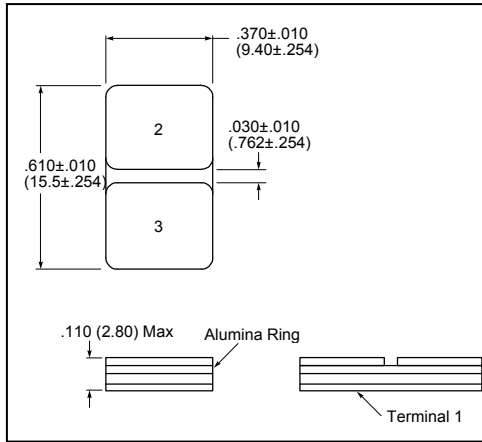
| Characteristics | Symbol | Condition | Max. | Units |
|--|-----------------|---|-------------|--------------------|
| Peak Inverse Voltage | V_{RWM} | - | 100 | V |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form (Single) | 15 | A |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form (Common Cathode) | 30 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine wave (per leg) | 280 | A |
| Non-Repetitive Avalanche Energy | E_{AS} | $T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 3.0\text{ A}$, $L = 4.4\text{ mH}$ (per leg) | 20 | mJ |
| Repetitive Avalanche Current | I_{AR} | I_{AS} decay linearly to 0 in $1\text{ }\mu\text{s}$ f limited by T_J max $V_A = 1.5V_R$ | 3.0 | A |
| Maximum Thermal Resistance | $R_{\theta JC}$ | DC operation | 0.7 | $^\circ\text{C/W}$ |
| Max. Junction Temperature | T_J | - | -65 to +200 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +200 | $^\circ\text{C}$ |

Electrical Characteristics

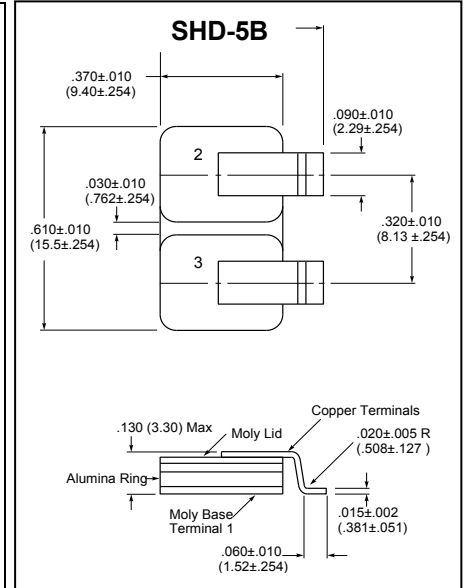
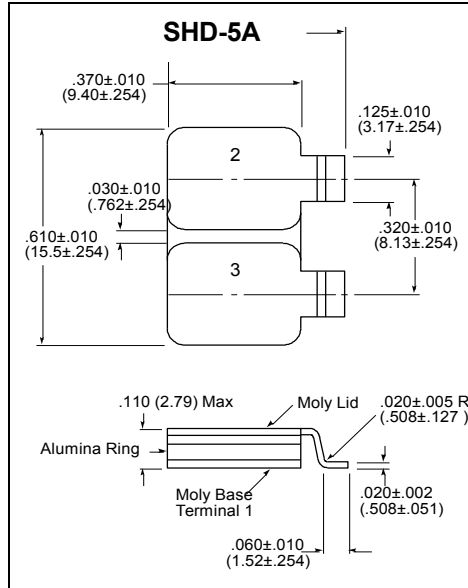
| Characteristics | Symbol | Condition | Max. | Units |
|-------------------------------------|----------|--|------|-------|
| Max. Forward Voltage Drop (per leg) | V_{F1} | @ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.84 | V |
| | V_{F2} | @ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.68 | V |
| Max. Reverse Current (per leg) | I_{R1} | @ $V_R = 100\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.1 | mA |
| | I_{R2} | @ $V_R = 100\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 1 | mA |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV}$ (p-p) | 500 | pF |

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MECHANICAL DIMENSIONS: In Inches / mm



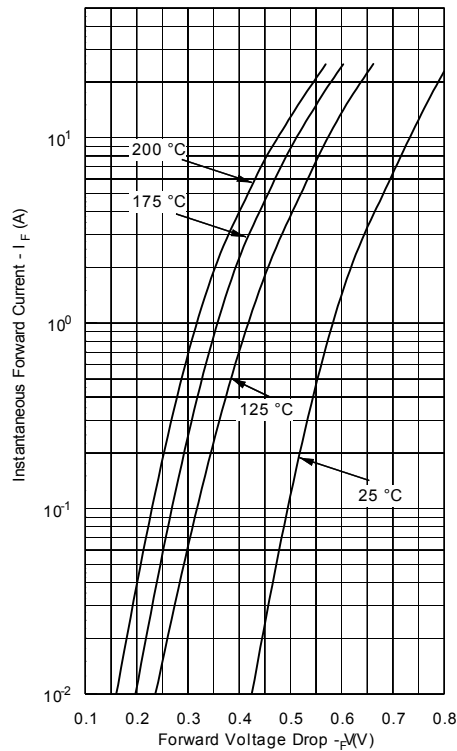
1 2 3
PINOUT TABLE



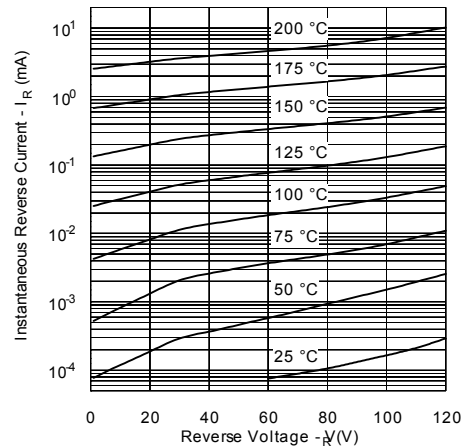
| DEVICE TYPE | PIN 1 | PIN 2 | PIN 3 |
|------------------------------------|----------------|-------|-------|
| DUAL RECTIFIER, COMMON CATHODE (P) | COMMON CATHODE | ANODE | ANODE |

Note: The V_f curves shown are for the SD125SCU100 unpackaged die only.

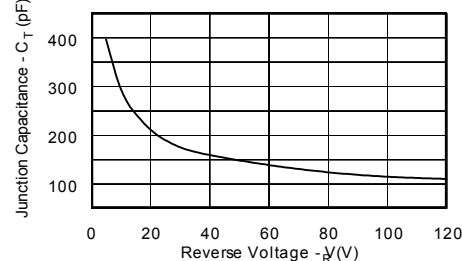
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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