

TECHNICAL DATA
DATA SHEET 4509, REV. -

POWER SCHOTTKY RECTIFIER Low Reverse Leakage

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

- Ultra Low Reverse Leakage Current
- 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} | - | 45 | V |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form | 30 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine wave (per leg) | 570 | A |
| Non-Repetitive Avalanche Energy | E_{AS} | $T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 1.3\text{ A}$, $L = 40\text{mH}$ (per leg) | 27 | mJ |
| Repetitive Avalanche Current | I_{AR} | I_{AS} decay linearly to 0 in 1 μs f limited by T_J max $V_A=1.5V_R$ | 1.3 | A |
| Thermal Resistance | R_{thJC} | Per Package | 0.50 | $^\circ\text{C/W}$ |
| Max. Junction Temperature | T_J | - | -65 to +150 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +150 | $^\circ\text{C}$ |

Electrical Characteristics:

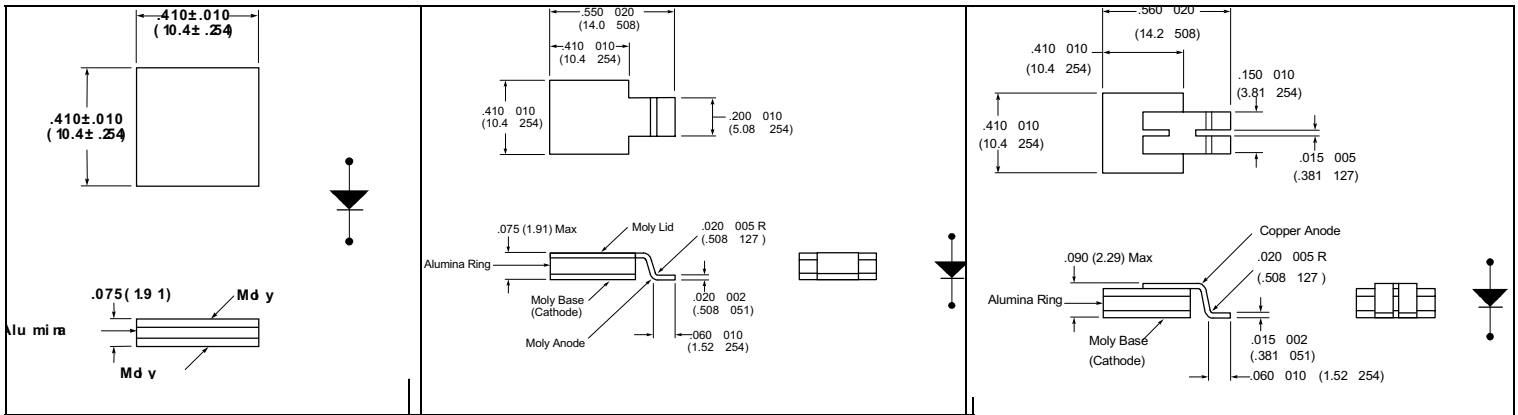
| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------|----------|--|------|-------|
| Max. Forward Voltage Drop | V_{F1} | @ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ (per leg) measured at the leads | 0.56 | V |
| | V_{F2} | @ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ (per leg) measured at the leads | 0.51 | V |
| Max. Reverse Current | I_{R1} | @ $V_R = 45\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$ (per leg) | 3 | mA |
| | I_{R2} | @ $V_R = 45\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$ (per leg) | 140 | mA |
| Max. Junction Capacitance | 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) (per leg) | 1600 | pF |

Due to the nature of the 45V Schottky devices, some degradation in t_{rr} performance at high temperatures should be expected, unlike conventional lower voltage Schottkys.

SENSITRON

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Mechanical Dimensions: in inches / mm

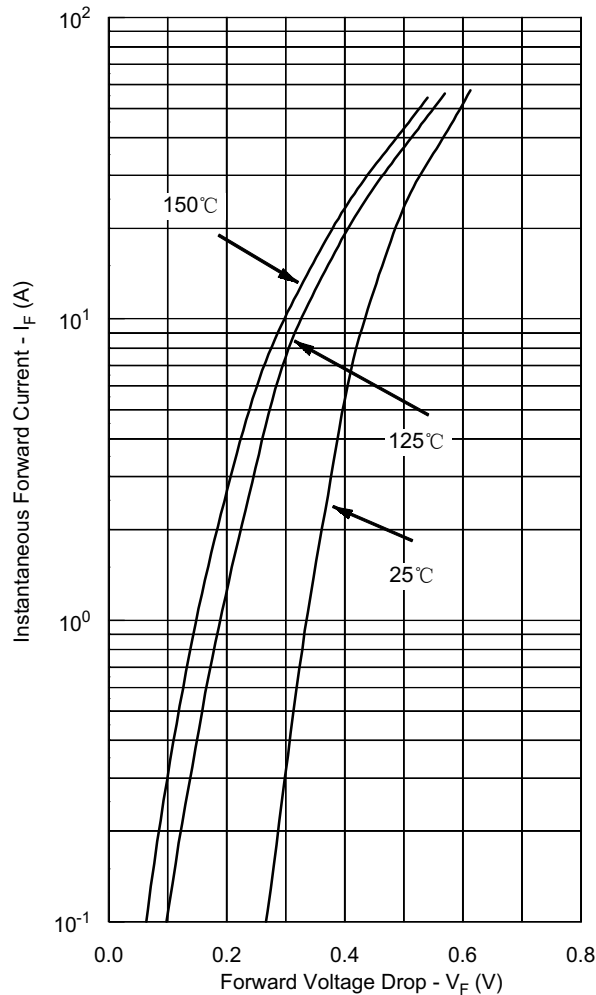


SHD-3

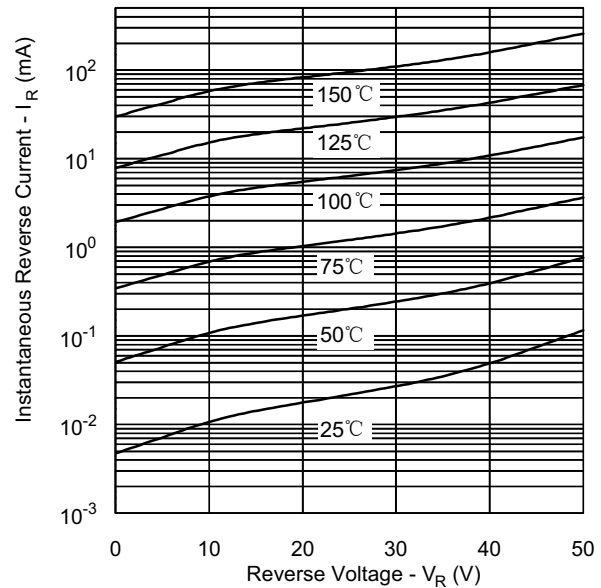
SHD-3A

SHD-3B

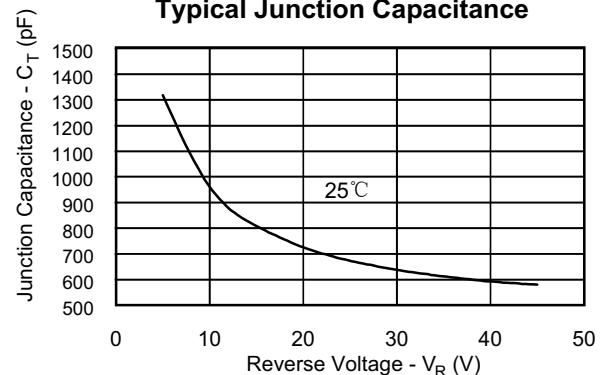
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Vf Curves shown are for die only.

TECHNICAL DATA

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