

TECHNICAL DATA
DATA SHEET 512, REV. B

SILICON SCHOTTKY RECTIFIER DIE

Very Low Forward Voltage Drop

Applications:

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

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
- Electrically / Mechanically Stable during and after Packaging

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 | 15 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine wave ⁽¹⁾ | 280 | A |
| Non-Repetitive Avalanche Energy | E_{AS} | $T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 3.0\text{ A}$, $L = 4.4\text{ mH}$ | 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 |
| Max. Junction Temperature | T_J | - | -65 to +175 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +175 | $^\circ\text{C}$ |

Electrical Characteristics:

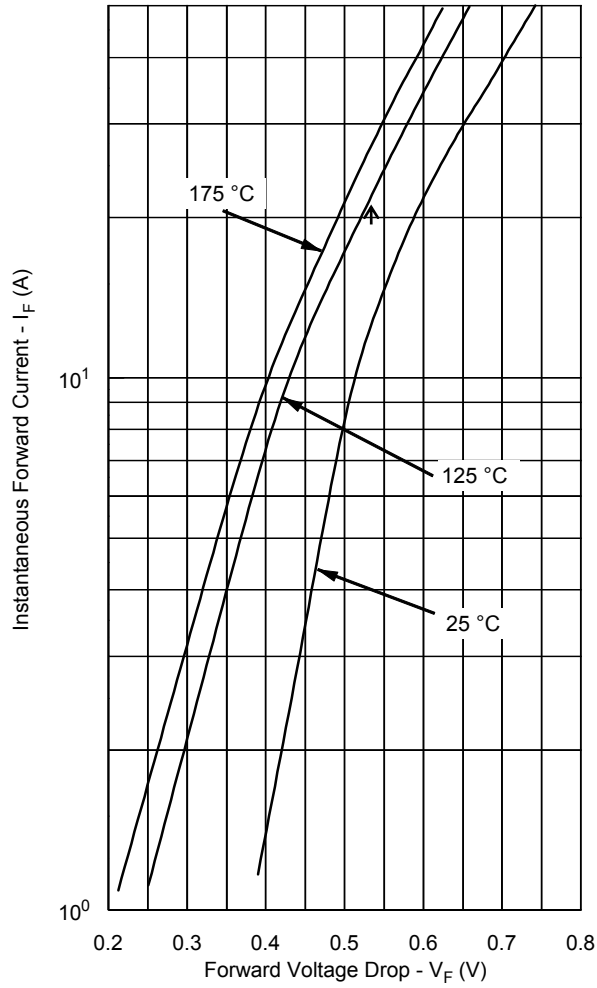
| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------|----------|--|------|---------------|
| Max. Forward Voltage Drop | V_{F1} | @ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.64 | V |
| | V_{F2} | @ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.57 | V |
| Max. Reverse Current | I_{R1} | @ $V_R = 45\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 400 | μA |
| | I_{R2} | @ $V_R = 45\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 15 | mA |
| Max. Junction Capacitance | C_T | @ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$ | 800 | pF |

(1) in SHD package

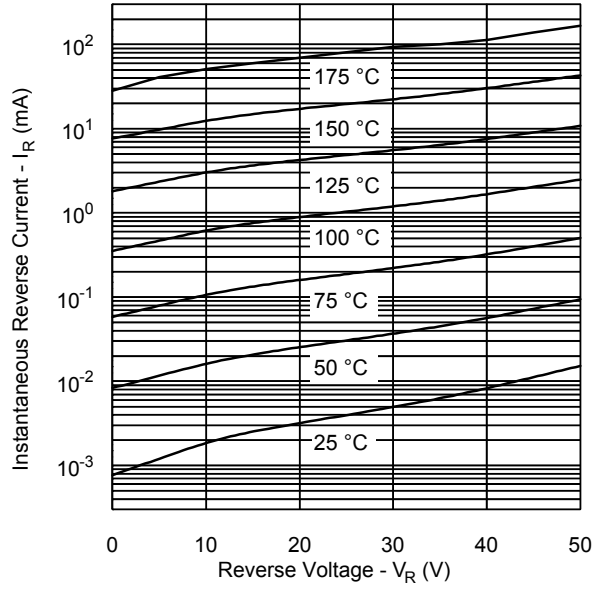
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Mechanical Dimensions: In Inches / mm

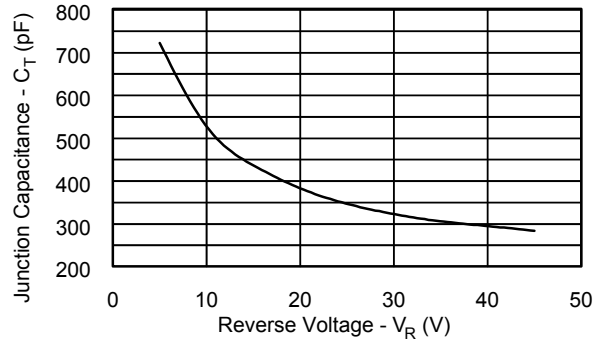
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



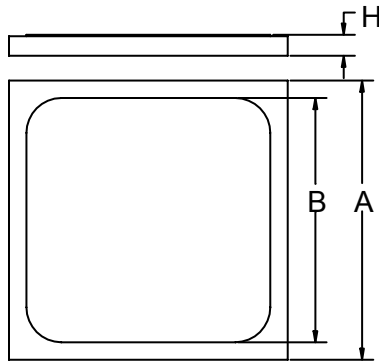
**TECHNICAL DATA
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Mechanical Dimensions: In Inches / mm


Figure 1

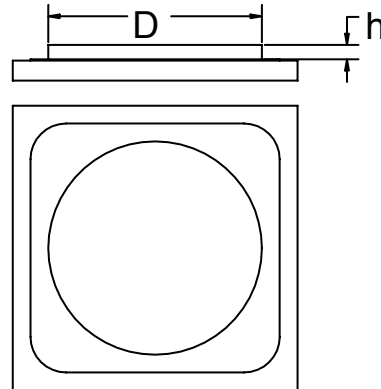


Figure 2

| A | B | D | H | h |
|-------------|-------------|-------------|--------------|-------------|
| 0.125±0.003 | 0.116±0.003 | 0.070±0.005 | 0.0155±0.001 | 0.010±0.002 |

Top side (Anode) metallization:

A = Al - 25 kÅ minimum, Figure 1

B = Ag - 30 kÅ minimum, Figure 1

C = Au - 12 kÅ min, Figure 2

Bottom side (Cathode) metallization:

A, B, C = Ti/Ni/Ag - 30 kÅ minimum.

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