

Technical Data  
Data Sheet 505, Rev.-

**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<sup>(1)</sup>:**

| Characteristics                                  | Symbol      | Condition  | Max.        | Units            |
|--|-------------|--|-------------|------------------|
| Peak Inverse Voltage                             | $V_{RWM}$   | -  | 30          | 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 <sup>(1)</sup>  | 570         | A                |
| Non-Repetitive Avalanche Energy                  | $E_{AS}$    | $T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 10\text{ A}$ ,<br>$L = 0.90\text{ mH}$      | 45          | mJ               |
| Repetitive Avalanche Current                     | $I_{AR}$    | $I_{AS}$ decay linearly to 0 in 1 $\mu\text{s}$<br>$f$ limited by $T_J$ max $V_A=1.5V_R$ | 10          | A                |
| Max. Junction Temperature                        | $T_J$       | -  | -65 to +150 | $^\circ\text{C}$ |
| Max. Storage Temperature                         | $T_{stg}$   | -  | -65 to +150 | $^\circ\text{C}$ |

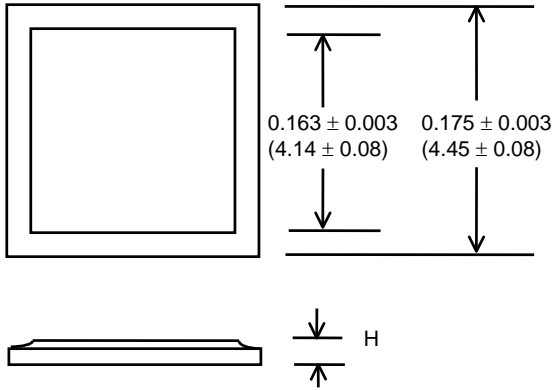
**Electrical Characteristics<sup>(1)</sup>:**

| Characteristics           | Symbol   | Condition  | Max. | Units |
|---------------------------|----------|--|------|-------|
| Max. Forward Voltage Drop | $V_{F1}$ | @ 30A, Pulse, $T_J = 25\text{ }^\circ\text{C}$   | 0.49 | V     |
|                           | $V_{F2}$ | @ 30A, Pulse, $T_J = 125\text{ }^\circ\text{C}$  | 0.39 | V     |
| Max. Reverse Current      | $I_{R1}$ | @ $V_R = 30\text{V}$ , Pulse,<br>$T_J = 25\text{ }^\circ\text{C}$  | 4.0  | mA    |
|                           | $I_{R2}$ | @ $V_R = 30\text{V}$ , Pulse,<br>$T_J = 125\text{ }^\circ\text{C}$   | 200  | mA    |
| Max. Junction Capacitance | $C_T$    | @ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$<br>$f_{SIG} = 1\text{MHz}$ ,<br>$V_{SIG} = 50\text{mV (p-p)}$ | 2200 | pF    |

(1) in SHD package

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**Mechanical Dimensions: In Inches / mm**



Bottom side metalization Ag - 30 kÅ minimum.

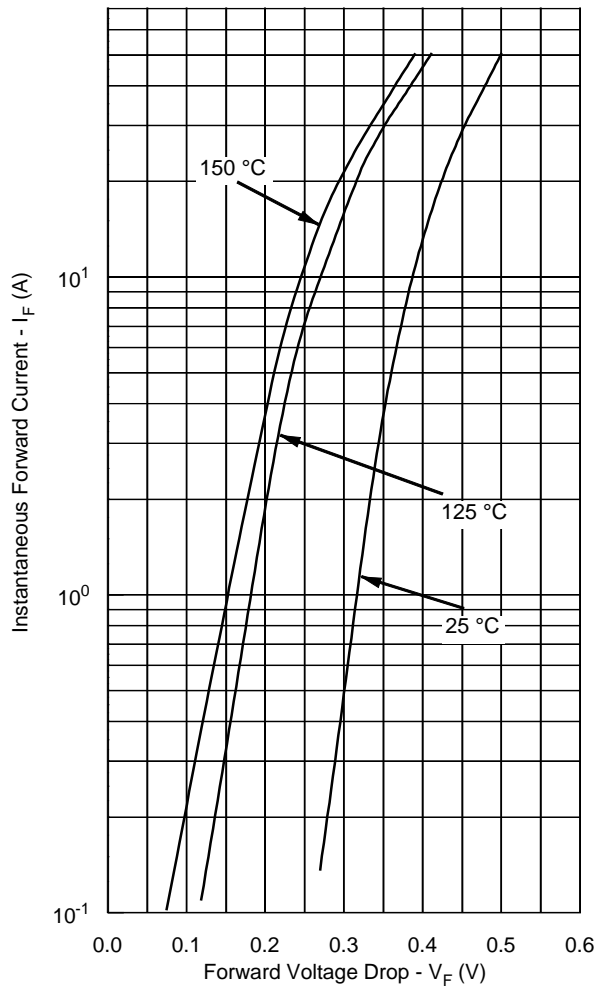
Top side metalization Al - 25 kÅ minimum or Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

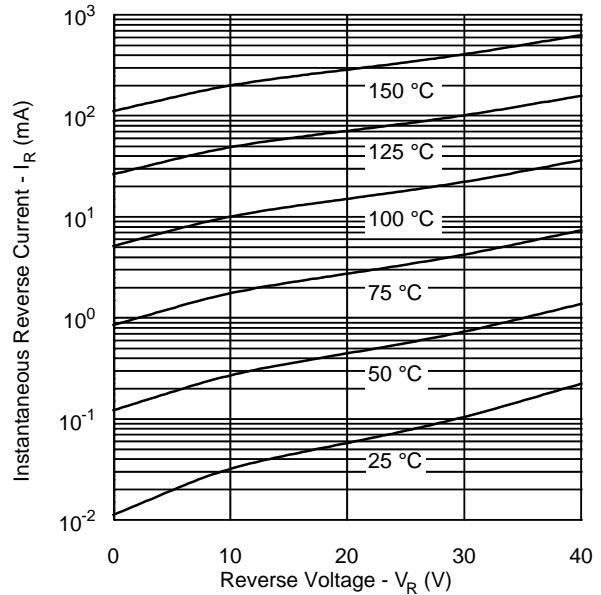
Dimension H = 0.0105 ± 0.001 (0.27 ± 0.026) for Al top;

Dimension H = 0.0155 ± 0.001 (0.39 ± 0.026) for Ag top.

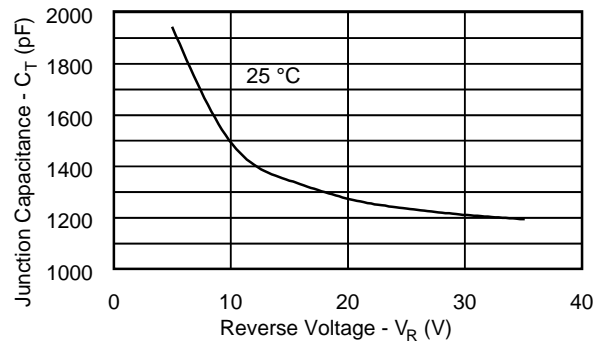
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**TECHNICAL DATA**

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