

TECHNICAL DATA
DATA SHEET 521, REV. A

SILICON SCHOTTKY RECTIFIER DIE
Very Low Forward Voltage Drop
200°C Operating Temperature

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
- Out Performs 100 Volt Ultrafast Rectifiers

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 | 30 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine wave ⁽¹⁾ | 570 | A |
| Non-Repetitive Avalanche Energy | E_{AS} | $T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 0.75\text{ A}$, $L = 40\text{ mH}$ | 11.25 | mJ |
| Repetitive Avalanche Current | I_{AR} | I_{AS} decay linearly to 0 in 1 μs f limited by T_J max $V_A=1.5V_R$ | 0.75 | A |
| Max. Junction Temperature | T_J | - | -65 to +200 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +200 | $^\circ\text{C}$ |

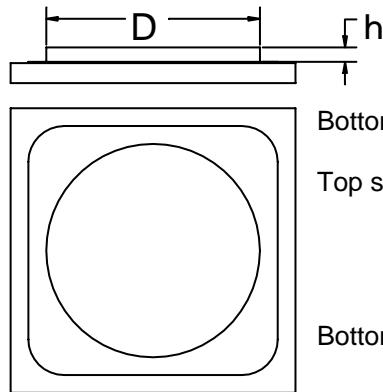
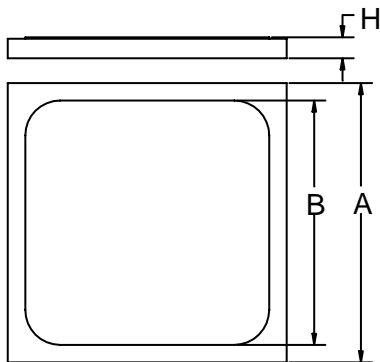
Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------|----------|--|------|---------------|
| Max. Forward Voltage Drop | V_{F1} | @ 30A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.84 | V |
| | V_{F2} | @ 30A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.68 | V |
| Max. Reverse Current | I_{R1} | @ $V_R = 100\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 750 | μA |
| | I_{R2} | @ $V_R = 100\text{V}$, 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) | 1000 | pF |

(1) in SHD package

TECHNICAL DATA
DATA SHEET 521, REV.A

Mechanical Dimensions: In Inches / mm



Bottom side metalization Ag - 30 kÅ minimum.

Top side metalization

A = Al - 25 kÅ minimum

B = Ag -30 kÅ minimum

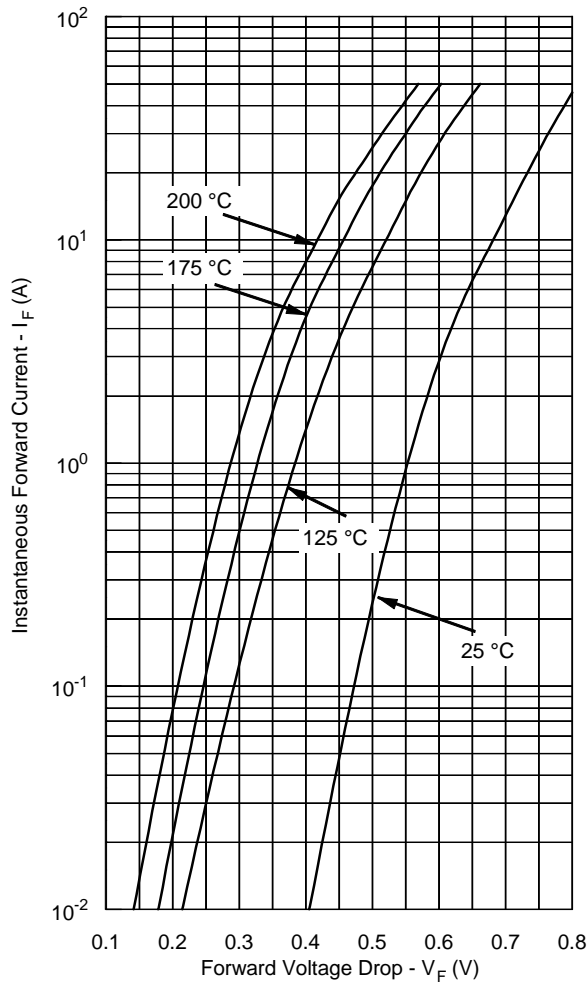
C= Au plated Ni-Moly disc with bare edge

Bottom side is cathode, top side is anode.

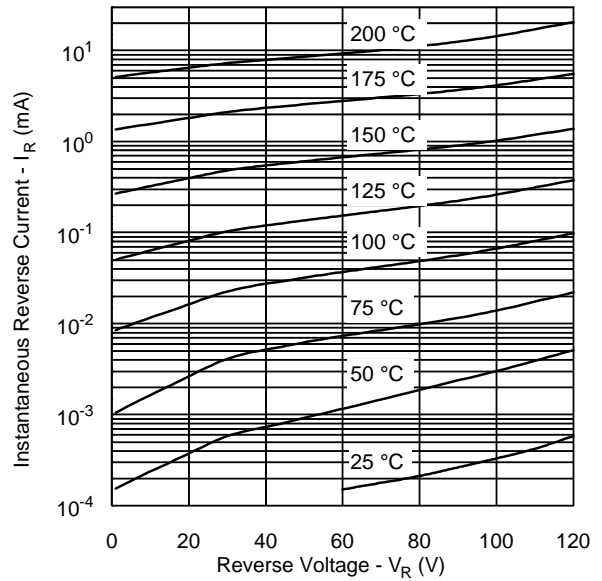
| A | B | D | H | h |
|---------------------------------|---------------------------------|--------------|--|---------------|
| 0.175 ± 0.003 (4.45 ± 0.077) | 0.163 ± 0.003 (4.14 ± 0.077) | .120 ± 0.003 | 0.0105 ± 0.001, for Al top 0.0155 ± 0.001, for Ag top | .011 ± 0.0008 |

TECHNICAL DATA
DATA SHEET 521, REV.A

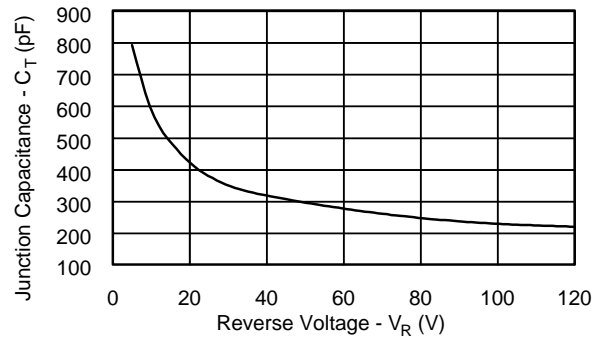
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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