

## SEMICONDUCTOR

TECHNICAL DATA  
DATA SHEET 516, 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	1	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine wave <sup>(1)</sup>	20	A
Non-Repetitive Avalanche Energy	$E_{AS}$	$T_J = 25\text{ }^{\circ}\text{C}$ , $I_{AS} = 0.13\text{ A}$ , $L = 227\text{ mH}$	2.0	mJ
Repetitive Avalanche Current	$I_{AR}$	$I_{AS}$ decay linearly to 0 in 1 $\mu\text{s}$ $f$ limited by $T_J$ max $V_A = 1.5V_R$	0.13	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:

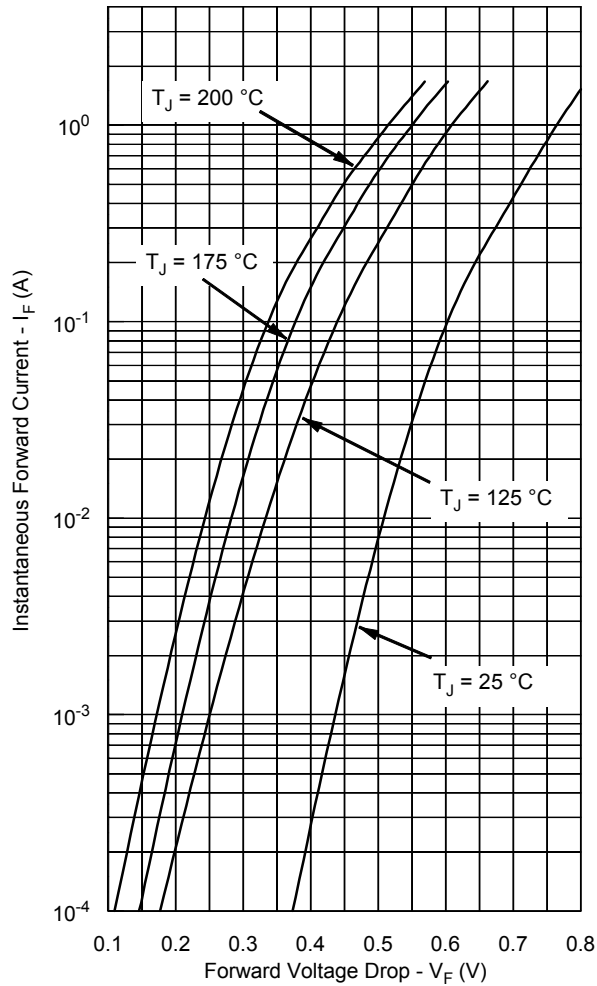
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 1A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.84	V
	$V_{F2}$	@ 1A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	0.68	V
Max. Reverse Current	$I_{R1}$	@ $V_R = 100\text{ V}$ , Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	30	$\mu\text{A}$
	$I_{R2}$	@ $V_R = 100\text{ V}$ , Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	0.6	mA
Max. Junction Capacitance	$C_T$	@ $V_R = 5\text{ V}$ , $T_C = 25\text{ }^{\circ}\text{C}$ $f_{SIG} = 1\text{ MHz}$ , $V_{SIG} = 50\text{ mV (p-p)}$	35	pF

(1) in SHD package

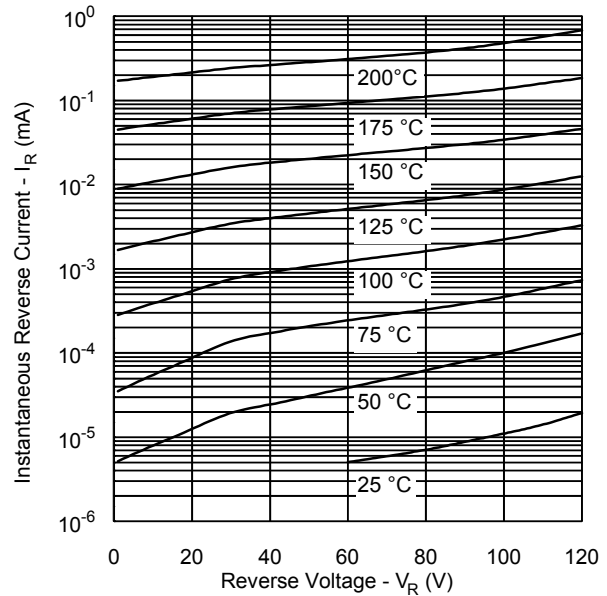
## SENSITRON

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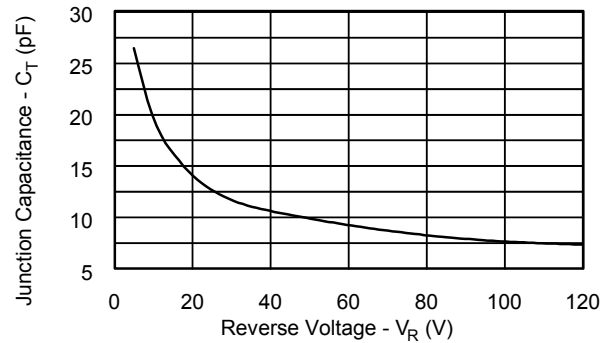
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



## SENSITRON

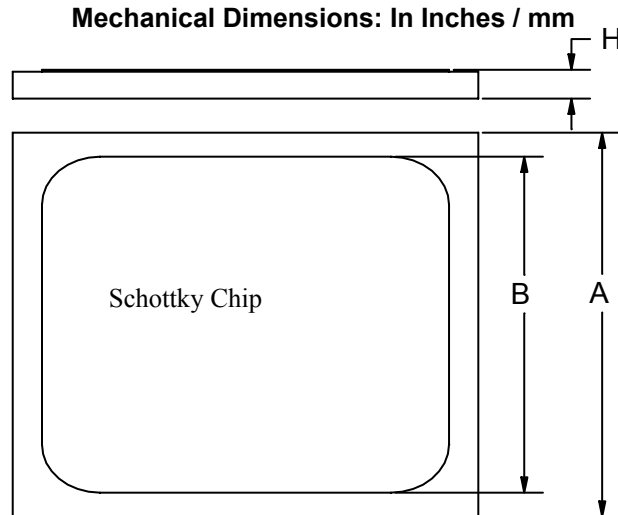
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Figure 1

A	B	H
0.040±0.003	0.034±0.003	0.0105±0.001 (Al Top) 0.0155±0.001 (Ag Top)

Top side (Anode) metallization:

A = Al - 25 kÅ minimum, Figure 1

B = Ag - 30 kÅ minimum, Figure 1

Bottom side (Cathode) metallization:

A, B = Ti/Ni/Ag - 30 kÅ minimum.

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