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**SEMICONDUCTOR**


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TECHNICAL DATA  
DATA SHEET 312, REV. A

## SILICON SCHOTTKY RECTIFIER DIE

### Ultra-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
- Electrically / Mechanically Stable during and after Packaging
- Out Performs 200 Volt Ultra Fast Rectifiers

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	200	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 <sup>(1)</sup>	280	A
Non-Repetitive Avalanche Energy	$E_{AS}$	$T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 0.6\text{ A}$ , $L = 40\text{ mH}$	11.4	mJ
Repetitive Avalanche Current	$I_{AR}$	$I_{AS}$ decay linearly to 0 in $1\text{ }\mu\text{s}$ $f$ limited by $T_J$ max $V_A = 1.5V_R$	0.6	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:**

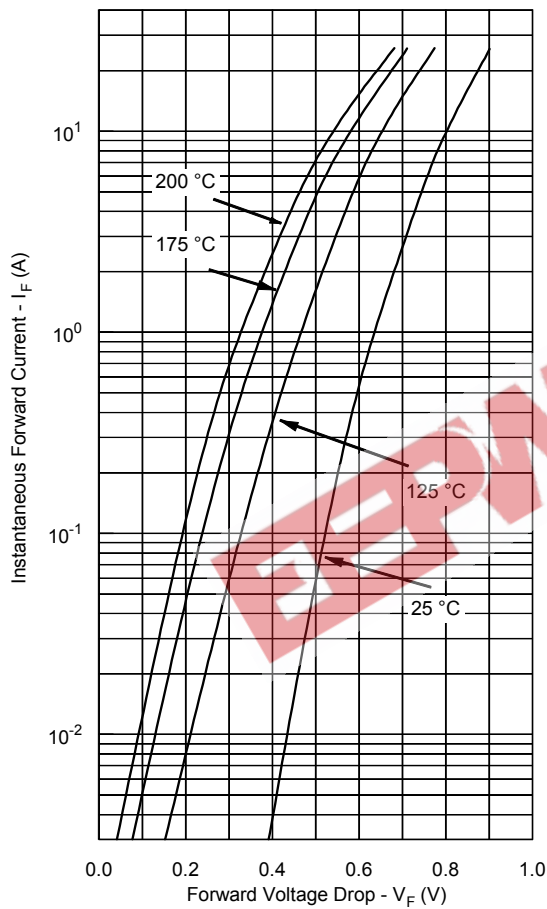
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.92	V
	$V_{F2}$	@ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.76	V
Max. Reverse Current	$I_{R1}$	@ $V_R = 200\text{ V}$ , Pulse, $T_J = 25\text{ }^\circ\text{C}$	15	$\mu\text{A}$
	$I_{R2}$	@ $V_R = 200\text{ V}$ , Pulse, $T_J = 125\text{ }^\circ\text{C}$	1.0	mA
Max. Junction Capacitance	$C_T$	@ $V_R = 5\text{ V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$ , $V_{SIG} = 50\text{ mV (p-p)}$	300	pF
Max. Reverse Recovery Time	$t_{rr}$	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RM} = 0.25\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$	16	nsec

(1) in SHD package

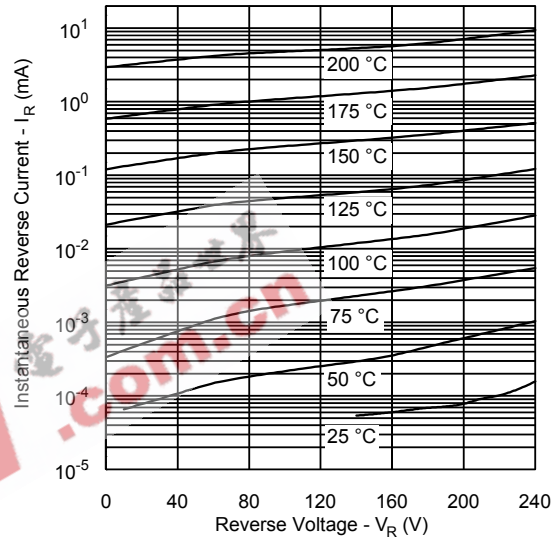
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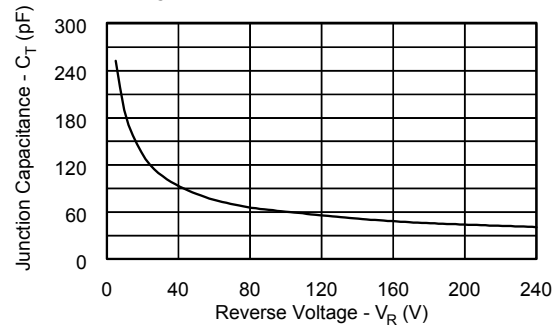
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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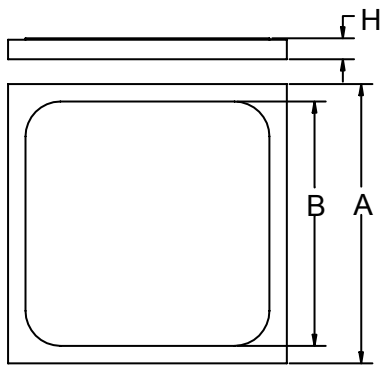
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**Mechanical Dimensions: In Inches / mm**


Figure 1

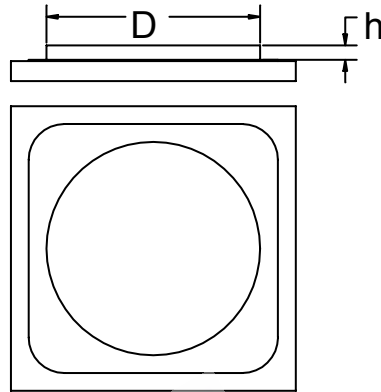


Figure 2

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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