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**SEMICONDUCTOR**


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TECHNICAL DATA  
DATA SHEET 507, REV. A

## 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	$V_{RWM}$	-	30	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	120	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine wave <sup>(1)</sup>	1650	A
Non-Repetitive Avalanche Energy	$E_{AS}$	$T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 16.9\text{ A}$ , $L = 0.53\text{ mH}$	76	mJ
Repetitive Avalanche Current	$I_{AR}$	$I_{AS}$ decay linearly to 0 in $1\text{ }\mu\text{s}$ $f$ limited by $T_J$ max $V_A=1.5V_R$	16.9	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:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 120A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.53	V
	$V_{F2}$	@ 120A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.43	V
Max. Reverse Current	$I_{R1}$	@ $V_R = 30\text{V}$ , Pulse, $T_J = 25\text{ }^\circ\text{C}$	12	mA
	$I_{R2}$	@ $V_R = 30\text{V}$ , Pulse, $T_J = 125\text{ }^\circ\text{C}$	600	mA
Max. Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ , $V_{SIG} = 50\text{mV (p-p)}$	6600	pF

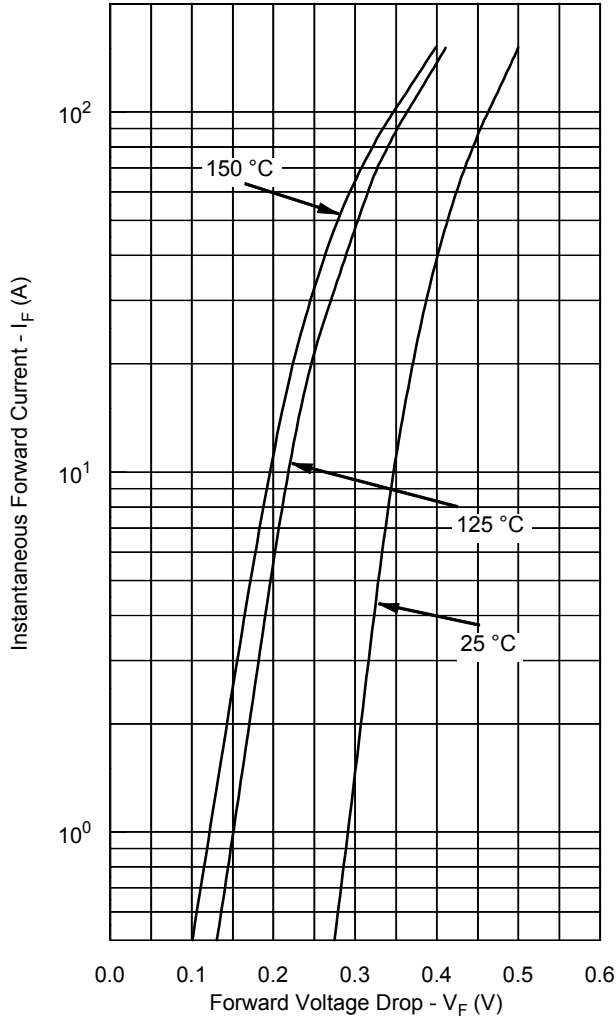
(1) in SHD package

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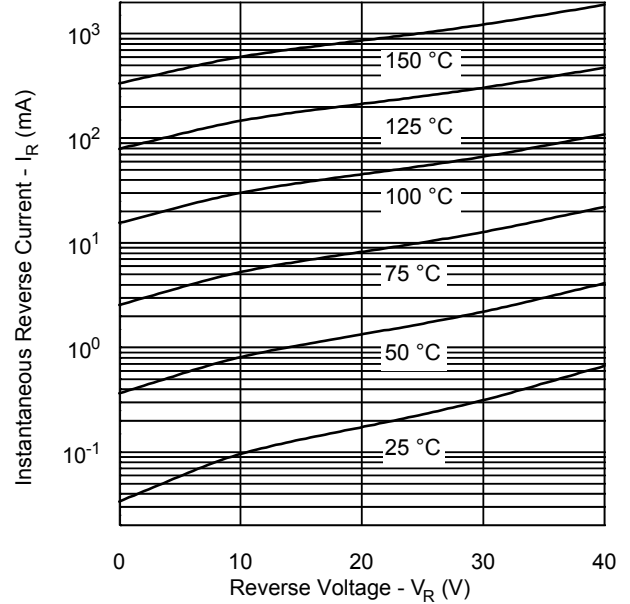
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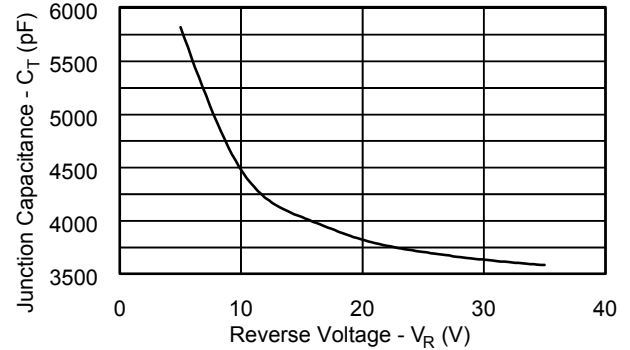
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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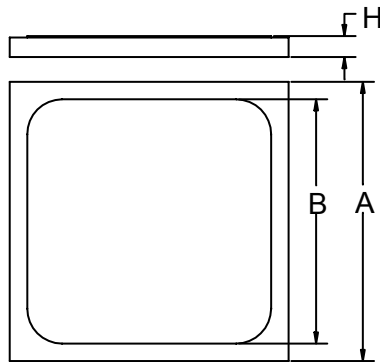
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**Mechanical Dimensions: In Inches / mm**


Figure 1

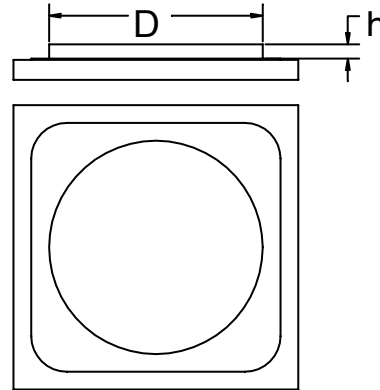


Figure 2

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.

A	B	D	H	h
0.275±0.003	0.267±0.003	0.220±0.005	0.0155±0.001	0.011±0.002

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