## **SEMICONDUCTOR**

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 <sub>F(AV)</sub>	50% duty cycle, rectangular wave form	120	Α
Max. Peak One Cycle Non-	I <sub>FSM</sub>	8.3 ms, half Sine wave (1)	1650	Α
Repetitive Surge Current				
Non-Repetitive Avalanche	E <sub>AS</sub>	$T_J = 25  ^{\circ}\text{C}, I_{AS} = 16.9  \text{A},$	76	mJ
Energy		L = 0.53 mH		
Repetitive Avalanche Current	I <sub>AR</sub>	I <sub>AS</sub> decay linearly to 0 in 1 μs	16.9	Α
		f limited by T <sub>J</sub> max V <sub>A</sub> =1.5V <sub>R</sub>		
Max. Junction Temperature	TJ	-	-65 to +150	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-65 to +150	°C

### **Electrical Characteristics:**

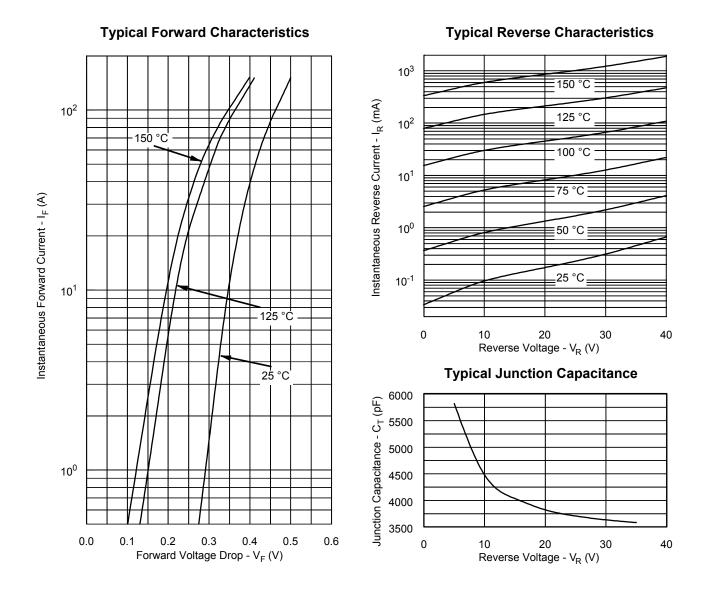
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 120A, Pulse, T <sub>J</sub> = 25 °C	0.53	V
	$V_{F2}$	@ 120A, Pulse, T <sub>J</sub> = 125 °C	0.43	V
Max. Reverse Current	I <sub>R1</sub>	@V <sub>R</sub> = 30V, Pulse,	12	mA
		T <sub>J</sub> = 25 °C		
	I <sub>R2</sub>	@V 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

(1) in SHD package

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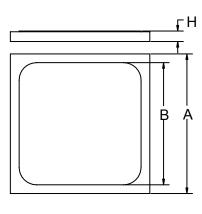
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#### Mechanical Dimensions: In Inches / mm



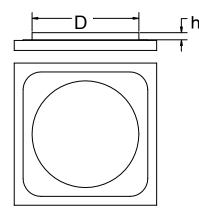


Figure 1

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	В	D	Н	h
0.275±0.003	0.267±0.003	$0.220\pm0.005$	0.0155±0.001	0.011±0.002

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