Technical Data Data Sheet 4940, Rev. A

SILICON SCHOTTKY RECTIFIER DIE Extremely 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⁽¹⁾:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	15	V
Max. Average Forward Current	I _{F(AV)}	50% duty cycle, rectangular wave form	60	А
Max. Peak One Cycle Non- Repetitive Surge Current	I _{FSM}	8.3 ms, half Sine wave	860	А
Non-Repetitive Avalanche Energy	E _{AS}	$T_J = 25 ^{\circ}\text{C}, I_{AS} = 12 \text{A}, \\ L = 0.75 \text{mH}$	54	mJ
Repetitive Avalanche Current	I _{AR}	I_{AS} decay linearly to 0 in 1 μ s f limited by T_J max V_A =1.5 V_R	12	А
Max. Junction Temperature	T_J	-	-65 to +100	°C
Max. Storage Temperature	T _{stg}	-	-65 to +100	°C

Electrical Characteristics(1):

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 60A, Pulse, T _J = 25 °C	0.41	V
	V_{F2}	@ 60A, Pulse, T _J = 100 °C	0.37	V
Max. Reverse Current	I _{R1}	@V _R = 15V, Pulse,	20	mA
		T _J = 25 °C		
	I _{R2}	@V _R = 15V, Pulse,	1000	mA
		T _J = 100 °C		
Max. Junction Capacitance	C _T	$@V_R = 5V, T_C = 25 ^{\circ}C$	3600	pF
		$f_{SIG} = 1MHz,$		
		$V_{SIG} = 50 \text{mV (p-p)}$		

⁽¹⁾ in SHD package

Technical Data

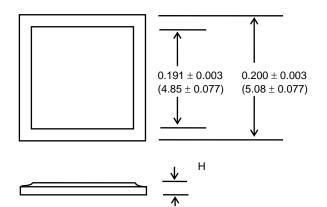
^{• 221} West Industry Court ☐ Deer Park, NY 11729-4681 ☐ (631) 586-7600 FAX (631) 242-9798 •

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Mechanical Dimensions: In Inches / mm



Bottom side metalization Ag - 30 kÅ minimum.

Top side metalization Al - 25 kÅ minimum or Ag - 30 kÅ minimum.

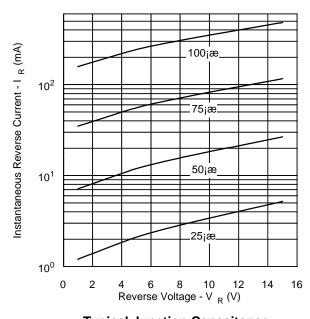
Bottom side is cathode, top side is anode.

Dimension H = 0.0105 \pm 0.001 (0.27 \pm 0.026) for Al top; Dimension H = 0.0155 \pm 0.001 (0.39 \pm 0.026) for Ag top.

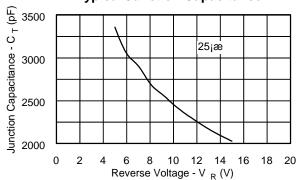
Typical Forward Characteristics

10⁻¹ 100_iæ 100_iæ 75_iæ 100_iæ 25_iæ 0.0 0.1 0.2 0.3 0.4 Forward Voltage Drop - V _F (V)

Typical Reverse Characteristics



Typical Junction Capacitance



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SD200SD15A/B/C

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