

Technical Data
Data Sheet 4937, Rev. -

Ultra Fast $T_{rr} < 24$ nsec
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 Reverse Leakage Current
- 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}	-	200	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	30	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine wave ⁽¹⁾	570	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 0.75\text{ A}$, $L = 40\text{mH}$	16	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in 1 μs f limited by T_J max $V_A=1.5V_R$	0.75	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⁽¹⁾:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 30A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.92	V
	V_{F2}	@ 30A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.76	V
Max. Reverse Current	I_{R1}	@ $V_R = 200\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$	700	μA
	I_{R2}	@ $V_R = 200\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$	16	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)	600	pF
Max. Reverse Recovery Time	t_{rr}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RM} = 0.25\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$	24	nsec

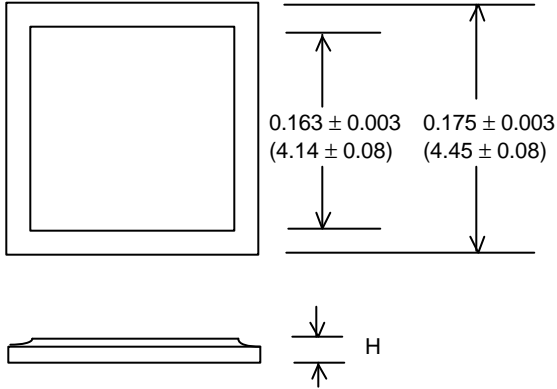
(1) in SHD package

SENSITRON SEMICONDUCTOR

SD175SC200A/B/C

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Mechanical Dimensions: In Inches / mm



Bottom side metalization Ag - 30 kÅ minimum.

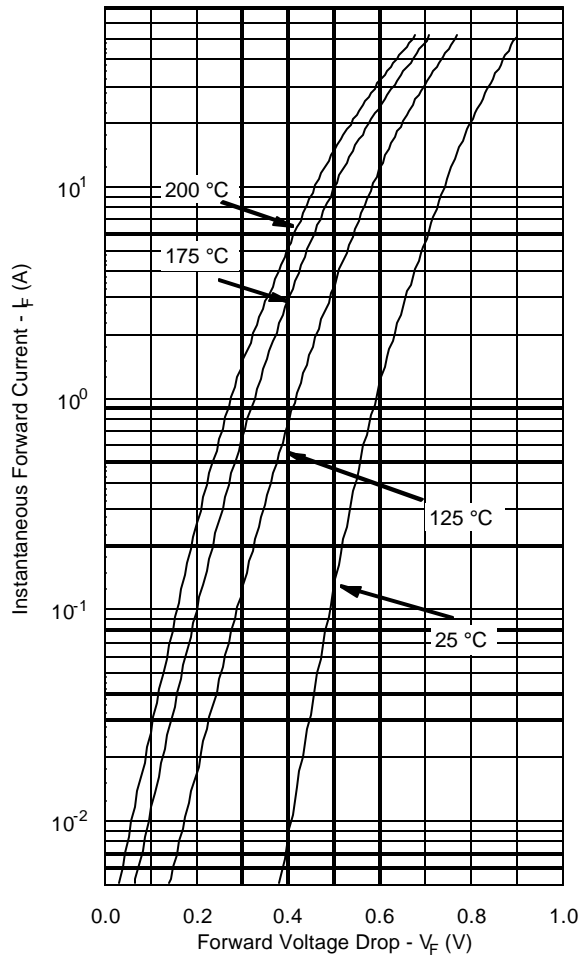
Top side metalization Al - 25 kÅ minimum
or Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

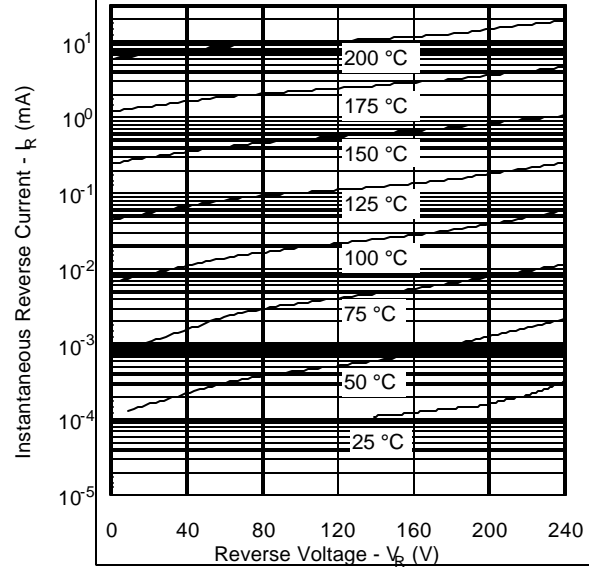
Dimension H = 0.0105 ± 0.001 (0.27 ± 0.026) for Al top;

Dimension H = 0.0155 ± 0.001 (0.39 ± 0.026) for Ag top.

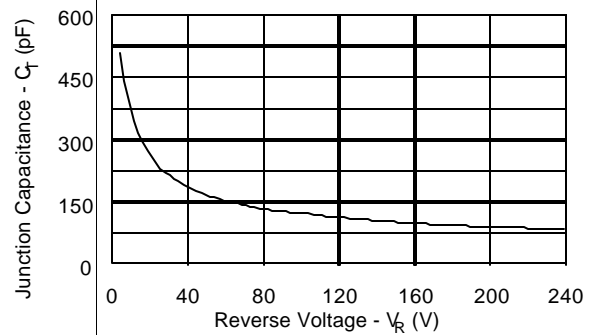
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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