

Technical Data
Data Sheet 4941, Rev.-

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	30	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine wave	570	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 10\text{ A}$, $L = 0.90\text{ mH}$	45	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in $1\text{ }\mu\text{s}$ f limited by T_J max $V_A=1.5V_R$	10	A
Max. Junction Temperature	T_J	-	-65 to +100	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +100	$^\circ\text{C}$

Electrical Characteristics⁽¹⁾:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 30A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.37	V
	V_{F2}	@ 30A, Pulse, $T_J = 100\text{ }^\circ\text{C}$	0.33	V
Max. Reverse Current	I_{R1}	@ $V_R = 45\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$	14	mA
	I_{R2}	@ $V_R = 45\text{V}$, Pulse, $T_J = 100\text{ }^\circ\text{C}$	680	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$	2400	pF

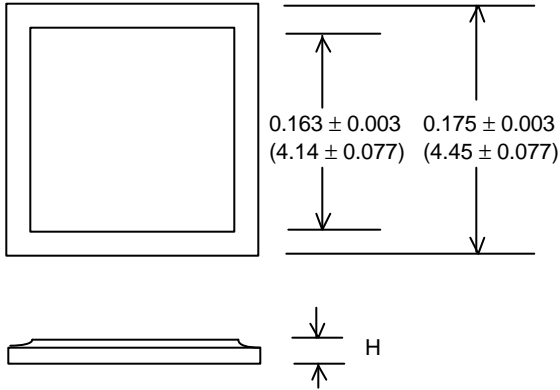
(1) in SHD package

SENSITRON SEMICONDUCTOR

SD175SD15A/B/C

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Mechanical Dimensions: In Inches / mm



Bottom side metalization Ag - 30 kÅ minimum.

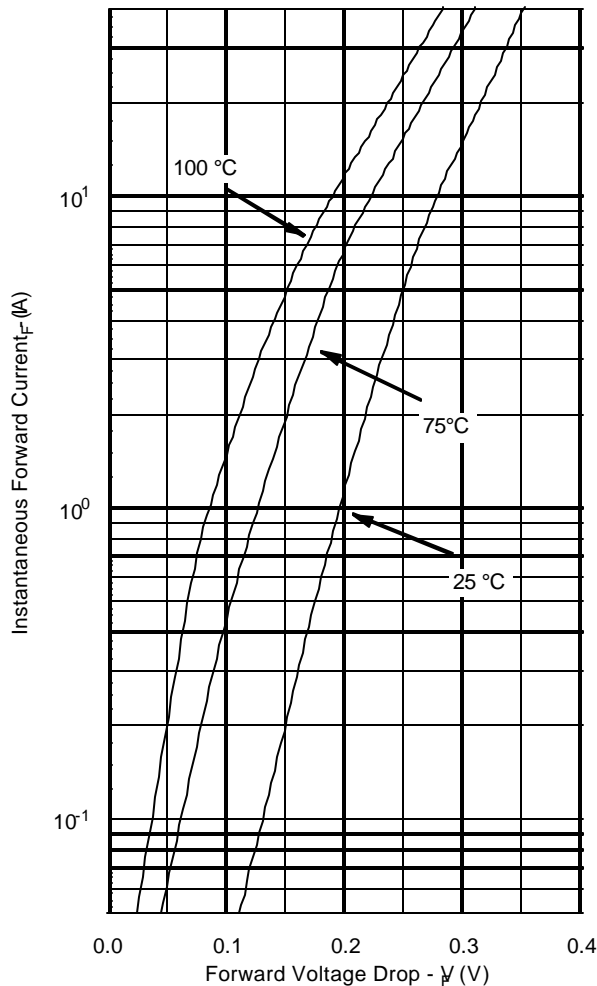
Top side metalization Al - 25 kÅ minimum
or Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

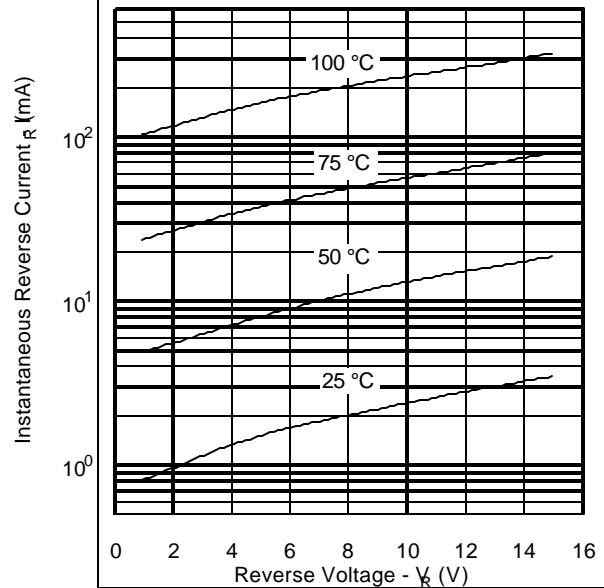
Dimension H = 0.0105 ± 0.001 (0.27 ± 0.026) for Al top;

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

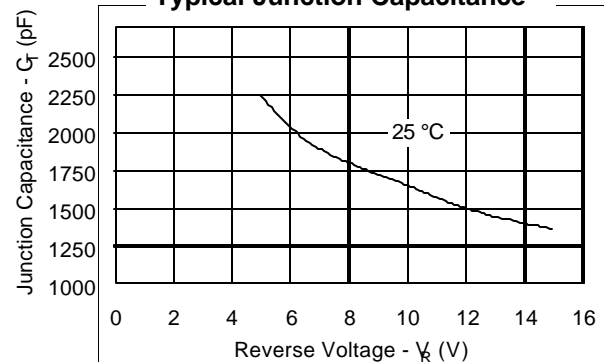
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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