

Technical Data
Data Sheet 4959, Rev. A.1

SILICON SCHOTTKY RECTIFIER DIE Low Forward Voltage Drop

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

- Soft Reverse Recovery at Low and High Temperature
- 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⁾:

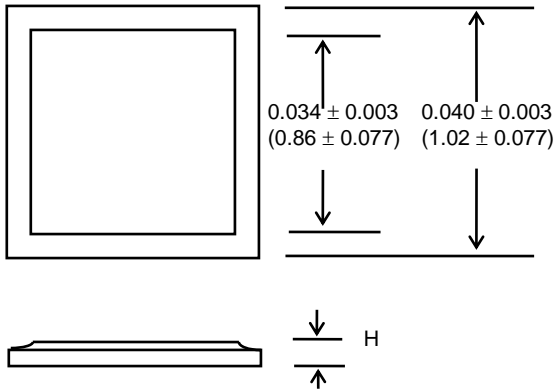
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	100	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	1	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine wave ⁽¹⁾	20	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 0.74\text{ A}$, $L = 12\text{ mH}$	5.0	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in $1\text{ }\mu\text{s}$ f limited by T_J max $V_A=1.5V_R$	0.74	A
Max. Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$

Electrical Characteristics⁽¹⁾:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 1A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.84	V
	V_{F2}	@ 1A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.70	V
Max. Reverse Current	I_{R1}	@ $V_R = 100\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.03	mA
	I_{R2}	@ $V_R = 100\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.6	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)	35	pF

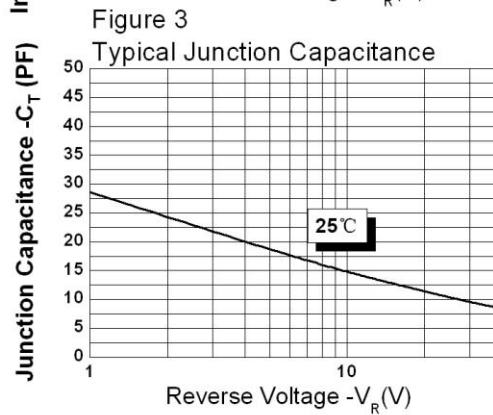
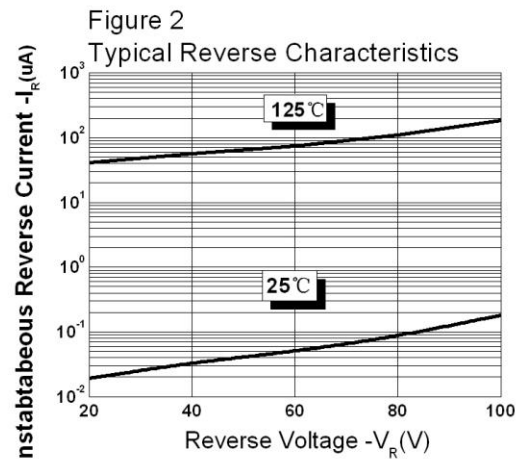
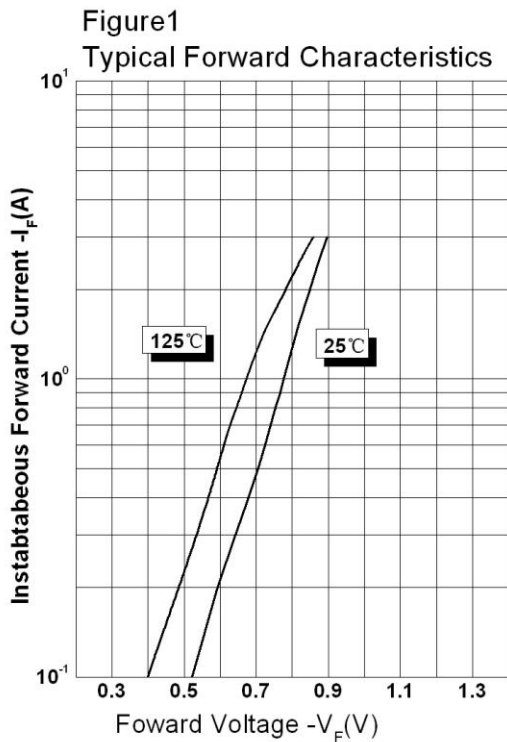
(1) in SHD package

Mechanical Dimensions: In Inches / mm



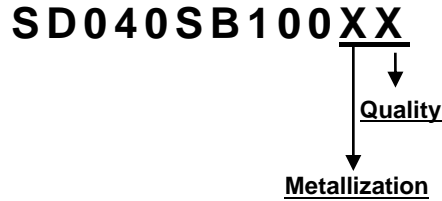
Bottom side metallization Ag thickness is 5kA
Bottom side metallization Ag- 30kA Min or Ag- 30kA min
Top side metallization Al thickness is 25KA

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



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PART ORDERING INFORMATION:



Metallization:

Suffix	Part Number	Description
A	SD040SB100A	Al top, Ag bottom
B	SD040SB100B	Ag top, Ag bottom

Quality Level:

Suffix	Part Number	Description
H	SD040SB100AH	Class H Element Eval
K	SD040SB100AK	Class K Element Eval

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