

TECHNICAL DATA
DATA SHEET 639, 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
- Extremely 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⁾:

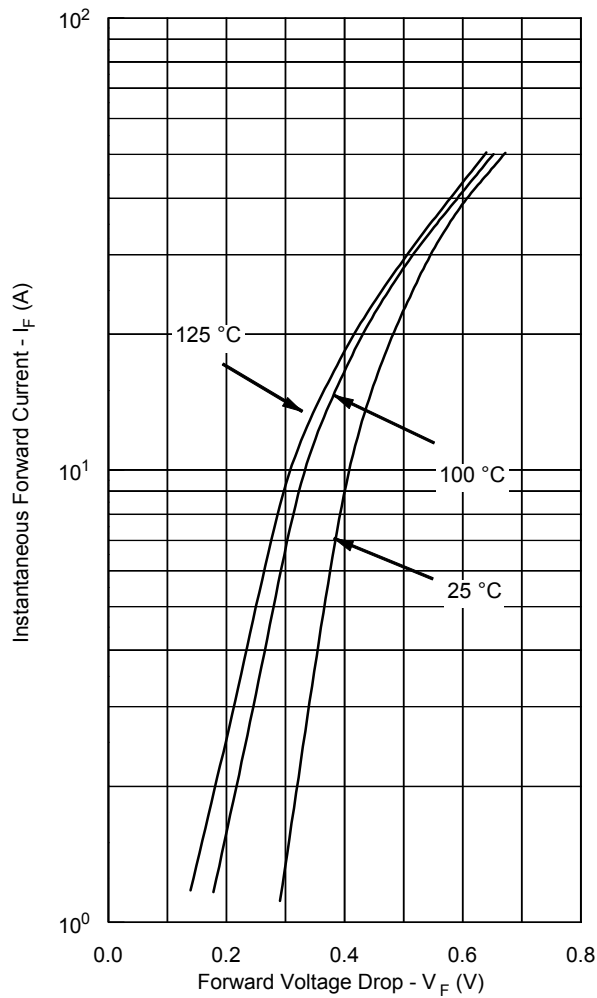
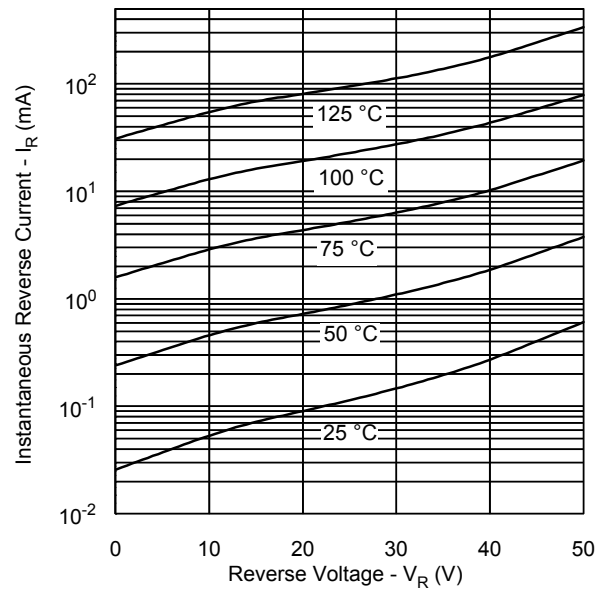
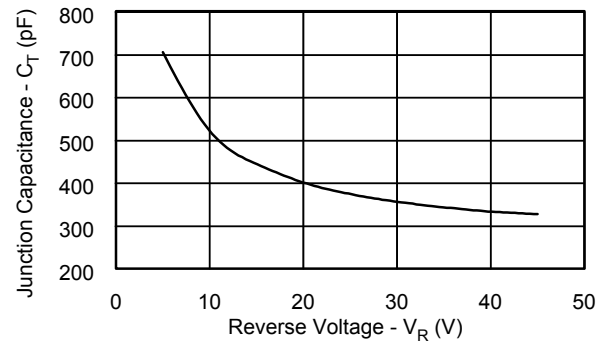
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	45	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	15	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 msec, sine pulse	280	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 2.4\text{A}$ $L = 6.5\text{ mH}$	18.7	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in $1\text{ }\mu\text{s}$ f limited by T_J max $V_A=1.5V_R$	2.4	A
Max. Junction Temperature	T_J	-	-55 to +125	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +125	$^\circ\text{C}$

Electrical Characteristics⁽¹⁾:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 15 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.51	V
	V_{F2}	@ 15 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.47	V
Max. Reverse Current	I_{R1}	@ $V_R = 45\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$	1.5	mA
	I_{R2}	@ $V_R = 45\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$	250	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$	870	pF

(1) in SHD package

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Typical Forward Characteristics

Typical Reverse Characteristics

Typical Junction Capacitance


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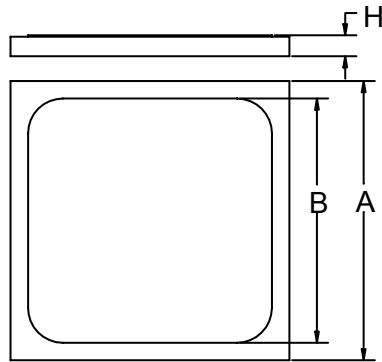
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Mechanical Dimensions: In Inches / mm


Figure 1

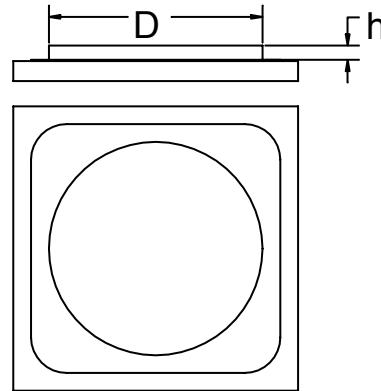


Figure 2

A	B	D	H	h
0.125±0.003	0.116±0.003	0.070±0.005	0.0155±0.001	0.010±0.002

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.

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