

TECHNICAL DATA
DATA SHEET 642, REV. A
Formerly part number SHD1162/A/B

SILICON SCHOTTKY RECTIFIER

Very Low Forward Voltage Drop

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

Maximum Ratings

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 ms, half Sine wave	280	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ }^{\circ}\text{C}$, $I_{AS} = 3.0\text{ A}$, $L = 4.4\text{ mH}$	20	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in 1 μs f limited by T_J max $V_A = 1.5V_R$	3.0	A
Maximum Thermal Resistance	$R_{\theta JC}$	(Junction to Mounting Surface, Cathode)	.85	$^{\circ}\text{C/W}$
Max. Junction Temperature	T_J	-	-65 to +175	$^{\circ}\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +175	$^{\circ}\text{C}$

Electrical Characteristics

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 15A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.64	V
	V_{F2}	@ 15A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	0.57	V
Max. Reverse Current	I_{R1}	@ $V_R = 45\text{V}$, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	400	μA
	I_{R2}	@ $V_R = 45\text{V}$, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	15	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^{\circ}\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$	800	pF

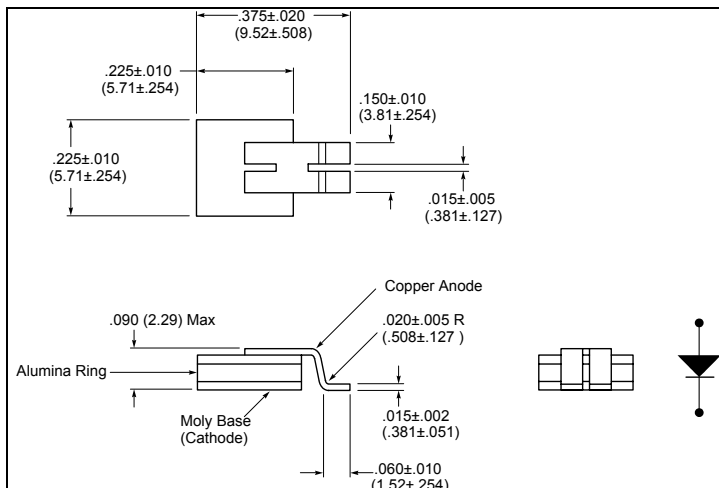
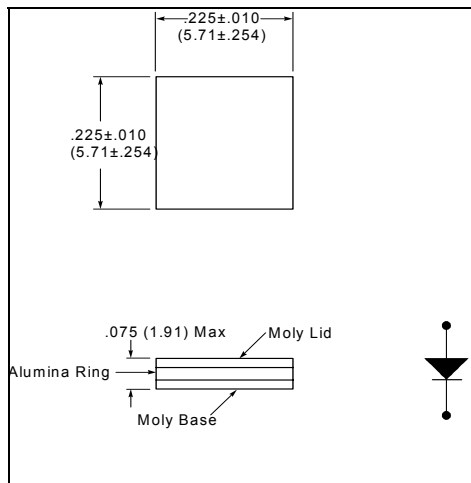
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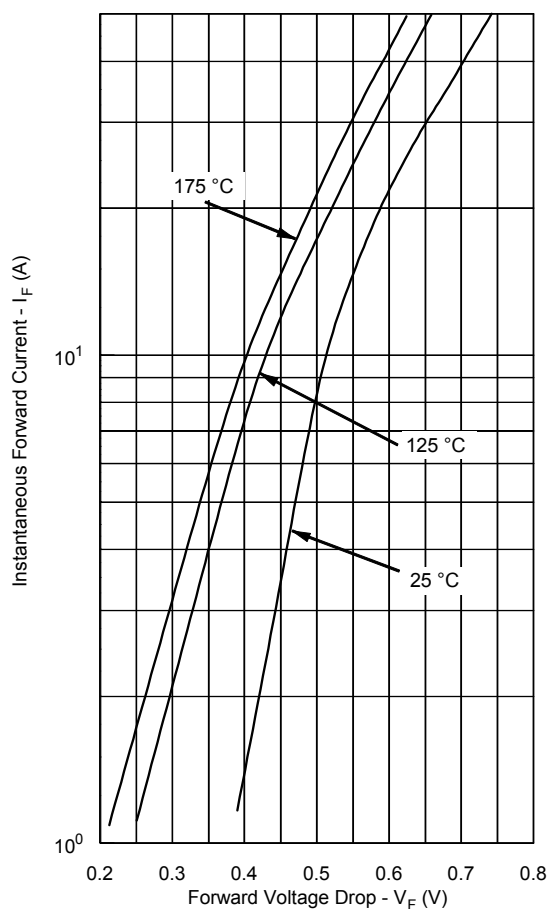
MECHANICAL DIMENSIONS: In Inches / mm

SHD-1

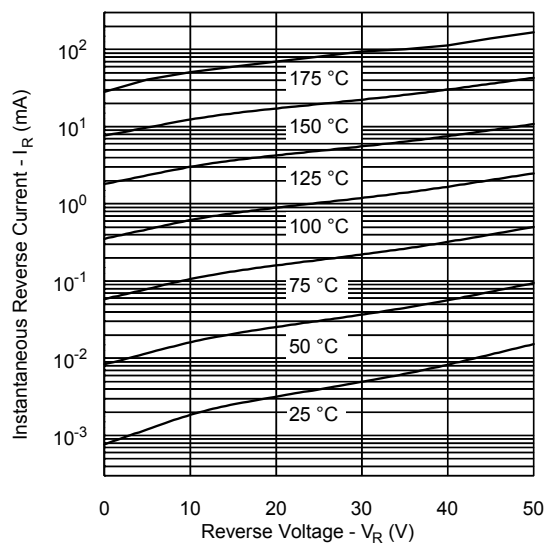


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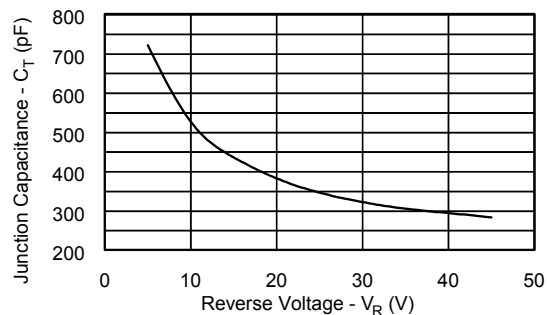
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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