

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 $1\text{ }\mu\text{s}$ $f$ 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	$^\circ\text{C}$

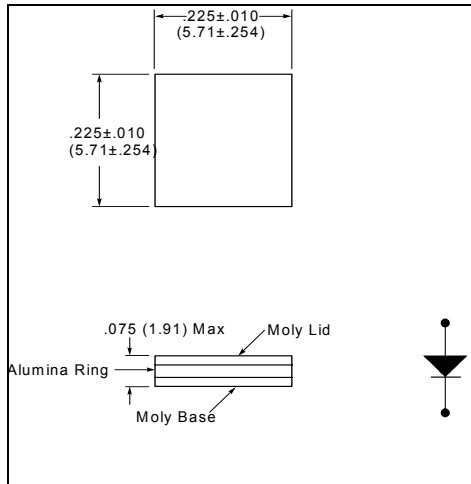
### Electrical Characteristics

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	$\mu\text{A}$
	$I_{R2}$	@ $V_R = 45\text{ V}$ , 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

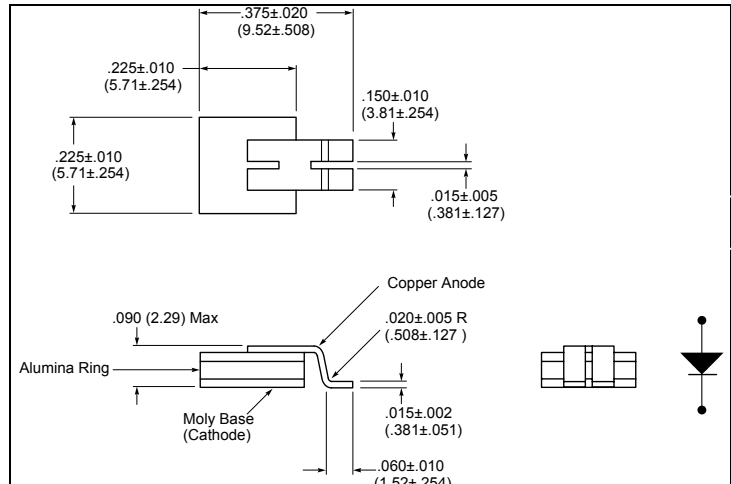
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**MECHANICAL DIMENSIONS: In Inches / mm**

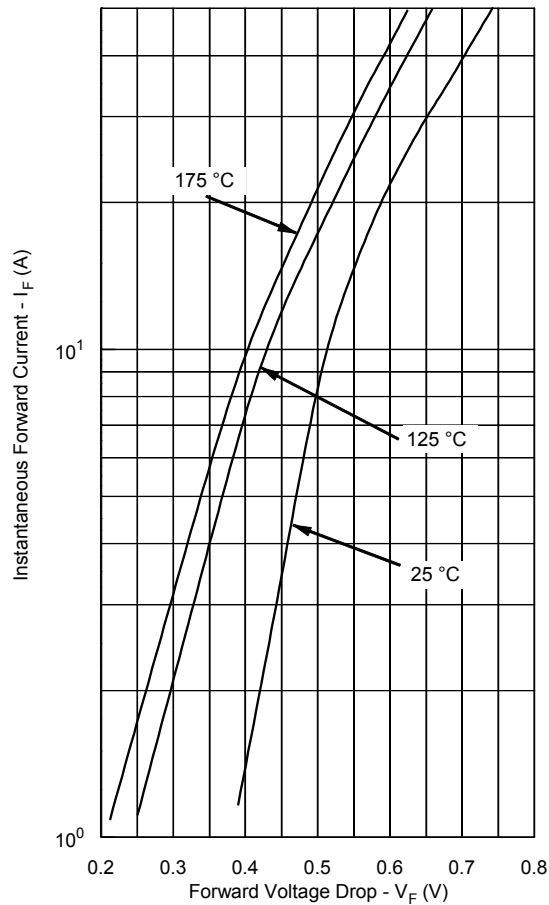
**SHD-1**



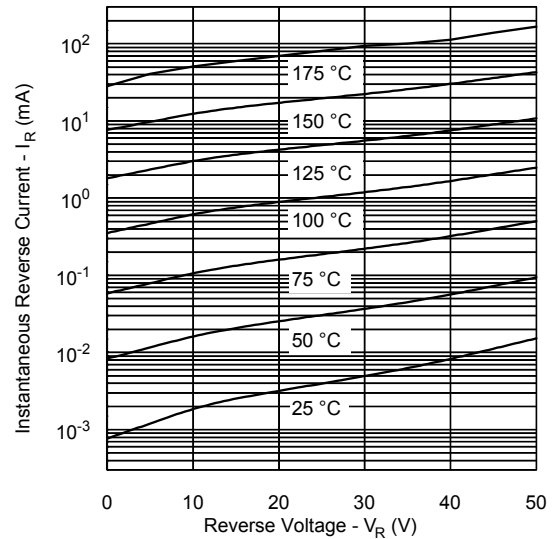
**SHD-1B**



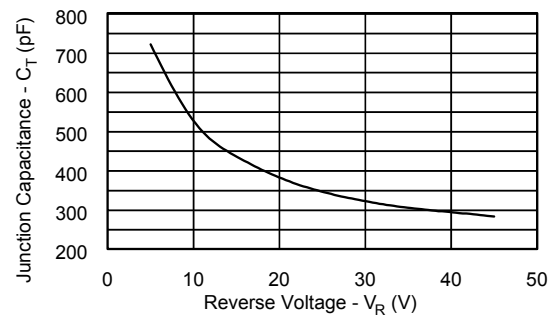
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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