

TECHNICAL DATA  
DATA SHEET 4583, REV. A

## HERMETIC 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**

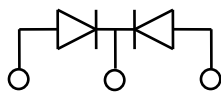
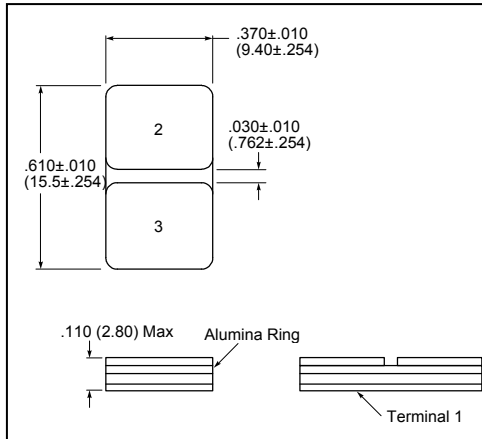
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	45	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form (Single)	7.5	A
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form (Common Cathode)	15	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine wave (per leg)	140	A
Non-Repetitive Avalanche Energy	$E_{AS}$	$T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 3.0\text{ A}$ , $L = 4.4\text{ mH}$ (per leg)	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	$R_{\theta JC}$	DC operation	3.2	$^\circ\text{C/W}$
Max. Junction Temperature	$T_J$	-	-65 to +175	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-65 to +175	$^\circ\text{C}$

**Electrical Characteristics**

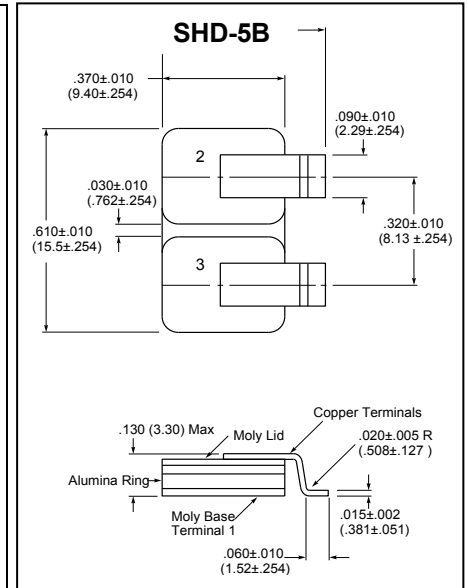
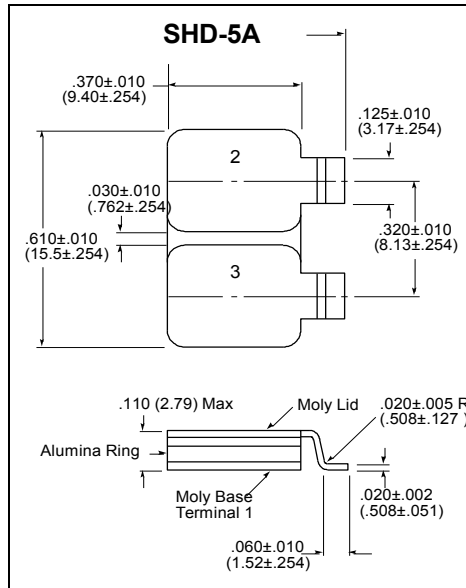
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)	$V_{F1}$	@ 7.5A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.64	V
	$V_{F2}$	@ 7.5A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.57	V
Max. Reverse Current (per leg)	$I_{R1}$	@ $V_R = 45\text{V}$ , Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.2	mA
	$I_{R2}$	@ $V_R = 45\text{V}$ , Pulse, $T_J = 125\text{ }^\circ\text{C}$	7.5	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ , $V_{SIG} = 50\text{mV}$ (p-p)	400	pF

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**MECHANICAL DIMENSIONS: In Inches / mm**



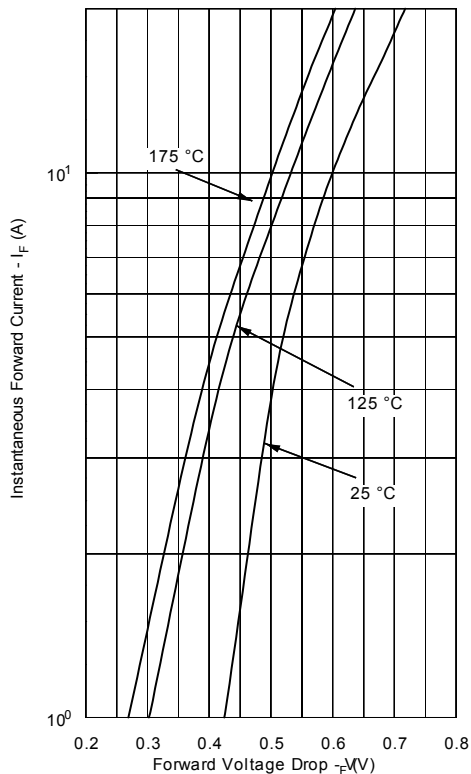
**1 2 3**  
**PINOUT TABLE**



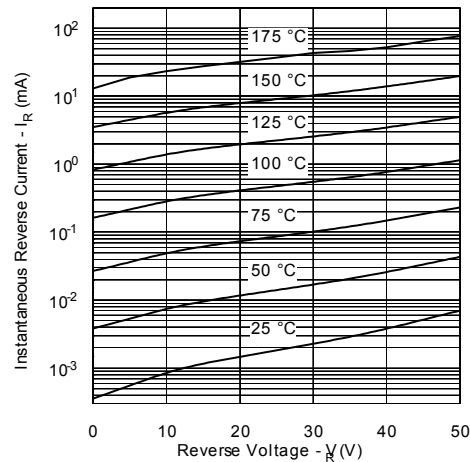
DEVICE TYPE	PIN 1	PIN 2	PIN 3
DUAL RECTIFIER, COMMON CATHODE (P)	COMMON CATHODE	ANODE	ANODE

**Note:** The  $V_f$  curves shown are for the SD90SB45 unpackaged die only.

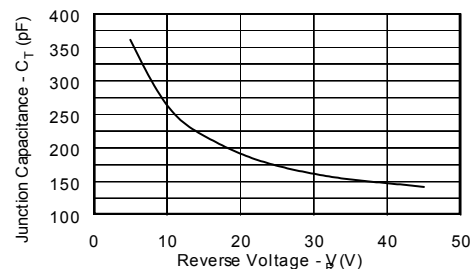
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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