

TECHNICAL DATA  
DATA SHEET 4157, REV. A

## HERMETIC POWER SCHOTTKY RECTIFIER

### Very Low Forward Voltage

#### 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

#### Maximum Ratings:

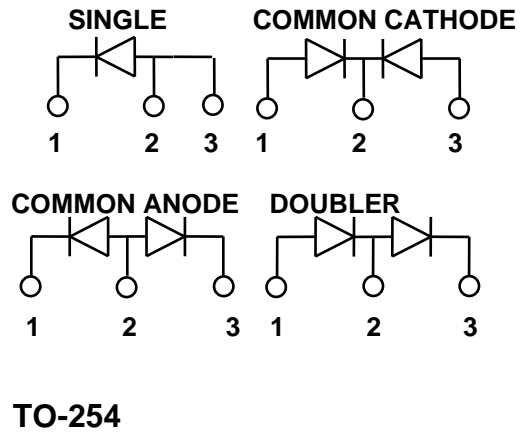
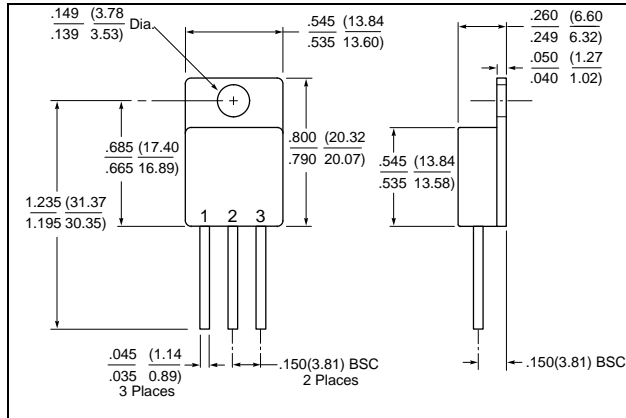
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	45	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form (Single/Doubler)	15	A
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form (Common Cathode/Common Anode)	30	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine wave (per leg)	200	A
Max. Thermal Resistance	$R_{\theta JC}$	(Single)	1.45	°C/W
Max. Thermal Resistance	$R_{\theta JC}$	(Common Cathode/Common Anode/Doubler) (per leg)	0.72	°C/W
Max. Junction Temperature	$T_J$	-	-65 to +150	°C
Max. Storage Temperature	$T_{stg}$	-	-65 to +150	°C

#### Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 15A, Pulse, $T_J = 25\text{ °C}$ (per leg)	0.65	V
	$V_{F2}$	@ 15A, Pulse, $T_J = 125\text{ °C}$ (per leg)	0.60	V
Max. Reverse Current	$I_{R1}$	@ $V_R = 45V$ , Pulse, $T_J = 25\text{ °C}$ (per leg)	1.5	mA
	$I_{R2}$	@ $V_R = 45V$ , Pulse, $T_J = 125\text{ °C}$ (per leg)	70	mA
Max. Junction Capacitance	$C_T$	@ $V_R = 5V$ , $T_C = 25\text{ °C}$ $f_{SIG} = 1MHz$ , $V_{SIG} = 50mV$ (p-p) (per leg)	800	pF

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**Mechanical Dimensions: In Inches / mm**

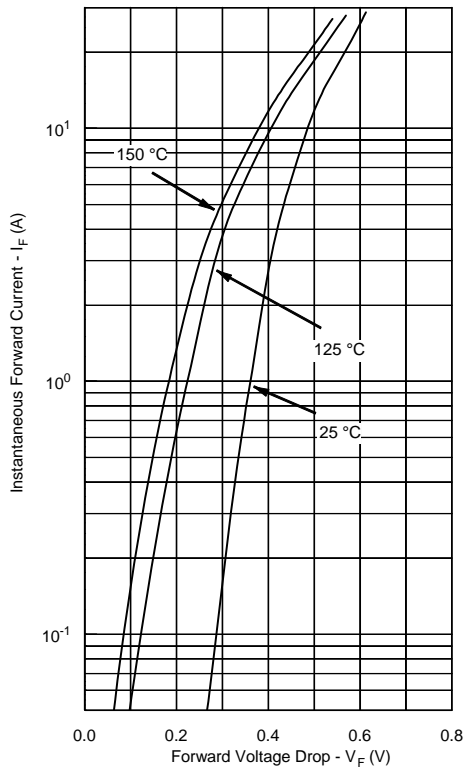


**PINOUT TABLE**

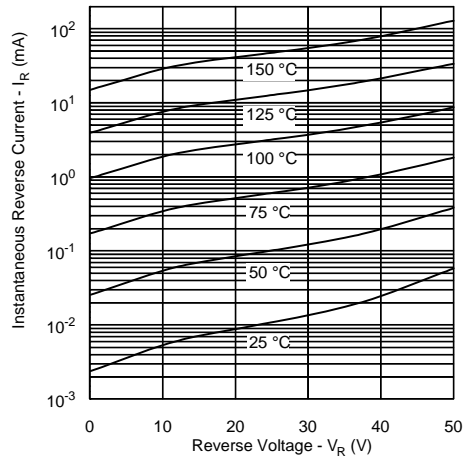
TYPE	PIN 1	PIN 2	PIN 3
SINGLE RECTIFIER	CATHODE	ANODE	ANODE
DUAL RECTIFIER, COMMON CATHODE (P)	ANODE 1	COMMON CATHODE	ANODE 2
DUAL RECTIFIER, COMMON ANODE (N)	CATHODE 1	COMMON ANODE	CATHODE 2
DUAL RECTIFIER, DOUBLER (D)	ANODE	CATHODE/ANODE	CATHODE

**Note:** The  $V_f$  curves shown are for the SD125SA45 un-packaged die only.

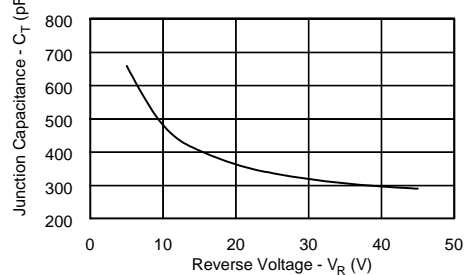
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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