

SEMICONDUCTOR

TECHNICAL DATA, Rev-

HERMETIC POWER SCHOTTKY RECTIFIER

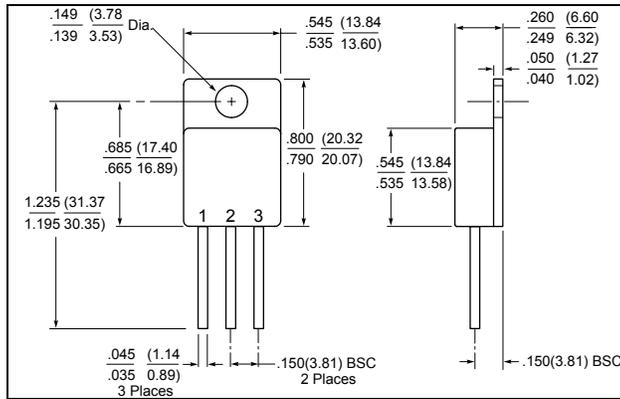
Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

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
- Includes 100% screening, Group A and Group B testing on the finished part in accordance with MIL-PRF-19500 for TX level parts. JAN and TXV level also available

Mechanical Dimensions: In Inches / mm

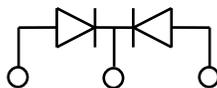


TO-254

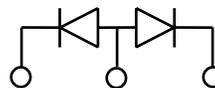
PINOUT TABLE

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

SCHEMATIC



COMMON CATHODE



COMMON ANODE

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	45	V
Max. Average Forward Current (Total Package) *	$I_{F(AV)}$	50% duty cycle @ $T_C = 100^\circ\text{C}$, rectangular wave form	30	A
Max. Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I_{FSM}	8.3 ms, half Sine pulse	300	A
Non-Repetitive Avalanche Energy (Per Leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 2.0\text{ A}$, $L = 0.26\text{ mH}$	0.54	mJ

* Derate linearly at 300 mA/ $^\circ\text{C}$ from $T_J = T_C = +100^\circ\text{C}$ to $+150^\circ\text{C}$. 300 mA/ $^\circ\text{C}$ times $50^\circ\text{C} = 15\text{ A}$, the device rating.

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (Per Leg)	V_{F1}	@ 5 A, Pulse, $T_J = 25^\circ\text{C}$	0.55	V
	V_{F2}	@ 15 A, Pulse, $T_J = 25^\circ\text{C}$	0.75	
	V_{F3}	@ 30 A, Pulse, $T_J = 25^\circ\text{C}$	1.00	
	V_{F4}	@ 15 A, Pulse, $T_J = -55^\circ\text{C}$	0.80	V
Max. Reverse Current (Per Leg)	I_{R1}	@ $V_R = 45\text{ V}$, Pulse, $T_J = 25^\circ\text{C}$	1.0	mA
	I_{R2}	@ $V_R = 45\text{ V}$, Pulse, $T_J = 125^\circ\text{C}$	40	mA
Max. Junction Capacitance (Per Leg)	C_T	@ $V_R = 5\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$, $V_{SIG} = 50\text{ mV (p-p)}$	2000	pF
Max. Voltage Rate of Change (Per Leg)	dv/dt	-	10,000	V/ μs

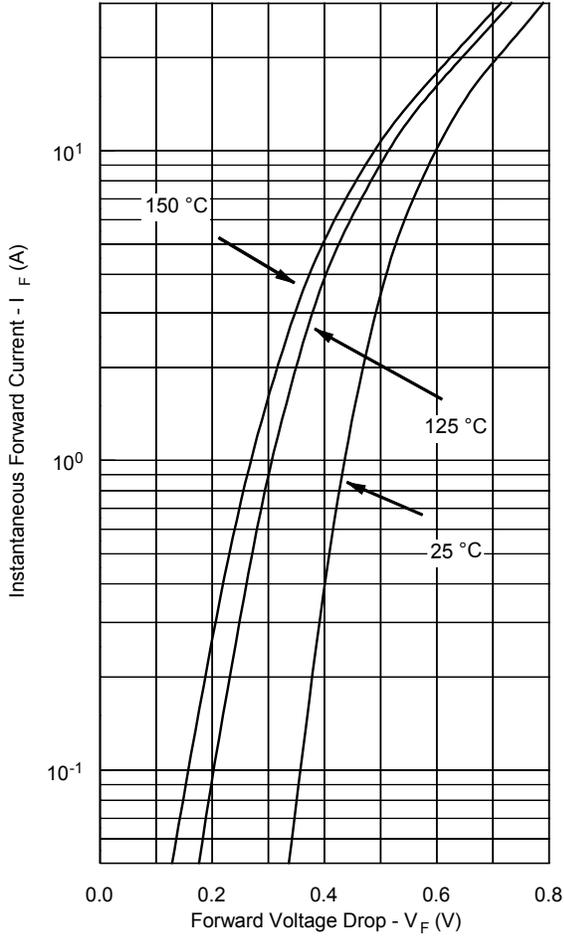
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-65 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (Per Leg)	$R_{\theta JC}$	DC operation	1.65	$^\circ\text{C/W}$
Case Style	Hermetic TO-254			

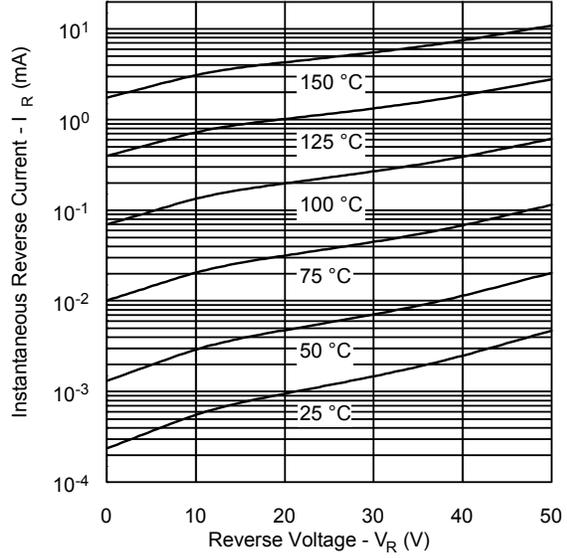
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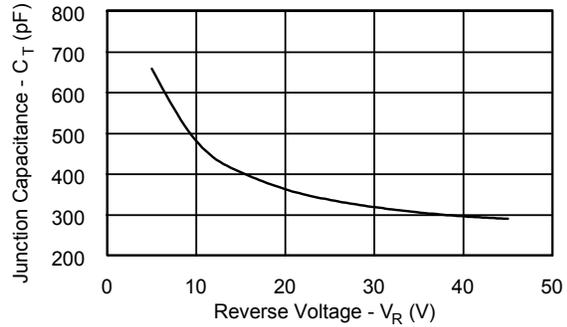
Typical Forward Characteristics



Typical Reverse Characteristics



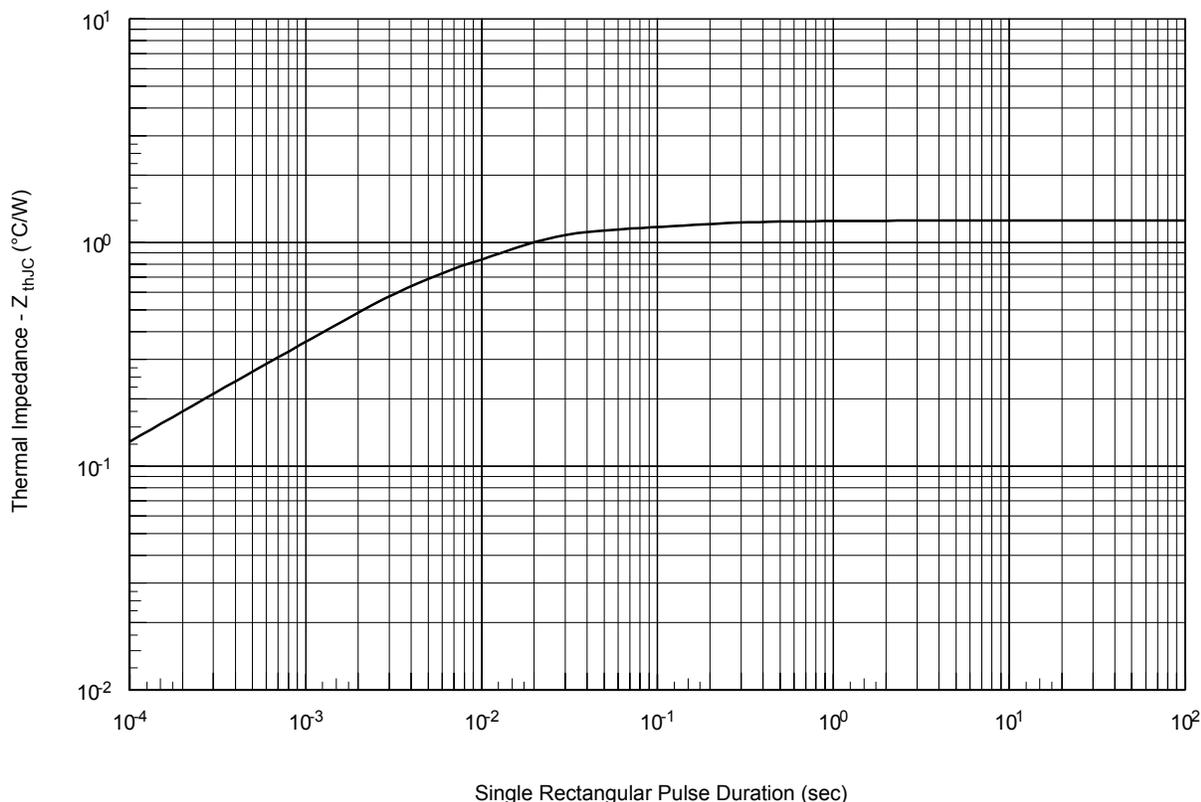
Typical Junction Capacitance



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Typical Thermal Resistance

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