GOOD-ARK SEMICONDUCTOR

MBR1545/MBRF1545

Schottky Barrier Rectifier
Reverse Voltage 45 V Forward Current 15 A

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Low forward voltage, high efficiency
- Guarding for over voltage protection

MBR1545
Package: TO-220-AC

MBRF1545
Package: ITO-220-AC

Mechanical Data

- Case: epoxy, molded
- Weight: 1.9grams (approximately)
- Finish: all external surfaces corrosion resistant and terminal leads readily solderable
- Lead temperature for soldering purpose: 260°C max. for 10 sec
- 50 units per plastic tube

Schematic Diagram

Maximum Ratings & Electrical Characteristics

(T_A=25°C unless otherwise noted)

Parameter	Test Conditions		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage			V_{RRM}	45	V
Working Peak Reverse Voltage			V_{RWM}	45	V
Maximum DC Blocking Voltage			V_{DC}	45	V
Maximum Average Forward Rectified Current @ T_C=100°C			$I_{F(AV)}$	15	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode			I_{FSM}	200	A
Peak repetitive Reverse Current Per Leg at tp=2.0μs ,1KHz			I_{RRM}	1.0	A
Voltage Rate of Change (rated V_R)			dV/dt	10000	V/μs
Operating Junction Temperature Range			T_J	- 55 to+150	°C
Storage Temperature Range			T_{STG}	- 55 to+150	°C
Isolation Voltage (ITO-220-AB only) from Terminal to Heatsink t = 1 sec			V_{AC}	1500	V
Maximum Instantaneous Forward Voltage per Leg	I_F=15A I_F=15A	T_C=25°C T_C=125°C	V_F	0.60 0.50	V
Maximum Reverse Current per Leg at Working Peak Reverse Voltage		T_J=25°C T_J=100°C	I_R	800 50	μA mA

Thermal Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Typ.(TO-220-AC)	Typ.(ITO-220-AC)	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg	2.0	4.0	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	°C/W

Note: Pulse test:300us pulse width, duty cycle=2%

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Ratings and Characteristics Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

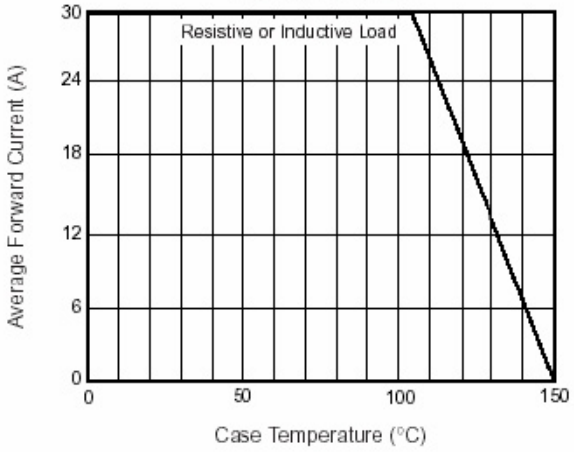


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

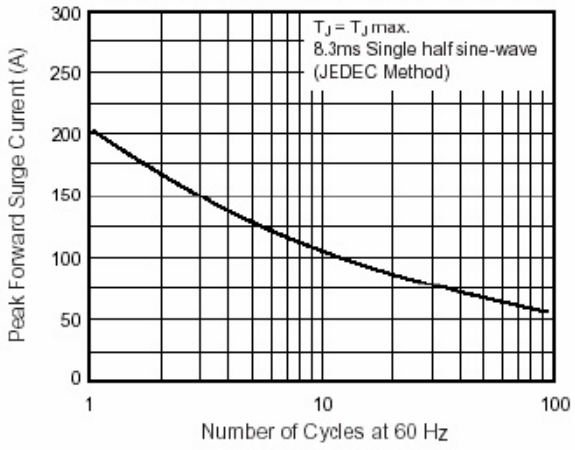


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

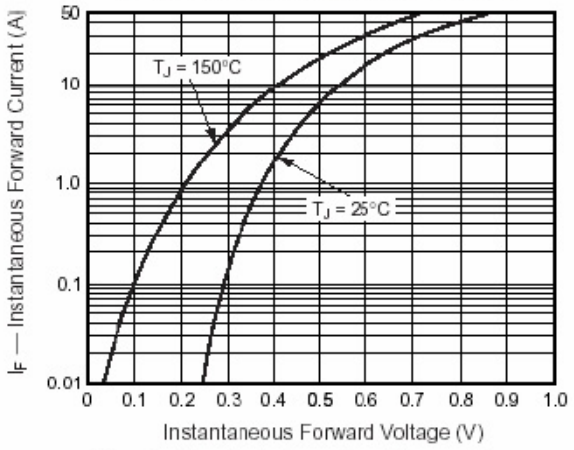


Fig. 4 – Typical Reverse Characteristics Per Leg

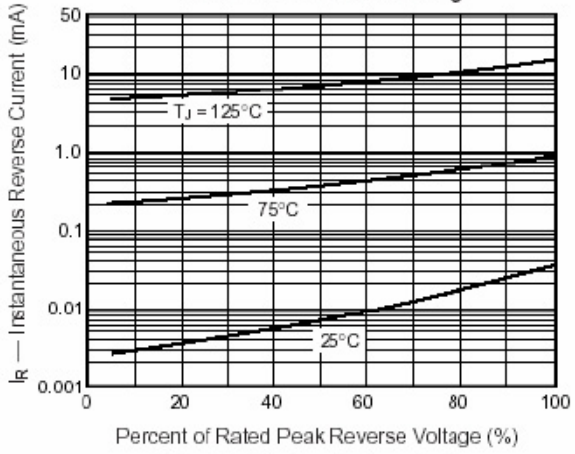


Fig. 5 – Typical Junction Capacitance Per Leg

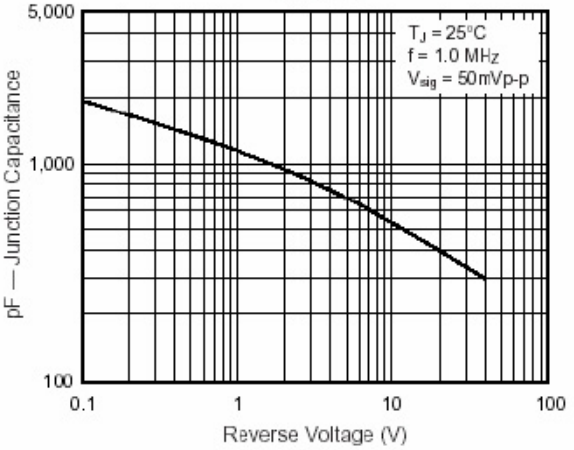
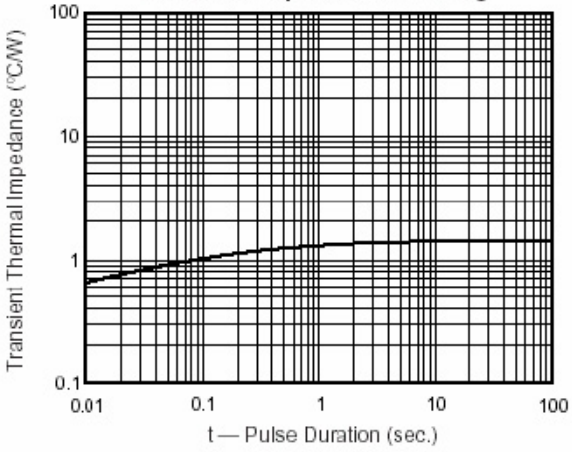


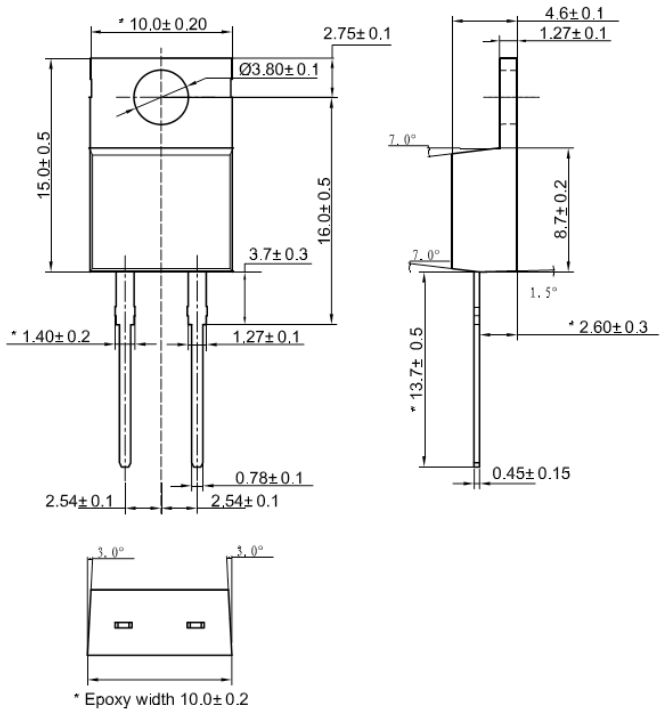
Fig. 6 – Typical Transient Thermal Impedance Per Leg



Package Outline Dimensions

in millimeters

TO-220-AC



ITO-220-AC