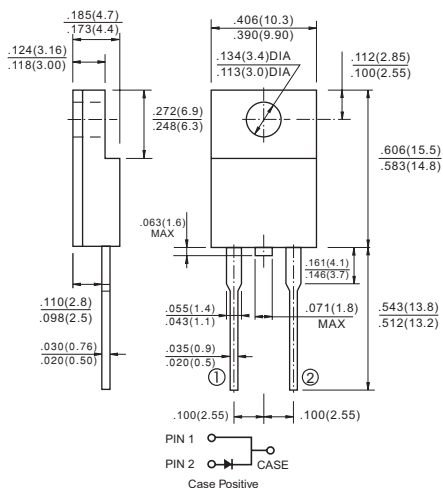


MBRF2035 - MBRF20150

Isolated 20.0 AMPS. Schottky Barrier Rectifiers

ITO-220AC



Features

- ✦ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✦ Metal silicon junction, majority carrier conduction
- ✦ Low power loss, high efficiency
- ✦ High current capability, low forward voltage drop
- ✦ High surge capability
- ✦ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✦ Guardring for overvoltage protection
- ✦ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case

Mechanical Data

- ✦ Cases: ITO-220AC molded plastic body
- ✦ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✦ Polarity: As marked
- ✦ Mounting position: Any
- ✦ Mounting torque: 5 in. - lbs. max
- ✦ Weight: 0.08 ounce, 2.24 grams

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	MBRF 2035	MBRF 2045	MBRF 2050	MBRF 2060	MBRF 2090	MBRF 20100	MBRF 20150	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V	
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	V	
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	V	
Maximum Average Forward Rectified Current at $T_c=125^\circ C$	$I_{(AV)}$	20							A	
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_c=125^\circ C$	I_{FRM}	40							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A	
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0		0.5				A		
Maximum Instantaneous Forward Voltage at: (Note 2) $I_F=20A, T_c=25^\circ C$ $I_F=20A, T_c=125^\circ C$	V_F	0.75	0.65	0.82	0.72	0.95	0.87	1.02	0.98	V
Maximum Instantaneous Reverse Current @ $T_c = 25^\circ C$ at Rated DC Blocking Voltage (Note2) @ $T_c=125^\circ C$	I_R	0.2	15	0.2	10	0.1	5.0		mA mA	
Voltage Rate of Change (Rated V_R)	dV/dt	10,000							V/ μ S	
Typical Junction Capacitance	C_j	560				420			pF	
Maximum Typical Thermal Resistance(Note 3)	$R_{\theta JC}$	3.0							$^\circ C/W$	
Operating Junction Temperature Range	T_J	-65 to +150							$^\circ C$	
Storage Temperature Range	T_{STG}	-65 to +175							$^\circ C$	

- Notes:
1. 2.0us Pulse Width, f=1.0 KHz
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
 3. Mounted on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBRF2035 THRU MBRF20150)

FIG.1- FORWARD CURRENT DERATING CURVE

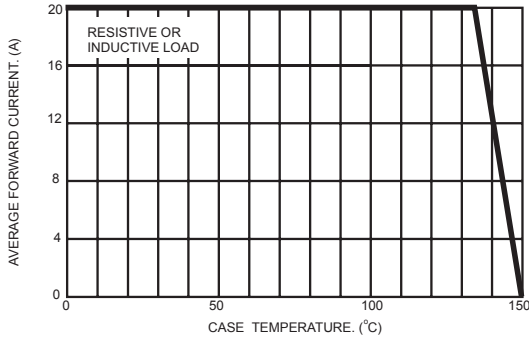


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

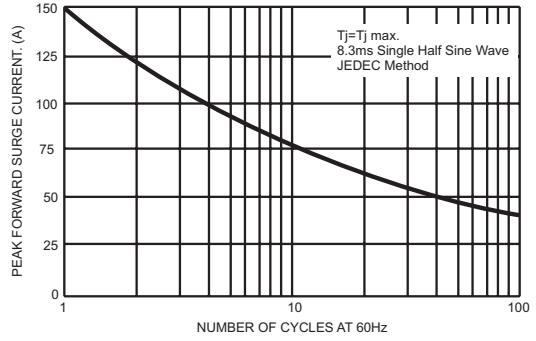


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

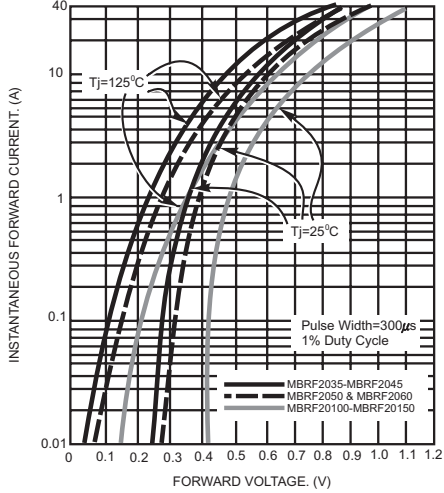


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

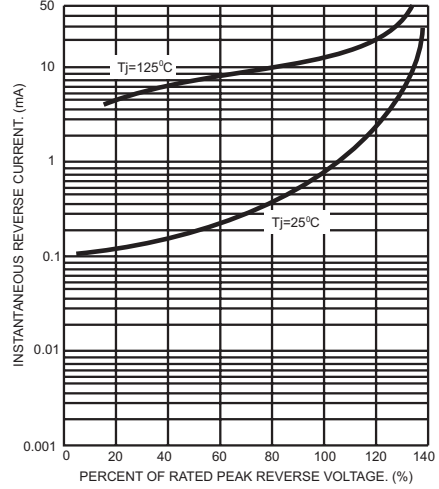


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

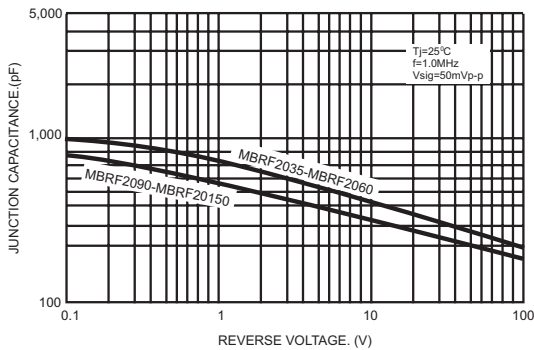


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

