

MBRF1035CT - MBRF10150CT

Isolated 10.0 AMPS. Schottky Barrier Rectifiers

ITO-220AB

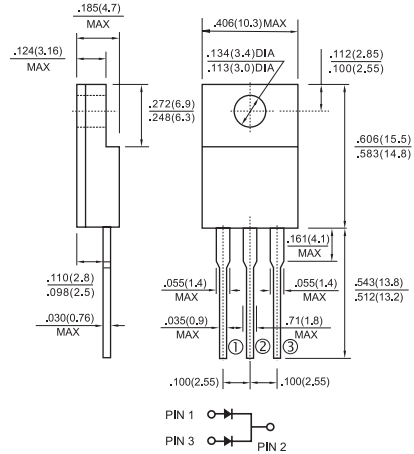


Features

- ✦ 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-220AB molded plastic
- ✦ 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	MBRF	MBRF	MBRF	MBRF	MBRF	MBRF	Units
		1035 CT	1045 CT	1050 CT	1060 CT	1090 CT	10100 CT	10150 CT	
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 $T_C=133^\circ\text{C}$	$I_{(AV)}$	10							A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C=133^\circ\text{C}$	I_{FRM}	10.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	120							A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	0.5							A
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=5\text{A}, T_C=25^\circ\text{C}$ $I_F=5\text{A}, T_C=125^\circ\text{C}$ $I_F=10\text{A}, T_C=25^\circ\text{C}$ $I_F=10\text{A}, T_C=125^\circ\text{C}$	V_F	0.70		0.80		0.85		0.88	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @ $T_C=25^\circ\text{C}$ @ $T_C=125^\circ\text{C}$	I_R	0.1			0.1				mA mA
		15	10			5.0			
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/ μS
RMS Isolation Voltage ($t=1.0$ second, R.H. $\leq 30\%$, $T_A=25^\circ\text{C}$) (Note 4) (Note 5) (Note 6)	V_{ISO}	4500			3500				V
		3500			1500				
		1500							
Typical Thermal Resistance Per Leg (Note3)	$R_{\theta JC}$	3.5							$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-65 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150							$^\circ\text{C}$

- Notes:
1. 2.0 μs Pulse Width, $f=1.0$ KHz
 2. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle
 3. Thermal Resistance from Junction to Case Per Leg.
 4. Clip Mounting (on case), where lead does not overlap heatsink with 0.110" offset.
 5. Clip mounting (on case), where leads do overlap heatsink.
 6. Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")

RATINGS AND CHARACTERISTIC CURVES (MBRF1035CT THRU MBRF10150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

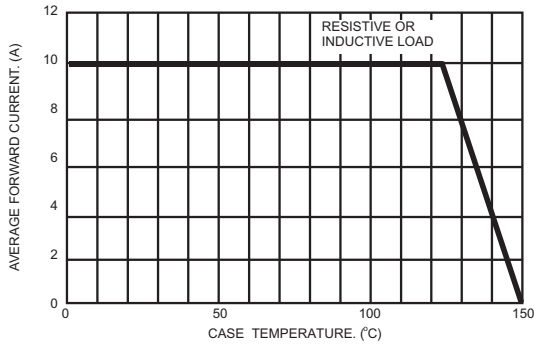


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

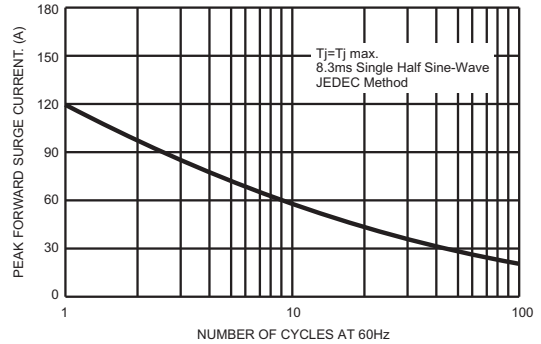


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

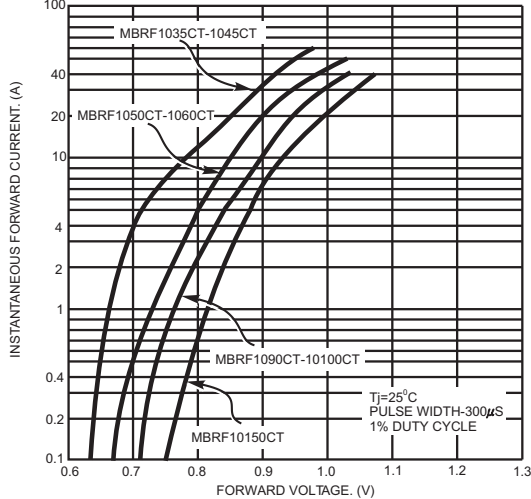


FIG.4- TYPICAL REVERSE CHARACTERISTICS

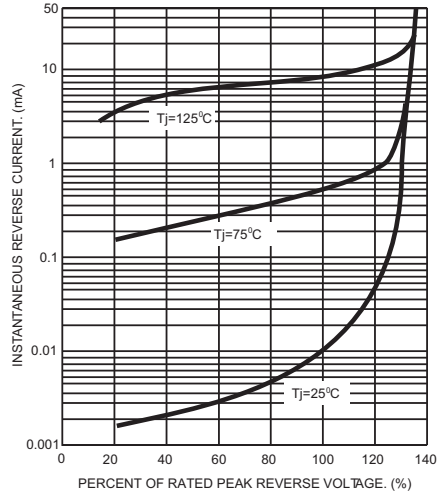


FIG.5- TYPICAL JUNCTION CAPACITANCE

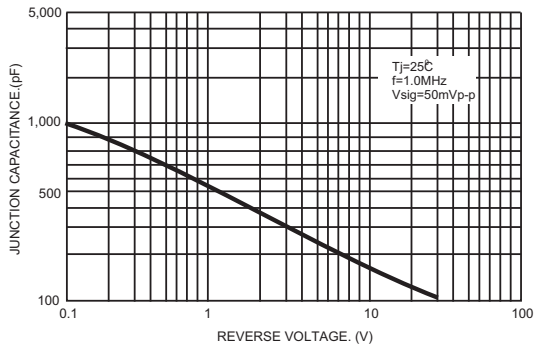


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

