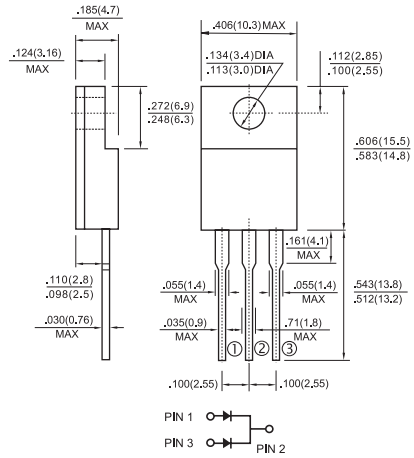
MBRF1035CT - MBRF10150CT

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

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 1035 CT	MBRF 1045 CT	MBRF 1050 CT	MBRF 1060 CT	MBRF 1090 CT	MBRF 10100 CT	MBRF 10150 CT	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=133°C	$I_{(AV)}$	10							A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20KHz) at Tc=133°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= 5A, Tc=25°C I_F= 5A, Tc=125°C I_F=10A, Tc=25°C I_F=10A, Tc=125°C	V_F	0.70 0.57 0.80 0.67		0.80 0.65 0.90 0.75		0.85 0.75 0.95 0.85		0.88 0.78 0.98 0.88	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @Tc=25 °C	I_R	0.1				0.1			mA
@ Tc=125 °C		15		10		5.0			mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/uS
RMS Isolation Voltage (t=1.0 second, R.H. ≦30%, T_A=25 °C) (Note 4) (Note 5) (Note 6)	V_{ISO}	4500 3500 1500							V
Typical Thermal Resistance Per Leg (Note3)	$R_{\theta JC}$	3.5							°C/W
Operating Junction Temperature Range	T_J	-65 to +150							°C
Storage Temperature Range	TSTG	-65 to +150							°C

Notes: 1. 2.0 us Pulse Width, f=1.0 KHz 2. Pulse Test: 300us 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")

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FIG.1- FORWARD CURRENT DERATING CURVE

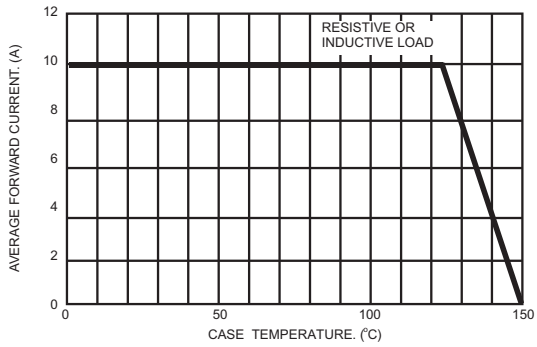

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

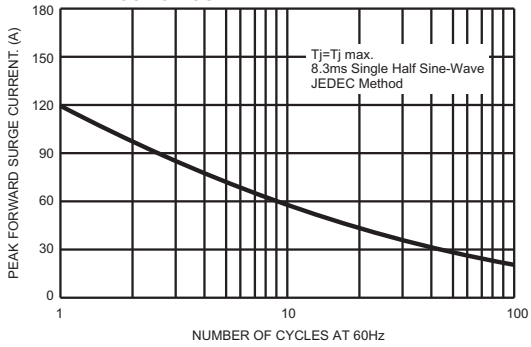

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

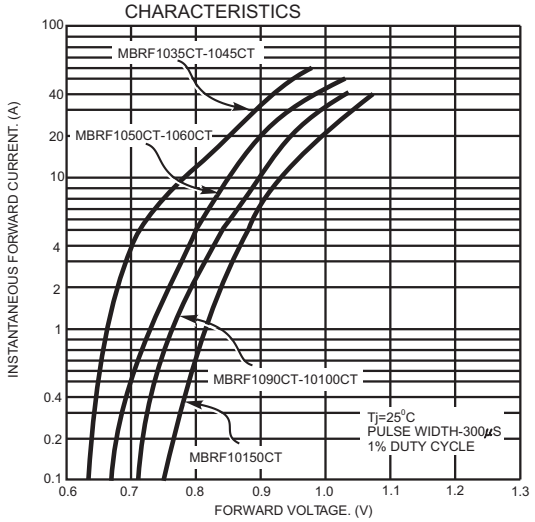

FIG.4- TYPICAL REVERSE CHARACTERISTICS

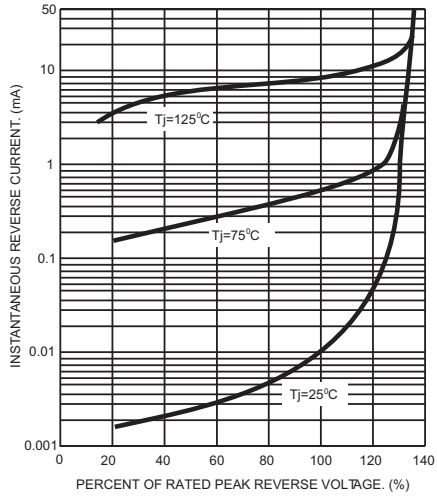

FIG.5- TYPICAL JUNCTION CAPACITANCE

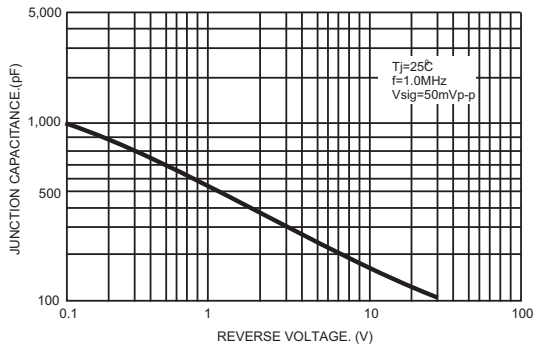

FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG