

MBRF1535CT - MBRF15150CT

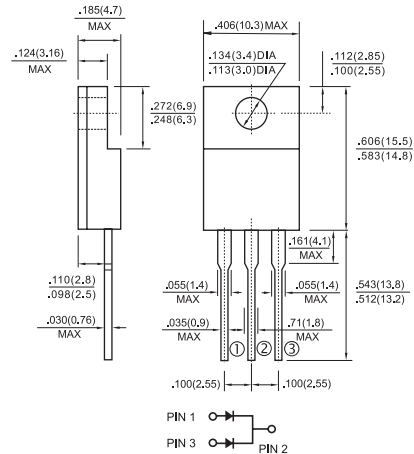
Isolated 15.0 AMPS. Schottky Barrier Rectifiers

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 transient protection
- ✧ High temperature soldering guaranteed:
260°C/10 seconds, 0.25"(6.35mm) from case



Mechanical Data

- ✧ Cases: ITO-220AB 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 1535 CT	MBRF 1545 CT	MBRF 1550 CT	MBRF 1560 CT	MBRF 1590 CT	MBRF 15100 CT	MBRF 15150 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 =105°C	I _(AV)	15							A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _C =105°C	I _{FRM}	15.0							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 =7.5A, T _C =25°C I _F =7.5A, T _C =125°C I _F =15A, T _C =25°C I _F =15A, T _C =125°C	V _F	— 0.57 0.84 0.72	— 0.65 — —	0.75 0.65 — —	0.92 0.82 — —		0.95 0.92 — —		V
Maximum Instantaneous Reverse Current @ T _C =25 °C at Rated DC Blocking Voltage (Note 2) @ T _C =125 °C	I _R	0.5 10	0.3 7.5		0.1 5.0				mA mA
Voltage Rate of Change (Rated V _R)	dV/dt	10,000							V/uS
Maximum Thermal Resistance Per Leg (Note 3)	R _{θJC}	3.5							°C/W
Operating Junction Temperature Range	T _J	-65 to +150							°C
Storage Temperature Range	T _{STG}	-65 to +175							°C

Notes: 1. 2.0us Pulse Width, $f=1.0\text{ KHz}$
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Thermal Resistance from Junction to Case with Heatsink size of 2 in x 3 in x 0.25 in Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBRF1535CT THRU MBRF15150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

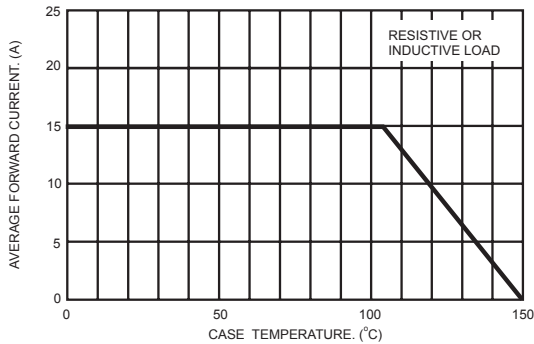


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

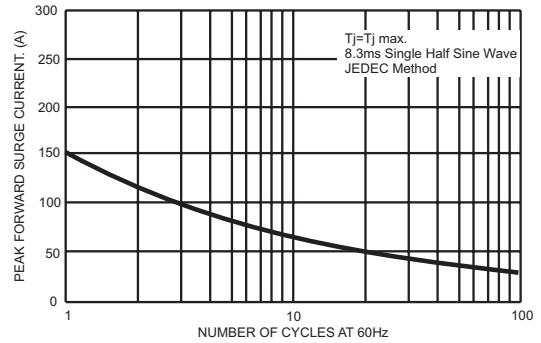


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

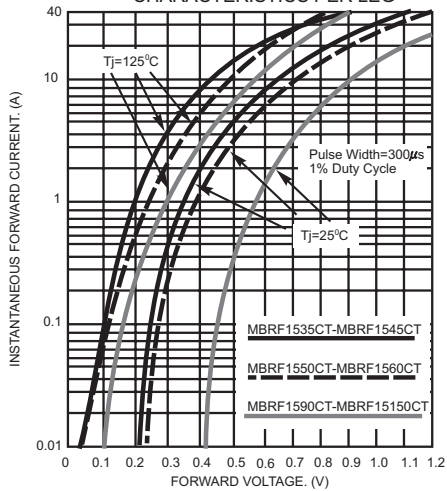


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

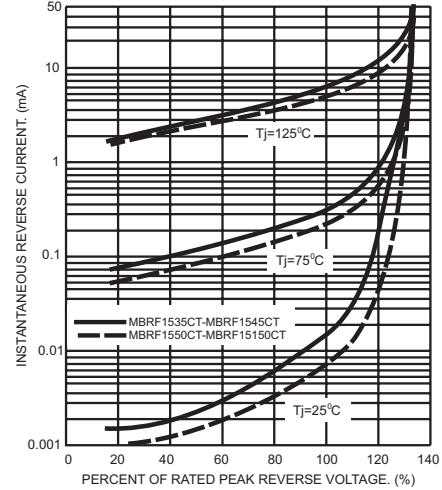


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

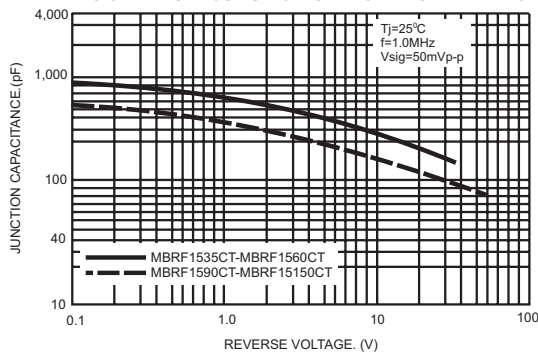
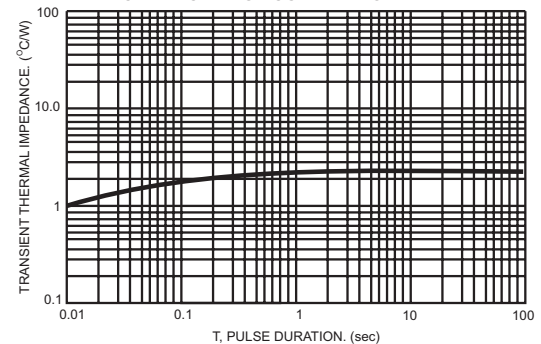


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG



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