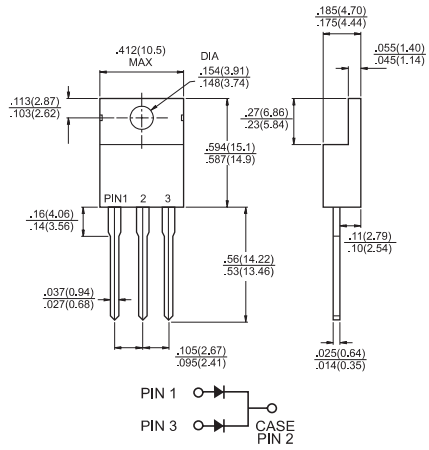
MBR1535CT-MBR15150CT

15.0AMP. Schottky Barrier Rectifiers

TO-220AB



Dimensions in inches and (millimeters)

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: JEDEC TO-220AB molded plastic body
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 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	MBR 1535CT	MBR 1545CT	MBR 1550CT	MBR 1560CT	MBR 1590CT	MBR 15100CT	MBR 15150CT	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 Tc=105°C	$I_{(AV)}$	15							A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20KHz) at Tc=105°C	I_{FRM}	15							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 —		0.75 0.65 — —		0.92 0.82 — —		1.05 0.92 — —	V
Maximum Instantaneous Reverse Current @ Tc =25 °C at Rated DC Blocking Voltage @ Tc=125 °C (Note 2)	I_R	0.5 10		0.3 7.5		0.1 5.0			mA mA
Voltage Rate of Change (Rated V_R)	dV/dt	1,000							V/uS
Typical Junction Capacitance	Cj	400				200			pF
Maximum Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	10 1.5							°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 KHz
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Mount on Heatsink Size of 2 " x 3 " x 0.25" Al-Plate.

MBR1535CT-MBR15150CT

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RATINGS AND CHARACTERISTIC CURVES (MBR1535CT THRU MBR15150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

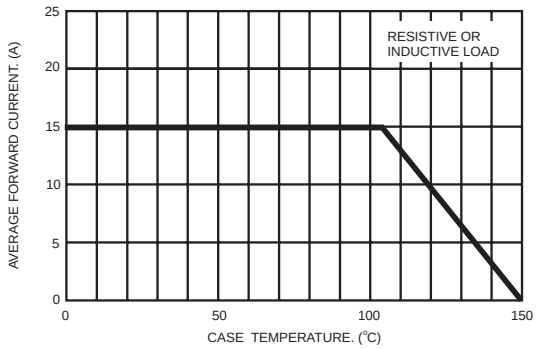

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

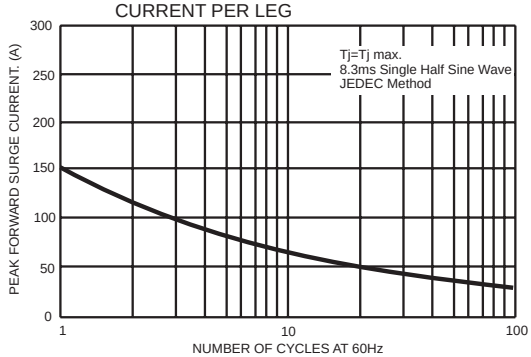

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

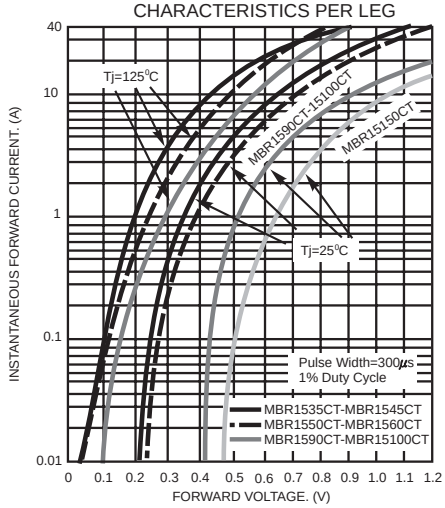

FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

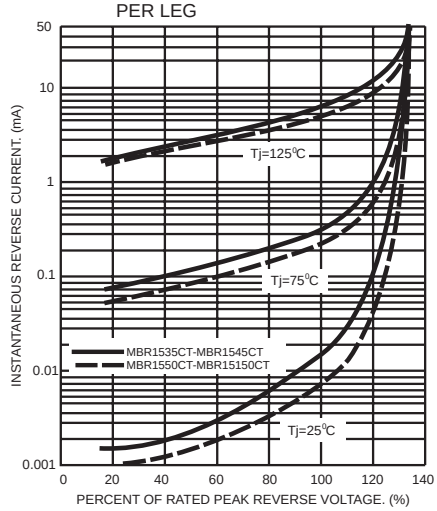

FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

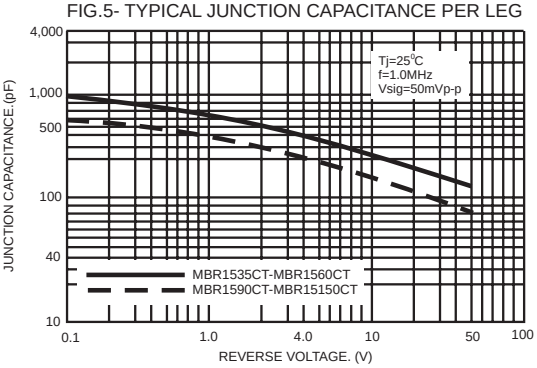

FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG