



# MBR1535CT THRU MBR15100CT

## 15.0 AMPS. Schottky Barrier Rectifiers



Voltage Range  
35 to 100 Volts  
Current  
15.0 Amperes

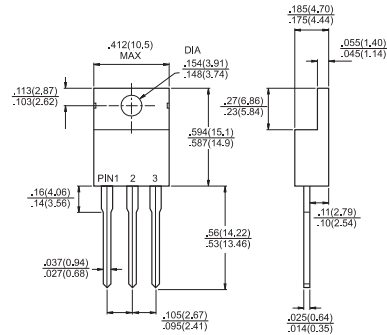
### Features

- ✦ 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: JEDEC TO-220 molded plastic body
- ✦ Terminals: Leads 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

### TO-220



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	MBR 1535CT	MBR 1545CT	MBR 1550CT	MBR 1560CT	MBR 1590CT	MBR 15100CT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current at $T_C=105^\circ\text{C}$	$I_{(AV)}$	15						A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C=105^\circ\text{C}$	$I_{FRM}$	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) $I_F=7.5\text{A}, T_C=25^\circ\text{C}$ $I_F=7.5\text{A}, T_C=125^\circ\text{C}$ $I_F=15\text{A}, T_C=25^\circ\text{C}$ $I_F=15\text{A}, T_C=125^\circ\text{C}$	$V_F$	0.57 0.84 0.72 —	—	0.75 0.65 — —	—	0.92 0.82 — —	—	V
Maximum Instantaneous Reverse Current @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 2) @ $T_C=125^\circ\text{C}$	$I_R$	0.1 15.0	—	1.0 50.0	—	0.1 —	—	mA mA
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	1,000						V/ $\mu\text{s}$
Typical Junction Capacitance	$C_j$	400				200		pF
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	10 1.5				—		$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-65 to +150						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175						$^\circ\text{C}$

Notes: 1. 2.0us Pulse Width,  $f=1.0\text{ KHz}$

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 (MBR1535CT THRU MBR15100CT)

FIG.1- FORWARD CURRENT DERATING CURVE

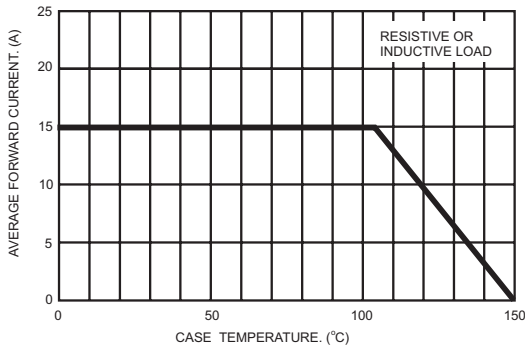


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

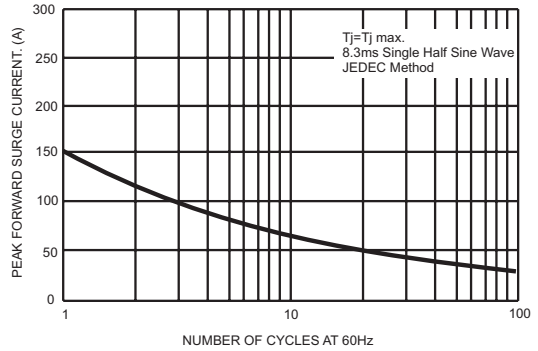


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

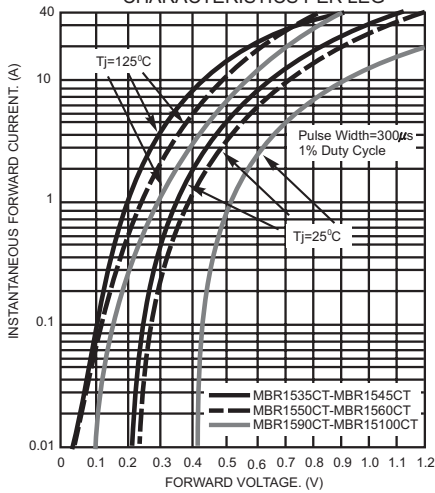


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

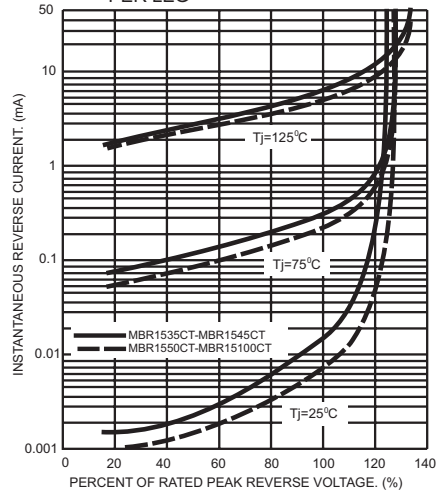


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

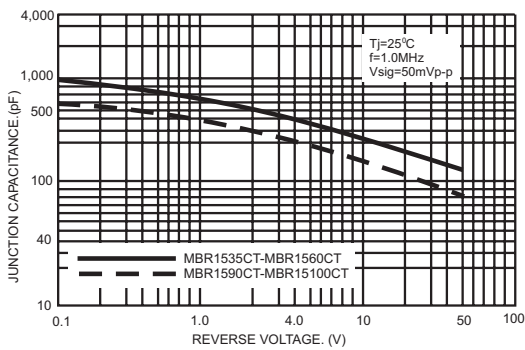


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

