



MBR1535CT THRU MBR15100CT

15.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 100 Volts
Current
15.0 Amperes

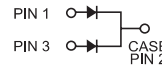
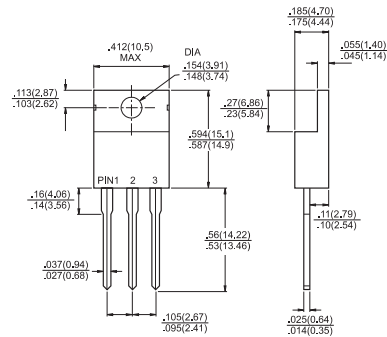
Features

- ✦ 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	MBR	MBR	MBR	MBR	MBR	Units	
		1535CT	1545CT	1550CT	1560CT	1590CT	15100CT		
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	
Voltage Rate of Change (Rated V_R)	dV/dt	1,000						V/ μS	
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	TSTG	-65 to +175						$^\circ\text{C}$	

Notes: 1. 2.0us Pulse Width, $f=1.0$ 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

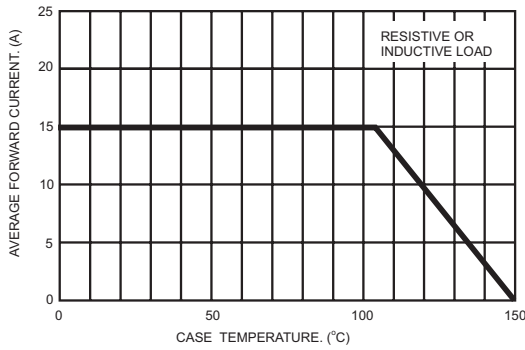


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

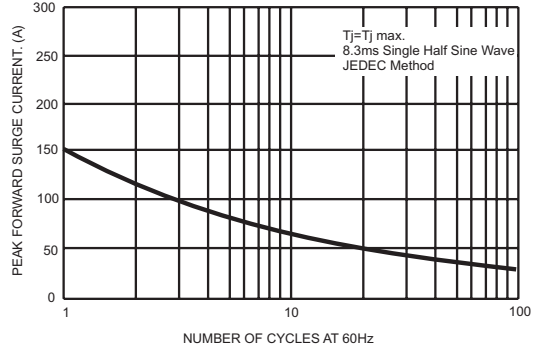


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

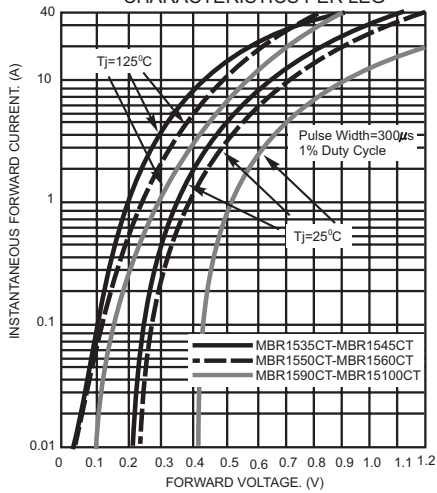


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

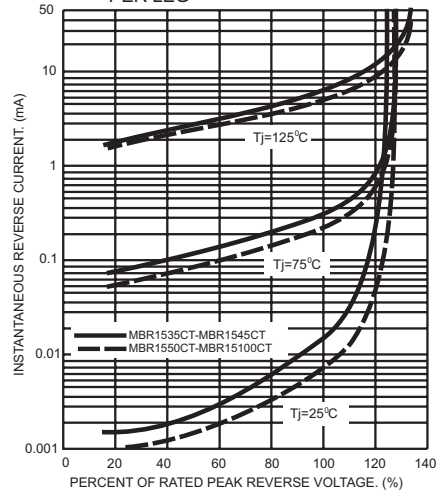


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

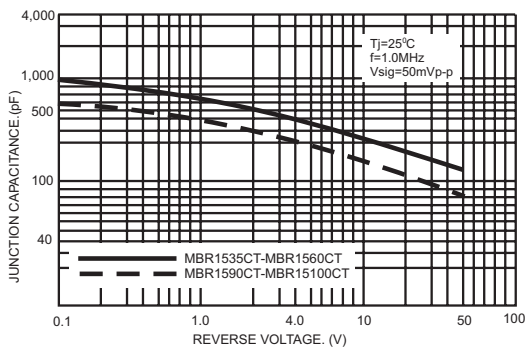


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

