



# MBR10100CT THRU MBR10200CT

## 10.0 AMPS. Schottky Barrier Rectifiers



Voltage Range  
100 to 200 Volts  
Current  
10.0 Amperes

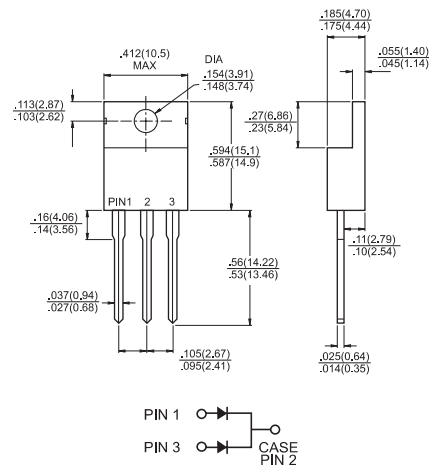
### Features

- ✦ 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 overvoltage 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: Lead 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 10100CT	MBR 10150CT	MBR 10200CT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	100	150	200	V
Maximum Average Forward Rectified Current at $T_c=125^\circ\text{C}$	$I_{(AV)}$	10			A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_c=125^\circ\text{C}$	$I_{FRM}$	32.0			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) $I_F=5A, T_c=25^\circ\text{C}$ $I_F=5A, T_c=125^\circ\text{C}$	$V_F$	0.85 0.75	0.88 0.78	0.99 0.87	V
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 2)	$I_R$	0.008			0.2 mA
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000			V/ $\mu\text{S}$
Maximum Typical Thermal Resistance (Note 3)	$R_{\theta_{jc}}$	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. 2.0 $\mu\text{s}$  Pulse Width,  $f=1.0$  KHz

2. Pulse Test: 300 $\mu\text{s}$  Pulse Width, 1% Duty Cycle

3. Thermal Resistance from Junction to Case Per Leg, Mount on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plate.



## RATINGS AND CHARACTERISTIC CURVES (MBR10100CT THRU MBR10200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

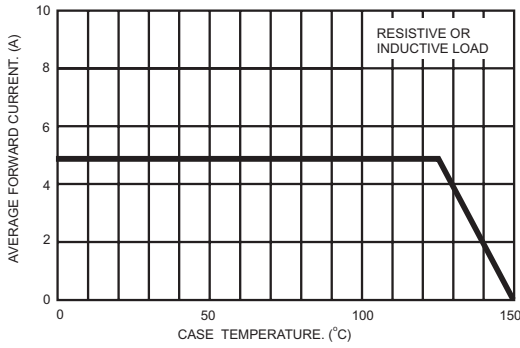


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

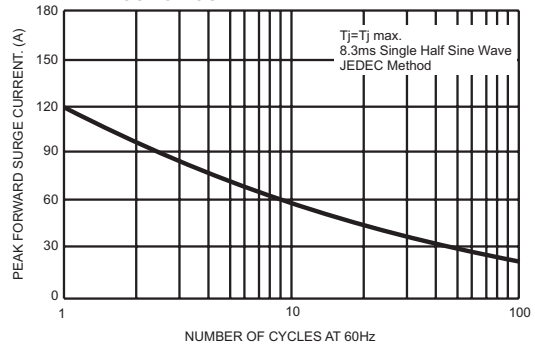


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

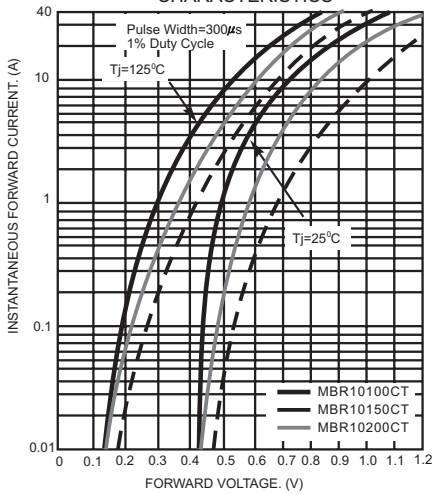


FIG.4- TYPICAL REVERSE CHARACTERISTICS

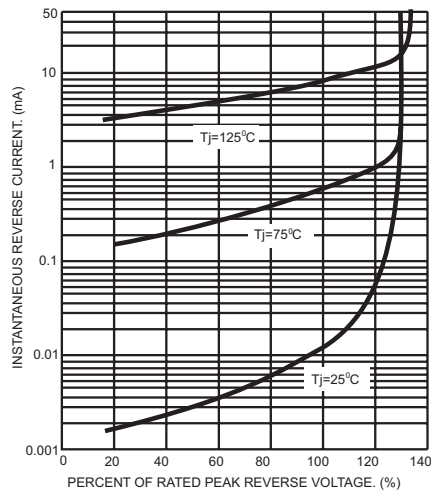


FIG.5- TYPICAL JUNCTION CAPACITANCE

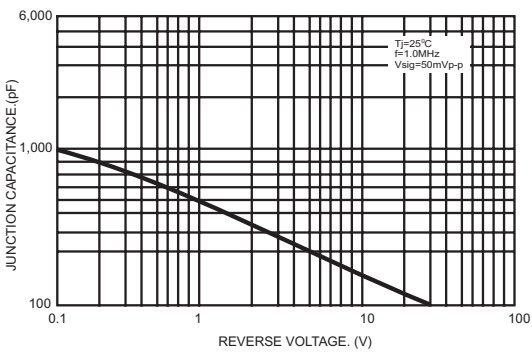


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

