



## Features:

# RoHS Compliant

- · Plastic material
- · Metal silicon rectifier, 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 over voltage protection
- High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case

### **Specifications:**

#### **Mechanical Data:**

Cases : JEDEC TO-220AB moulded 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 : 0.08oz, 2.24g

### **Maximum Ratings and Electrical Characteristics:**

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Parameter	Symbol	MBR 1545CT	MBR 1560CT	MBR 15100CT	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	45	60	100	
Maximum RMS Voltage	V <sub>RMS</sub>	31	42	70	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	45	60	100	
Maximum Average Forward Rectified Current at T <sub>C</sub> = 105°C	I(AV)		15		
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20kHz) at T <sub>C</sub> = 105°C	I <sub>FRM</sub>	15		А	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I <sub>FSM</sub>	150			

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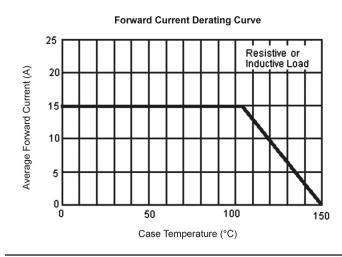
Parameter	Symbol	MBR 1545CT	MBR 1560CT	MBR 15100CT	Units
Peak Repetitive Reverse Surge Current (Note 1)	I <sub>RRM</sub>	1	0.5		А
Maximum Instantaneous Forward Voltage at: (Note 2) $I_F = 7.5 \text{A}, \ T_C = 25^{\circ}\text{C}$ $I_F = 7.5 \text{A}, \ T_C = 125^{\circ}\text{C}$ $I_F = 15 \text{A}, \ T_C = 25^{\circ}\text{C}$ $I_F = 15 \text{A}, \ T_C = 125^{\circ}\text{C}$	V <sub>F</sub>	0.57 0.84 0.72 -	0.75 0.65 - -	0.92 0.82 - -	V
Maximum Instantaneous Reverse Current at $T_C = 25^{\circ}C$ at Rated DC Blocking Voltage at $T_C = 125^{\circ}C$ (Note 2)	I <sub>R</sub>	0.5 10	0.3 7.5	0.1 5	μΑ μΑ
Voltage Rate of Change (Rated V <sub>R</sub> )	dV/dt	10,000			V/µS
Typical Junction Capacitance	C <sub>j</sub>	400 200		pF	
Maximum Typical Thermal Resistance, (Note 3)	R <sub>θJA</sub> R <sub>θJC</sub>	10 1.5			°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-65 to +150			°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +175			

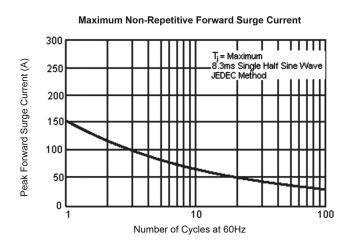
Note: 1. 2µs Pulse Width, f = 1kHz.

Note: 2. Pulse Test: 300µs Pulse Width, 1% Duty Cycle.

Note: 3. Mount on Heatsink Size of 2" × 3" × 0.25" Al-Plate.

### Ratings and Characteristic Curves (MBR15100CT, MBR1545CT and MBR1560CT)



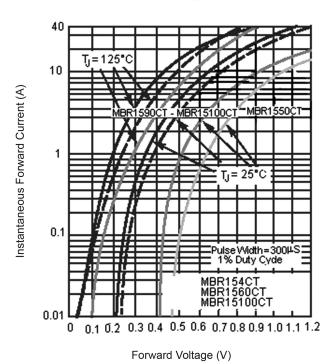


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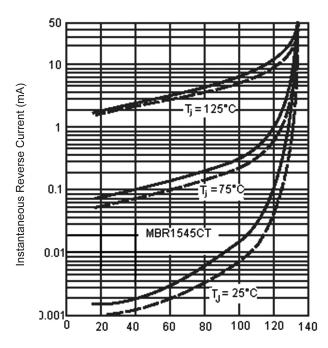




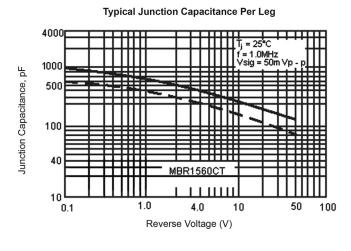
#### Typical Instantaneous Forward Characteristics Per Leg



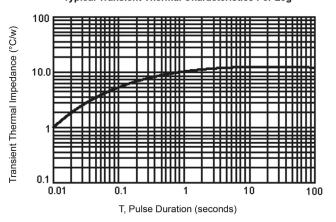
Typical Reverse Characteristics Per Leg



Percent of Rated Peak Reverse Voltage (%)

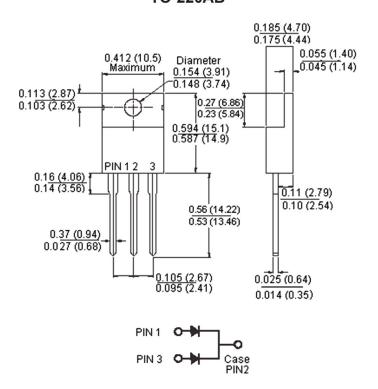


Typical Transient Thermal Characteristics Per Leg





### **TO-220AB**



Dimensions: Inches (Millimetres)

### **Part Number Table**

Description	Part Number			
Diode, Schottky, 15A, 100V	MBR15100CT			
Diode, Schottky, 15A, 45V	MBR1545CT			
Diode, Schottky, 15A, 60V	MBR1560CT			

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