

**RoHS  
Compliant**

## Features:

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

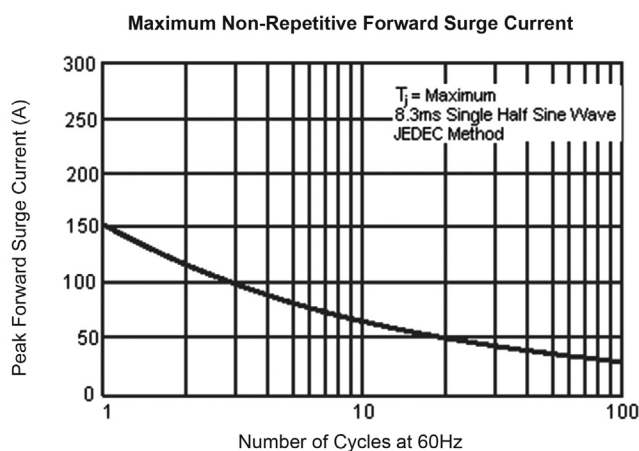
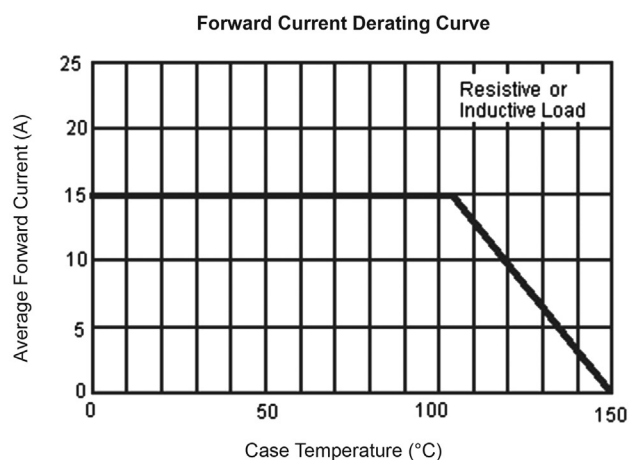
Parameter	Symbol	MBR 1545CT	MBR 1560CT	MBR 15100CT	Units
Peak Repetitive Reverse Surge Current (Note 1)	I <sub>RRM</sub>	1	0.5		A
Maximum Instantaneous Forward Voltage at: (Note 2)  I <sub>F</sub> = 7.5A, T <sub>C</sub> = 25°C I <sub>F</sub> = 7.5A, T <sub>C</sub> = 125°C I <sub>F</sub> = 15A, T <sub>C</sub> = 25°C I <sub>F</sub> = 15A, T <sub>C</sub> = 125°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 <sub>C</sub> = 25°C at Rated DC Blocking Voltage at T <sub>C</sub> = 125°C (Note 2)	I <sub>R</sub>	0.5 10	0.3 7.5	0.1 5	µA µA
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.** 2 $\mu s$  Pulse Width,  $f = 1kHz$ .

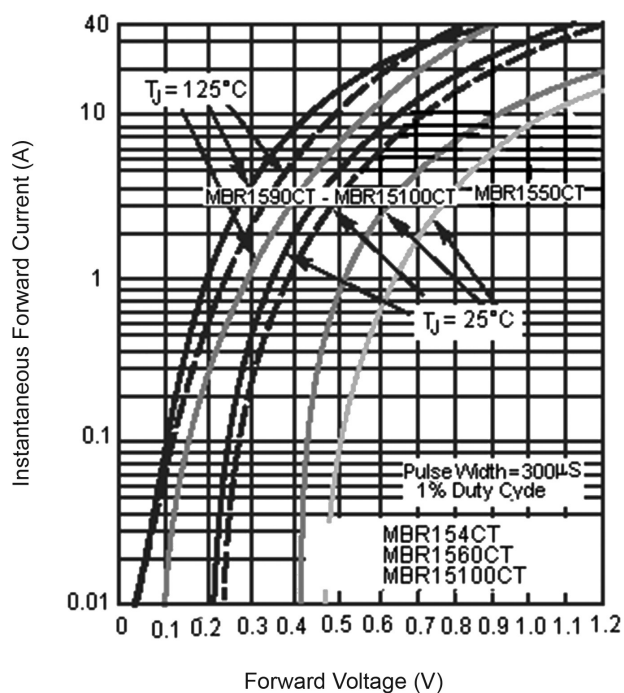
**Note: 2.** Pulse Test: 300 $\mu s$  Pulse Width, 1% Duty Cycle.

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

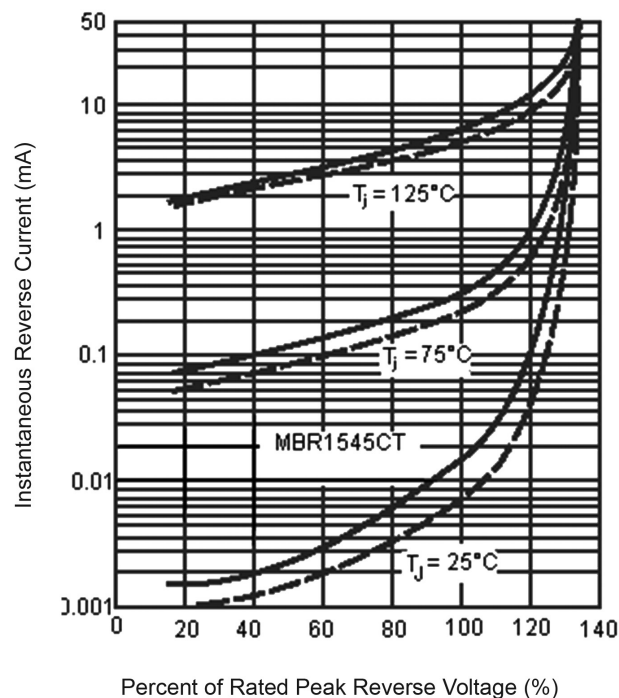
## Ratings and Characteristic Curves (MBR15100CT, MBR1545CT and MBR1560CT)



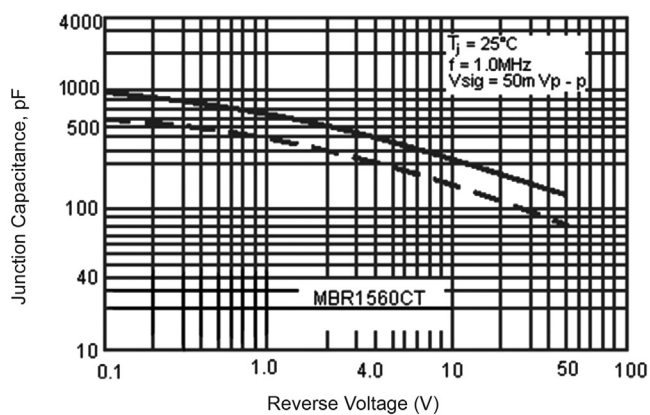
Typical Instantaneous Forward Characteristics  
Per Leg



Typical Reverse Characteristics Per Leg



Typical Junction Capacitance Per Leg



Typical Transient Thermal Characteristics Per Leg

