



### 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 power supply – output rectification, power management, instrumentation
- ✧ Guarding for overvoltage protection
- ✧ High temperature soldering guaranteed:  
260°C/10 seconds, 0.25" (6.35mm) from case

### Mechanical Data

- ✧ Cases: JEDEC TO-220AB molded 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: 0.08 ounce, 2.24 grams

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

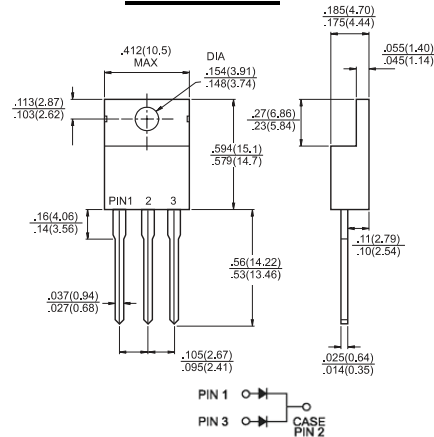
For capacitive load, derate current by 20%

Type Number	Symbol	MBR 20H100CT	MBR 20H150CT	MBR 20H200CT	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	100	150	200	V
Maximum RMS Voltage	V <sub>RMS</sub>	70	105	140	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	100	150	200	V
Maximum Average Forward Rectified Current at T <sub>C</sub> =125°C	I <sub>(AV)</sub>	20			A
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20KHz) at T <sub>C</sub> =125°C	I <sub>FRM</sub>	20			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	150			A
Peak Repetitive Reverse Surge Current (Note 1)	I <sub>RRM</sub>	1.0		0.5	A
Maximum Instantaneous Forward Voltage at: (Note 2) I <sub>F</sub> =10A, T <sub>C</sub> =25°C I <sub>F</sub> =10A, T <sub>C</sub> =125°C I <sub>F</sub> =20A, T <sub>C</sub> =25°C I <sub>F</sub> =20A, T <sub>C</sub> =125°C	V <sub>F</sub>	0.85 0.75 0.95 0.85	0.88 0.75 0.97 0.85		V
Maximum Instantaneous Reverse Current @ T <sub>C</sub> =25°C at Rated DC Blocking Voltage @ T <sub>C</sub> =125°C (Note 2)	I <sub>R</sub>	5 2.0			uA mA
Voltage Rate of Change (Rated V <sub>R</sub> )	dV/dt	10,000			V/uS
Maximum Typical Thermal Resistance (Note 3)	R <sub>θJC</sub>	1.5			°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-65 to +175			°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +175			°C

Notes:

- 2.0 $\mu s$  Pulse Width,  $f=1.0$  KHz
- Pulse Test: 300 $\mu s$  Pulse Width, 1% Duty Cycle
- Thermal Resistance from Junction to Case Per Leg, Mount on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.

### TO-220AB



Dimensions in inches and (millimeters)



### Marking Diagram

MBR20HXXCT = Specific Device Code  
G = Green Compound  
Y = Year  
WW = Work Week



RATINGS AND CHARACTERISTIC CURVES (MBR20H100CT - MBR20H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

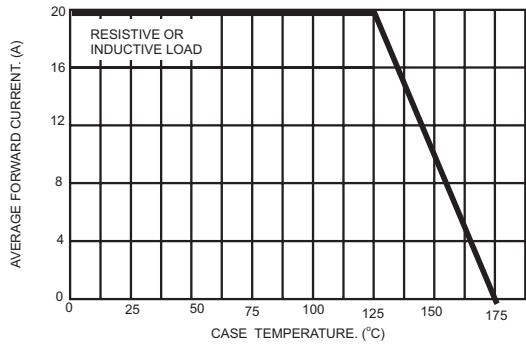


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

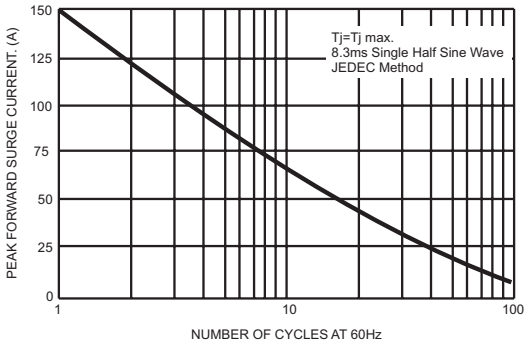


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

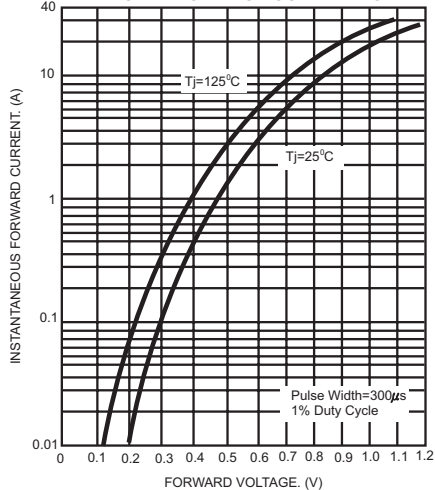


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

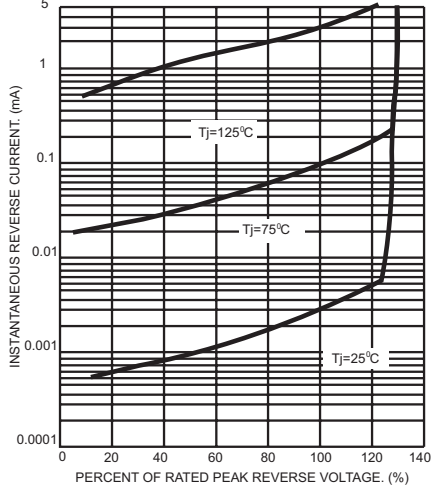


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

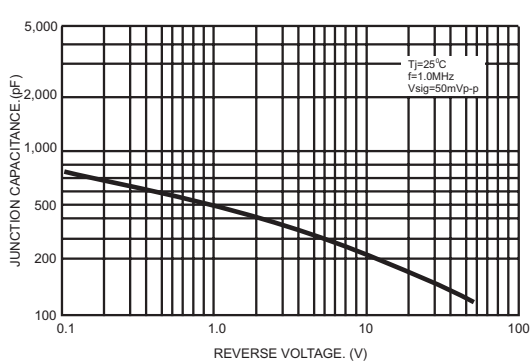


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

