

## Features

- ✧ Plastic material used carriers Underwriters Laboratory Classification 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
- ✧ Guard-ring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds 0.25", (6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



## 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: 1.82 grams

## Ordering Information(example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBR20H100CT	TO-220AB	50 / TUBE	D0	D0G

## 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	$V_{RRM}$	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	$I_{F(AV)}$	20			A
Peak Repetitive Surge Current (Rated $V_R$ , Square Wave, 20KHz)	$I_{FRM}$	20			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) IF=10A, $T_A=25^{\circ}C$ IF=10A, $T_A=125^{\circ}C$ IF=20A, $T_A=25^{\circ}C$ IF=20A, $T_A=125^{\circ}C$	$V_F$	0.85 0.75 0.95 0.85	0.88 0.75 0.97 0.85		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @ $T_A=25^{\circ}C$	$I_R$	5			uA
@ $T_A=125^{\circ}C$		2			mA
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	10,000			V/us
Maximum Typical Thermal Resistance	$R_{\theta JC}$	1.5			$^{\circ}C/W$
Operating Junction Temperature Range	$T_J$	- 65 to + 175			$^{\circ}C$
Storage Temperature Range	$T_{STG}$	- 65 to + 175			$^{\circ}C$

Note 1: 2.0uS Pulse Width, f=1.0KHz

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

RATINGS AND CHARACTERISTIC CURVES (MBR20H100CT THRU MBR20H200CT)

FIG. 1- FORWARD CURRENT DERATING CURVE

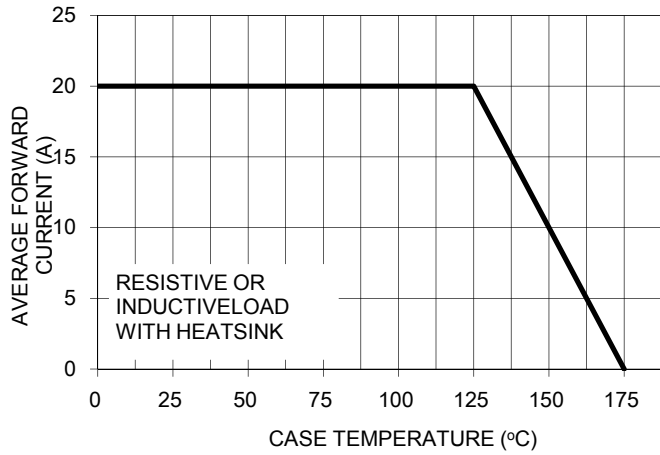


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

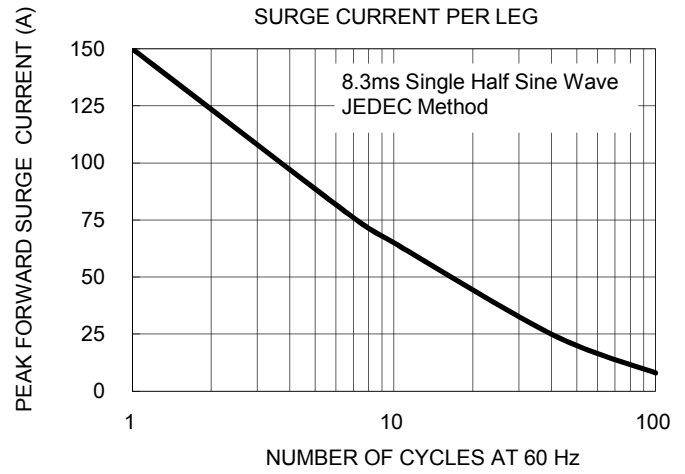


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

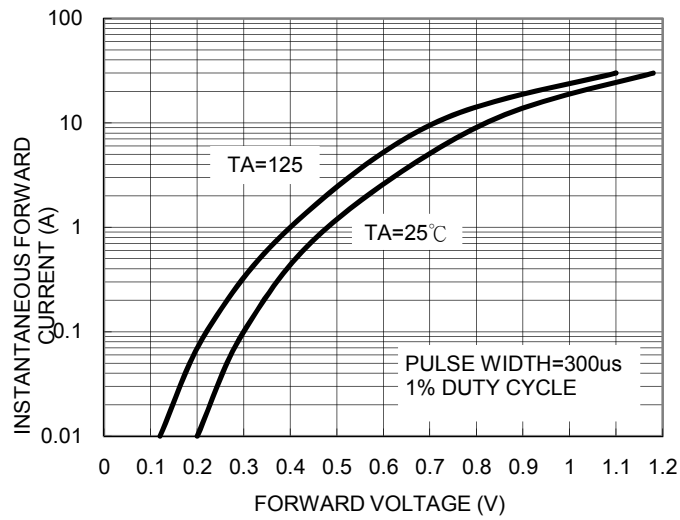


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

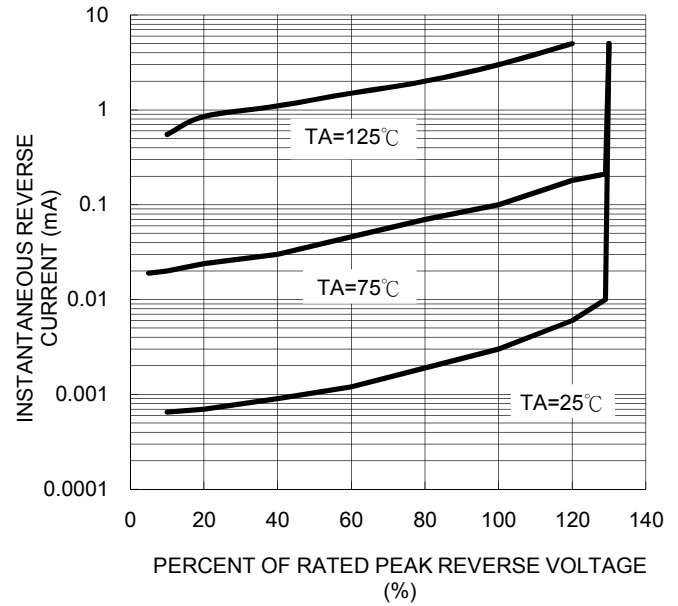


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

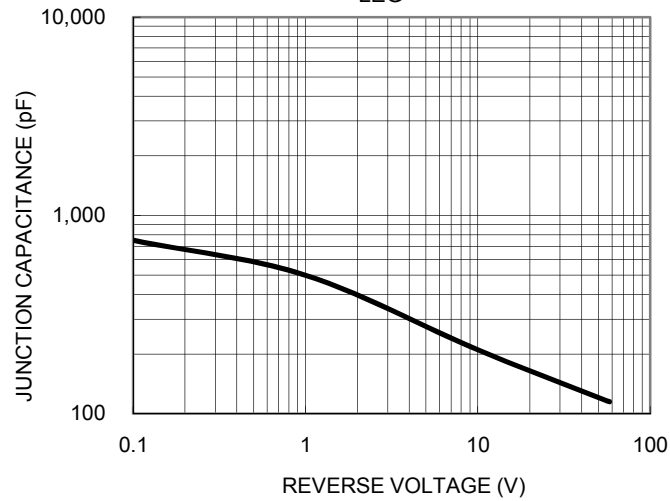
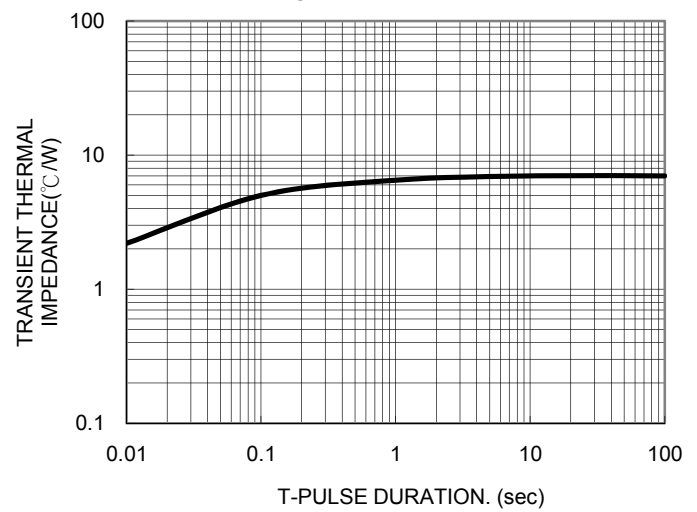


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

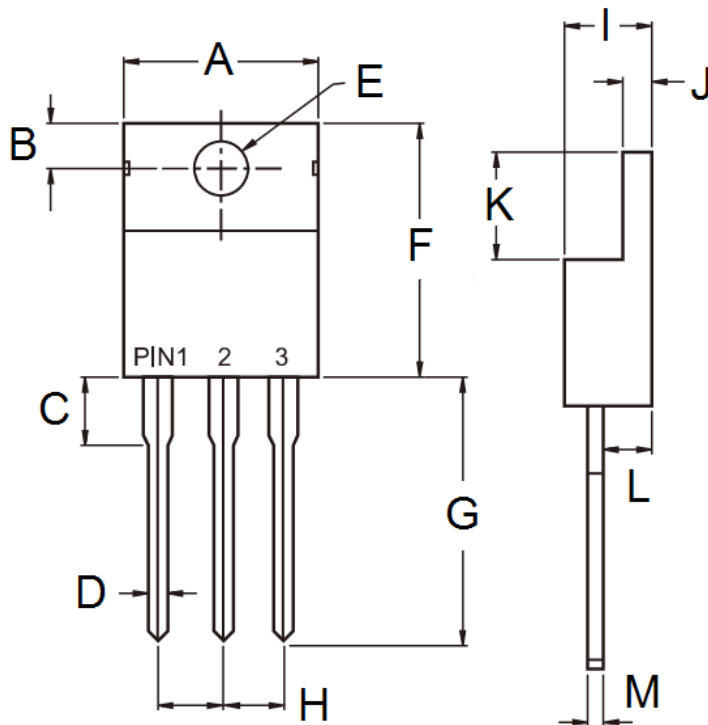


### Ordering information

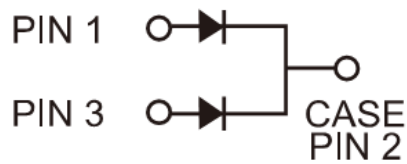
Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBR20HxxCT	TO-220AB	50 / TUBE	C0	C0G
	TO-220AB	50 / TUBE	D0	D0G

Note: "xx" is Device Code from "100" thru "200".

### Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025



### Marking Diagram



P/N = Specific Device Code  
 G = Green Compound  
 YWW = Date Code