

### Features

- ◇ Low power loss, high efficiency
- ◇ High current capability, low forward voltage drop
- ◇ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ◇ High surge current capability
- ◇ Guard-ring for overvoltage protection
- ◇ For use in low voltage - high frequency inverter, free wheeling, and polarity protection application
- ◇ High temperature soldering guaranteed: 260°C/10 seconds
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode



### Mechanical Data

- ◇ Case: TO-220AB
- ◇ Terminals: Pure tin plated leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◇ Polarity: As marked
- ◇ Weight: 1.92 grams
- ◇ Mounting torque: 5 in- lbs, max
- ◇ Mounting position: Any

### Ordering Information(example)

Part No.	Package	Packing	Packing code	Packing code (Green)
MBR30H100CT	TO-220AB	50 / TUBE	C0	C0G

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR30H100CT	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Maximum RMS Voltage	$V_{RMS}$	70	V
Maximum DC Blocking Voltage	$V_{DC}$	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	30	A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz)	$I_{F(RMS)}$	30	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	$I_{FSM}$	150	A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1	A
Maximum Instantaneous Forward Voltage (Note 2) $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$ $I_F=30A, T_A=25^\circ C$ $I_F=30A, T_A=125^\circ C$	$V_F$	0.85 0.75 0.98 0.85	V
Maximum Reverse Current @ Rated $V_R$ $T_A=25^\circ C$ $T_A=125^\circ C$	$I_R$	10 2	uA mA
Voltage Rate of Change, (Rated $V_R$ )	dV/dt	10000	V/us
Typical Junction Capacitance (Note 3)	$C_j$	400	pF
Typical Thermal Resistance	$R_{\theta JC}$	2	°C/W
Operating Temperature Range	$T_J$	- 65 to + 175	°C
Storage Temperature Range	$T_{STG}$	- 65 to + 175	°C

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

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

Note 3: Measure at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

Version:G12

RATINGS AND CHARACTERISTIC CURVES (MBR30H100CT)

FIG.1 FORWARD CURRENT DERATING CURVE

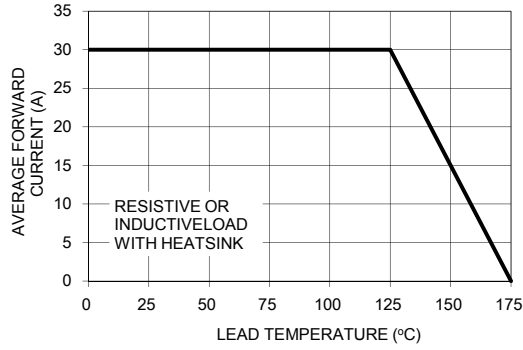


FIG. 2 MAXIMUM FORWARD SURGE CURRENT PER LEG

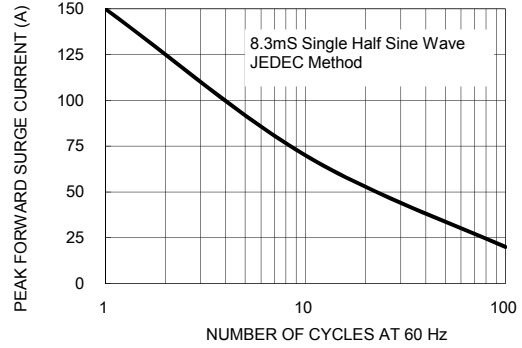


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

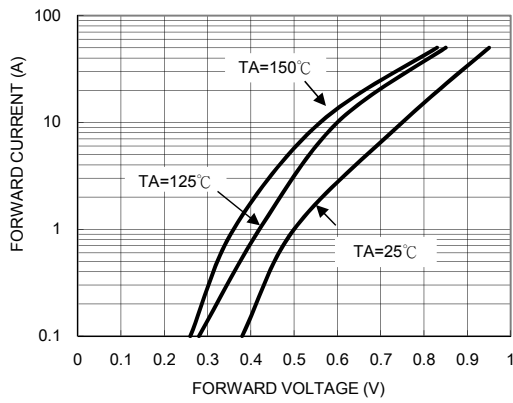


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

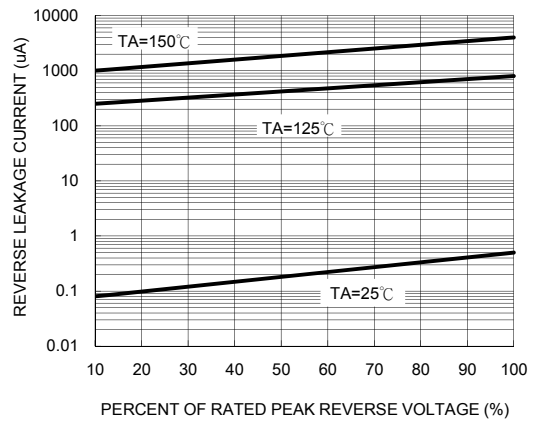


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

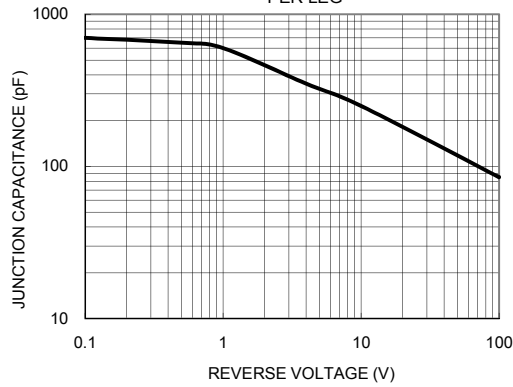
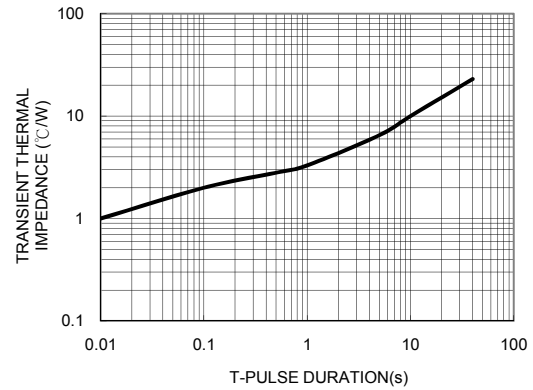
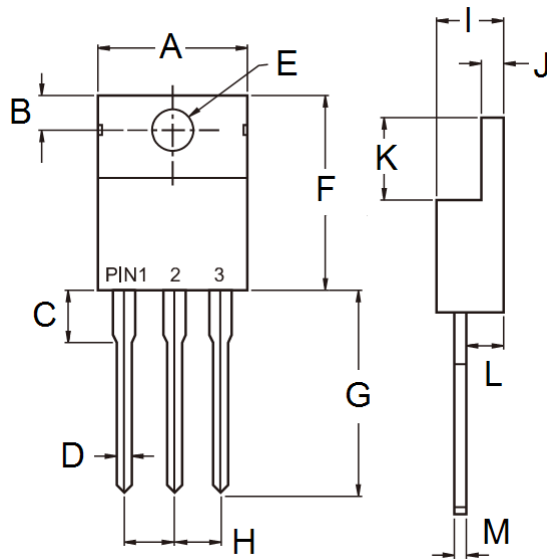


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

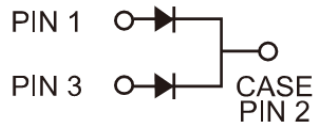


**Ordering information**

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
MBR30H100CT	TO-220AB	50 / TUBE	C0	C0G

**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