



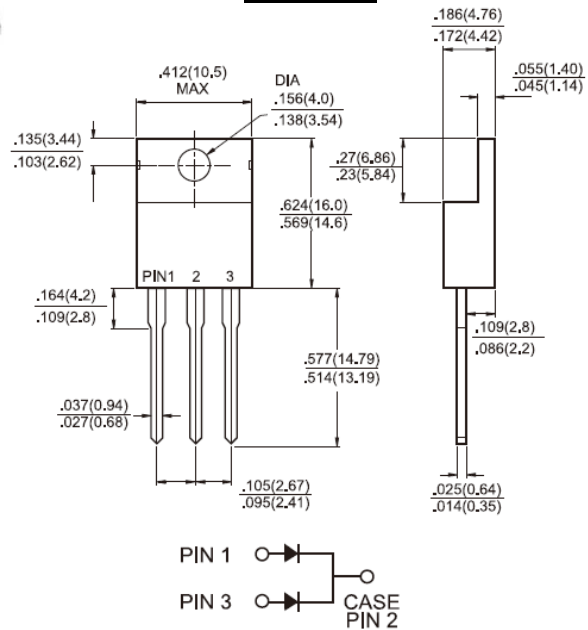
# MBR30H100CT

## 30.0AMPS. Schottky Barrier Rectifiers

### TO-220AB

### Features

- ✦ UL Recognized File #E-326243
- ✦ 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/.375", (9.5mm) lead lengths at 5 lbs.,(2.3kg) tension
- ✦ Qualified as per AEC-Q101
- ✦ 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

### Dimensions in inches and (millimeters)

#### Marking Diagram



- MBR30HXXXCT = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### 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	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 IF=15A, $T_A=25^\circ C$ IF=15A, $T_A=125^\circ C$ IF=30A, $T_A=25^\circ C$ IF=30A, $T_A=125^\circ C$	$V_F$	0.85 0.75 0.98 0.85	V
Maximum Reverse Current @ Rated $V_R$ (Note 2)	$I_R$	10 2	$\mu A$ mA
Maximum Reverse Current @ Rated $V_R$ (Note 2)	$I_R$	10 2	$\mu A$ 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 (Note 4)	$R_{\theta JC}$	2	$^\circ C/W$
Operating 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

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

Note 4: Heatsink Size (4" x 6" x 0.25") Al-Plate

### RATINGS AND CHARACTERISTIC CURVES (MBR30H100CT)

FIG. 1 FORWARD CURRENT DERATING CURVE

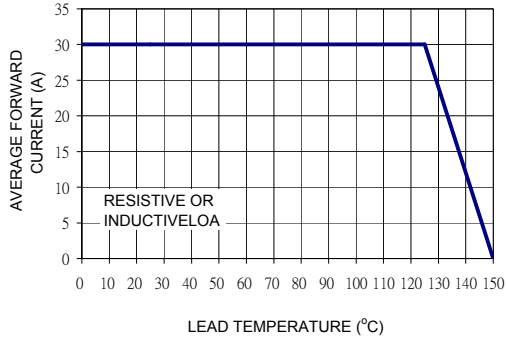


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

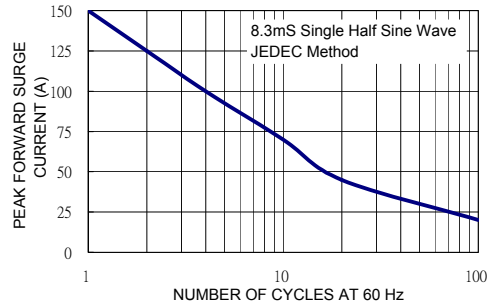


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

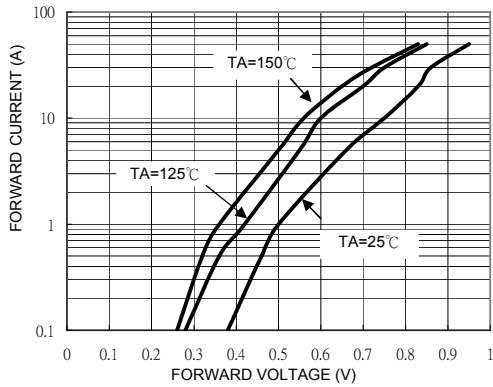


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

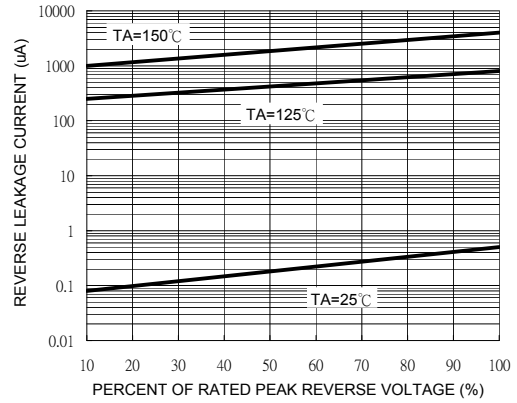


FIG. 5 TYPICAL JUNCTION CAPACITANCE

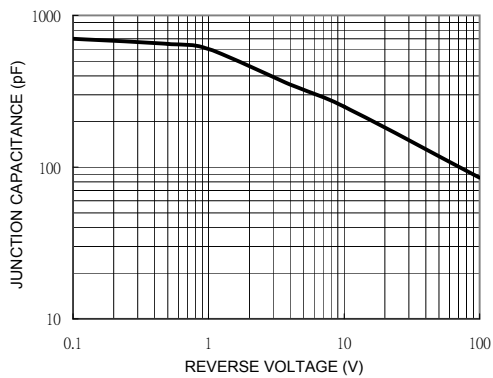


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

