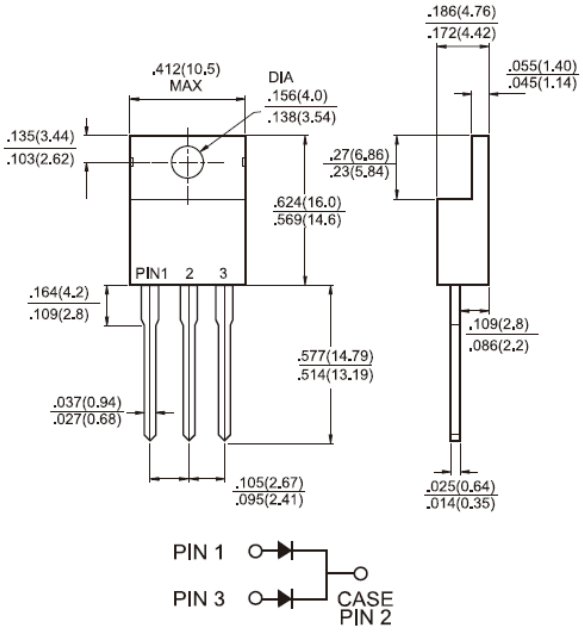
MBR30L45CT - MBR30L100CT

TO-220AB



Dimensions in inches and (millimeters)

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 inventor, free wheeling, and polarity protection application
- High temperature soldering guaranteed: 260℃/10 seconds/.375", (9.5mm) lead lengths at 5 lbs.,(2.3kg) tension
- Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

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

Marking Diagram



MBR30LXXCT	= Specific Device Code
G	= Green Compound
Y	= Year
WW	= Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ 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 30L45CT	MBR 30L60CT	MBR 30L100CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	45	60	100	V
Maximum RMS Voltage	V_{RMS}	31	42	70	V
Maximum DC Blocking Voltage	V_{DC}	45	60	100	V
Maximum Average Forward Rectified Current @ T_C=120℃	$I_{F(AV)}$	30			A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20KHz) at Tc=130℃	I_{FRM}	30			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	220			A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1			A
Maximum Instantaneous Forward Voltage IF=15A, T_A=25℃ IF=15A, T_A=125℃ IF=30A, T_A=25℃ IF=30A, T_A=125℃	V_F	 0.55 0.50 0.74 0.67	 0.60 0.56 0.75 0.70	 0.66 0.57 0.80 0.66	V
Maximum Reverse Current @ Rated V_R T_A=25 ℃	I_R	0.4	0.48	0.2	uA
(Note 2) T_A=100 ℃		200	150	15	mA
Voltage Rate of Change,(Rated V_R)	dV/dt	10000			V/us
Typical Junction Capacitance (Note 3)	Cj	600	460		pF
Typical Thermal Resistance (Note 4)	$R_{\theta jC}$	1			^{O}C/W
Operating Temperature Range	T_J	- 65 to + 150			^{O}C
Storage Temperature Range	T_{STG}	- 65 to + 175			^{O}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

FIG.1 FORWARD CURRENT DERATING CURVE

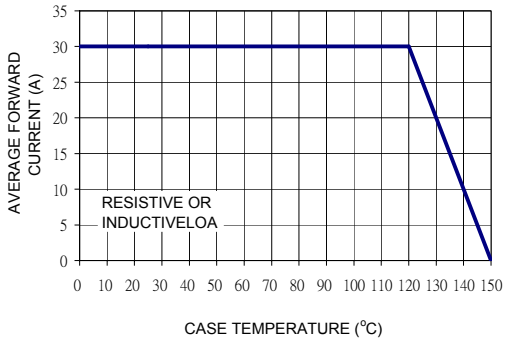


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

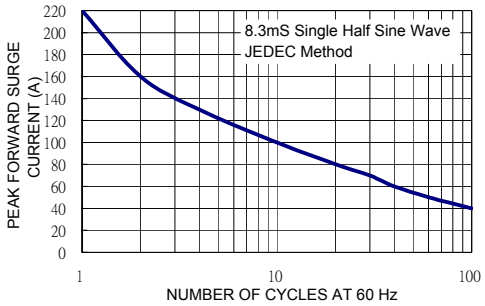


FIG. 3 TYPICAL FORWARD CHARACTERISRICS

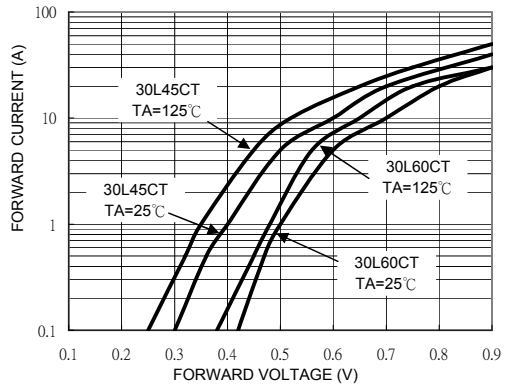


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

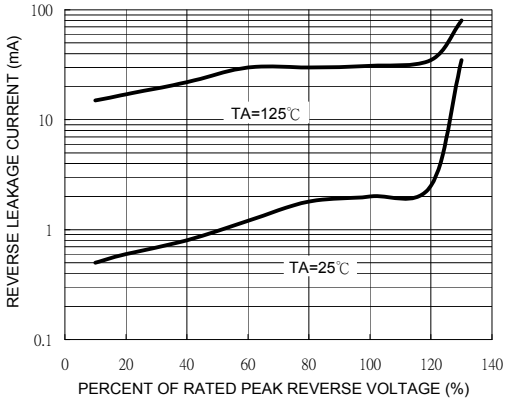


FIG. 5 TYPICAL JUNCTION CAPACITANCE

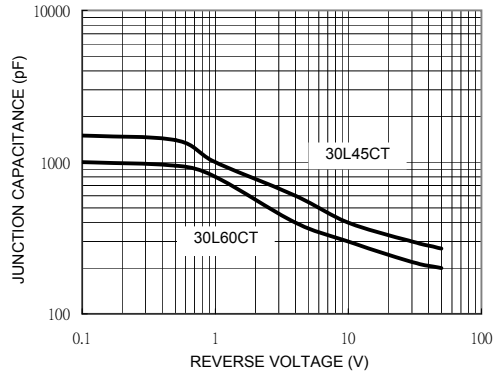


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

