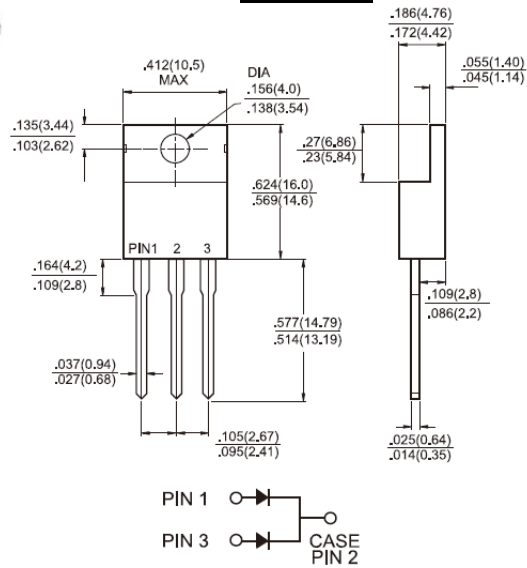




MBR30L45CT - MBR30L100CT
30.0AMPS Low V_F Schottky Barrier Rectifiers
TO-220AB

Features

- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ Plastic material used carries 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
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



Dimensions in inches and (millimeters)

Marking Diagram



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

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

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 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	$I_{F(AV)}$	30			A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz)	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 (Note 2) $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$	V_F	0.55 0.50	0.60 0.56	0.77 0.67	V
Maximum Reverse Current @ Rated V_R $T_A=25^\circ C$ $T_A=100^\circ C$	I_R	0.4 200	0.48 150	0.5 32	mA
Voltage Rate of Change,(Rated V_R)	dV/dt	10000			V/us
Typical Junction Capacitance (Note 3)	C_j	600	460		pF
Typical Thermal Resistance	$R_{\theta JC}$	1			$^\circ C/W$
Operating Temperature Range	T_J	- 65 to + 150			$^\circ C$
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.

RATINGS AND CHARACTERISTIC CURVES (MBR30L45CT THRU MBR30L100CT)

FIG.1 FORWARD CURRENT DERATING CURVE

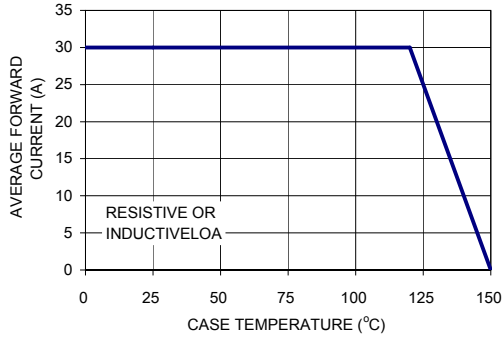


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

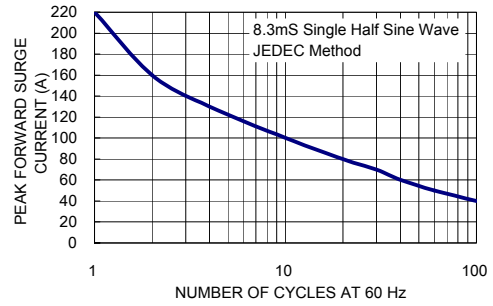


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

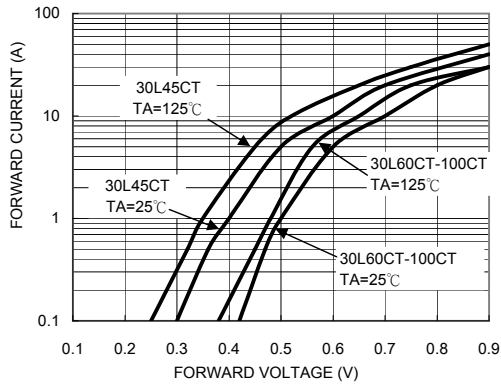


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

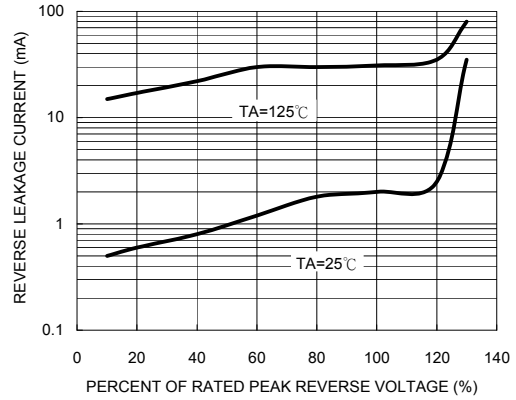


FIG. 5 TYPICAL JUNCTION CAPACITANCE

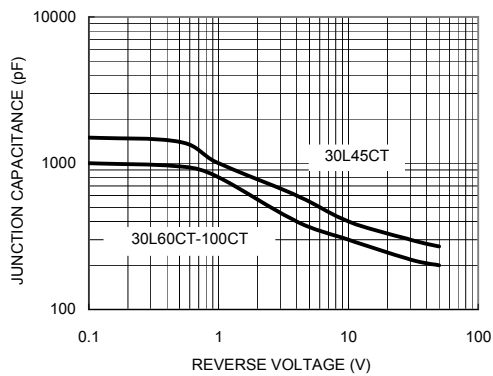


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

