



MBR30L45CT - MBR30L100CT 30.0 AMP. Schottky Barrier Rectifiers TO-220AB

Features

- Low power loss, high efficiency.
- High current capability, Low forward voltage drop.
- Plastic material used carries Underwriters Laboratory Classifications UL 94V-0
- High surge current capability.
- Guard-ring for transient protection.
- For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.
- High temperature soldering guaranteed: 260°C /10 seconds /3.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension

Mechanical Data

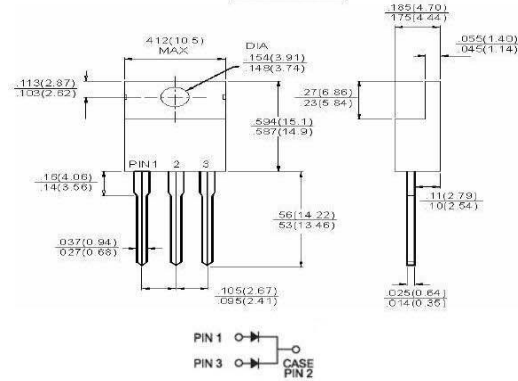
- Cases: JEDEC TO-220AB Molded plastic
- Terminal: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: As marked
- Mounting position : Any
- Mounting Torque : 5 in-lbs. max.
- Weight: 2.24 gram

Maximum Ratings and Electrical Characteristics

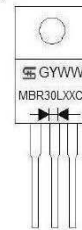
Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%



Dimensions in inches and (millimeters)



Marking Diagram

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

Type Number	Symbol	MBR30L45CT	MBR30L60CT	MBR30L100CT	Unit
Maximum Recurrent 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 .375 (9.5mm) Lead Length @TC = 120℃	$I_{(AV)}$	30			A
Peak Repetitive Forward Current (Rated VR, 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 (JEDEC method)	I_{FSM}	220			A
Peak Repetitive Reverse surge Current (Note 1)	I_{RRM}	1.0			A
Maximum Instantaneous Forward Voltage at (Note 2) IF=15A TC =25℃ IF=15A TC =125℃ IF=30A TC =25℃ IF=30A TC =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 DC Reverse Current @ TA=25℃ at Rated DC Blocking Voltage @ TA=100℃	I_R	0.4 200	0.48 150	0.2 15	mA
Voltage rate of change (rated VR)	dV/dt	10,000			V/uS
Typical Junction Capacitance (Note 2)	Cj	600	460		pF
Typical Thermal Resistance per leg.(Note 3)	RθJC	1.0			℃/W
Operating Temperature Range	TJ	-65 to +150			℃
Storage Temperature Range	TSTG	-65 to +175			℃

Notes: 1. 2.0 uS Pulse Width F=1.0kh, Continue 10 cycles

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

3. Thermal Resistance from junction to case Per Leg, with Heatsink size (4"x6"x0.25") Al-plate.

RATINGS AND CHARACTERISTIC CURVES (MBR30L45CT - MBR30L100CT)

Fig.1 Forward Current Derating Curve

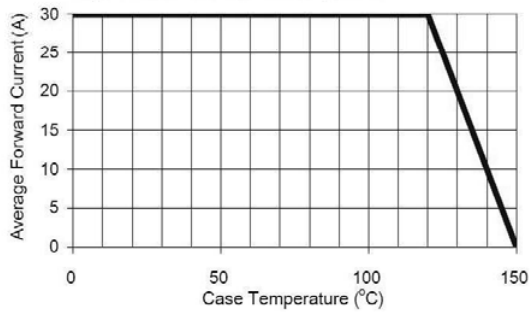


Fig.2 Maximum Forward Surge Current

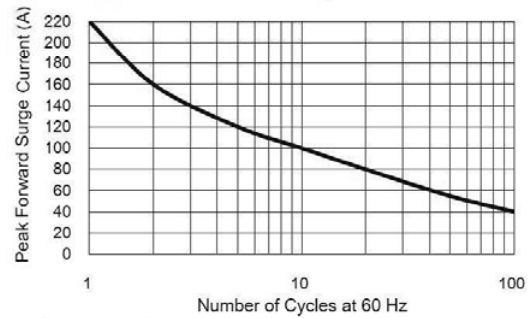


Fig.3 Maximum Reverse Leakage Current

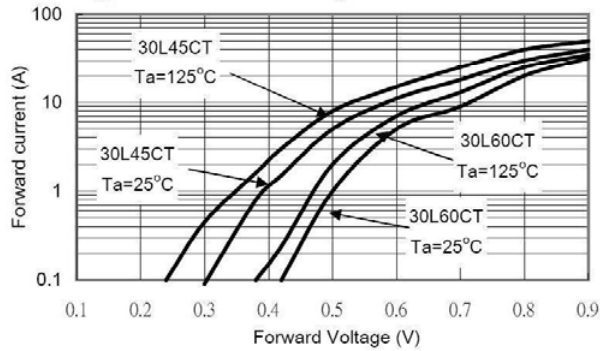


Fig.4 Typical Reverse Characteristics

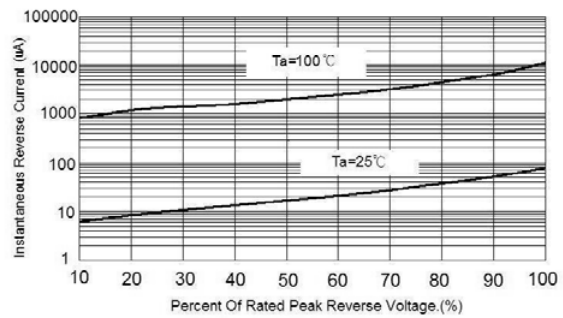


Fig.5 Typical Junction Capacitance

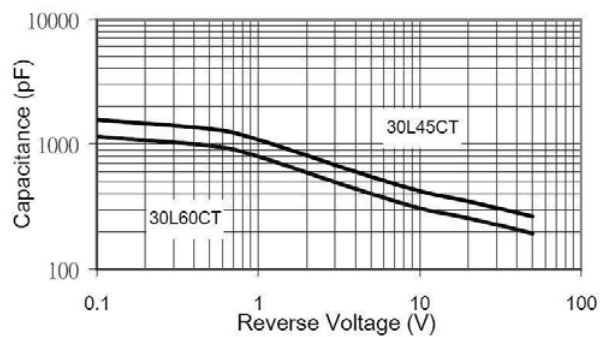


Fig.6 Typical Transient Thermal Resistance

