



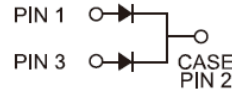
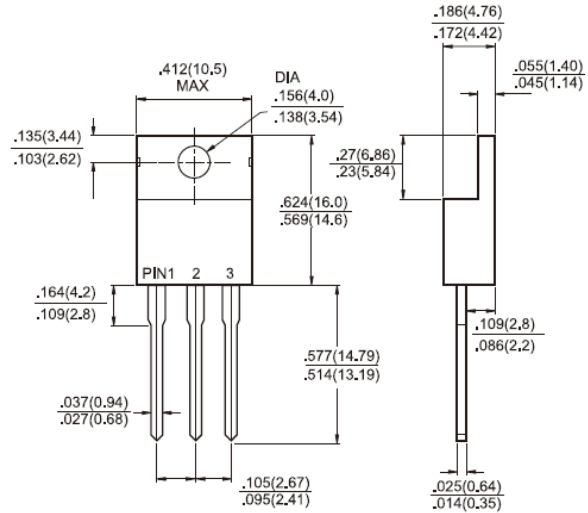
# MBR30L120CT

30.0AMPS. Low  $V_F$  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

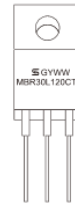


### Mechanical Data

- 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



- MBR30LXXCT = 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	MBR30L120CT		Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	120		V
Maximum RMS Voltage	$V_{RMS}$	84		V
Maximum DC Blocking Voltage	$V_{DC}$	120		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	$I_{FSM}$	200		A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1		A
Maximum Instantaneous Forward Voltage (Note 2) $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$ $I_F=30A, T_A=25^\circ C$ $I_F=30A, T_A=125^\circ C$	$V_F$	TYP	MAX	V
		0.81	0.88	
		0.66	0.75	
		0.89	0.95	
		0.76	0.82	
Maximum Reverse Current @ Rated $V_R$ $T_A=25^\circ C$ $T_A=125^\circ C$	$I_R$	TYP	MAX	uA
		1.1	20.0	mA
		1.7	25.0	
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	10000		V/us
Typical Junction Capacitance (Note 3)	$C_j$	360		pF
Typical Thermal Resistance (Note 4)	$R_{\theta JC}$	3		°C/W
Operating Temperature Range	$T_J$	- 55 to + 150		°C
Storage Temperature Range	$T_{STG}$	- 55 to + 150		°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 (MBR30L120CT)

FIG.1 FORWARD CURRENT DERATING CURVE

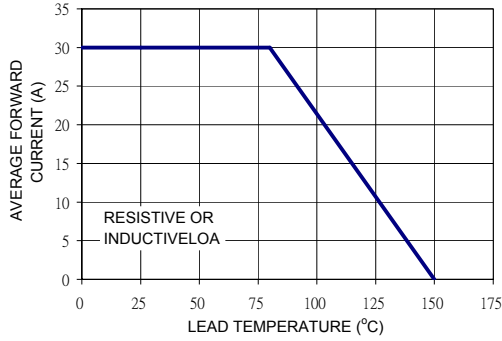


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

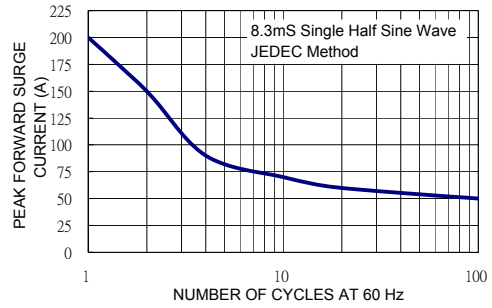


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

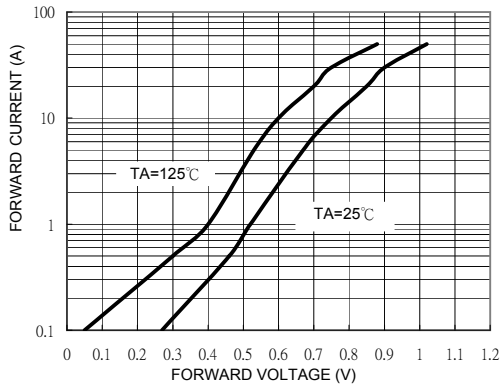


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

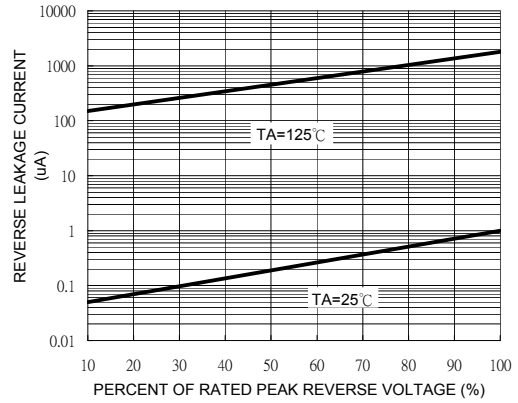


FIG. 5 TYPICAL JUNCTION CAPACITANCE

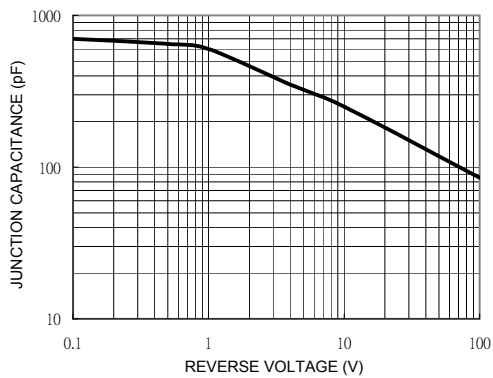


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

