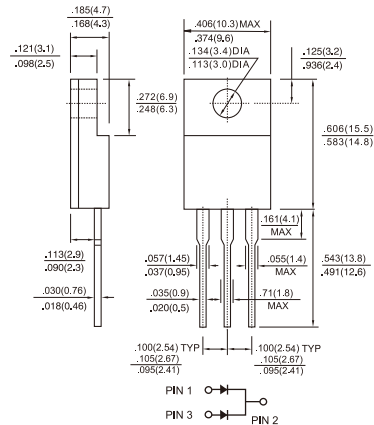


MBRF30L120CT

Isolated 30.0 AMPS. Low V_F Schottky Barrier Rectifiers

ITO-220AB



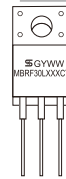
Features

- ✦ 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
- ✦ Qualified as per AEC-Q101
- ✦ Guard-ring for transient protection
- ✦ For use in low voltage, high frequency inverter, freewheeling, and polarity protection application
- ✦ High temperature soldering guaranteed:
260°C/10S/.375"(9.5mm) lead lengths 5 lbs tension
- ✦ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✦ Case: ITO-220AB
- ✦ Terminals: Pure tin plated leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✦ Polarity: As marked
- ✦ Weight: 1.72 grams
- ✦ Mounting Torque: 5 in-lbs. max.
- ✦ Mounting position: Any

Dimensions in inches and (millimeters)



Marking Diagram

MBRF30LXXXCT = 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	MBRF30L120CT	Units	
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 VR, 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 2)	I_{RRM}	1	A	
Maximum Instantaneous Forward Voltage @ 15A / $T_A=25^\circ\text{C}$ @ 15A / $T_A=125^\circ\text{C}$ @ 30A / $T_A=25^\circ\text{C}$ @ 30A / $T_A=125^\circ\text{C}$	V_F	TYP.	Max.	V
		0.81	0.88	
		0.66	0.75	
		0.89	0.95	
		0.76	0.82	
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1) @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	I_R	TYP.	Max.	uA mA
		1.1	20.0	
		1.7	25.0	
Voltage rate of change (rated V_R)	dV/dt	10,000	V/uS	
Typical Junction Capacitance (Note 3)	C_j	360	pF	
Typical Thermal Resistance (Note 4)	$R_{\theta JC}$	5.0	$^\circ\text{C/W}$	
Operating Temperature Range	T_J	-55 to + 150	$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-55 to + 150	$^\circ\text{C}$	

Note: 1. Pulse Test with PW=300 usec, 1% Duty Cycle
 2. 2.0uS Pulse Width, F=1.0KHz, Continues 10 cycles
 3. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
 4. Mount on Heatsink Size of 4" x 6" x 0.25" Al-Plate

RATINGS AND CHARACTERISTIC CURVES (MBRF30L120CT)

Fig.1 Maximum Forward Current Derating Curve

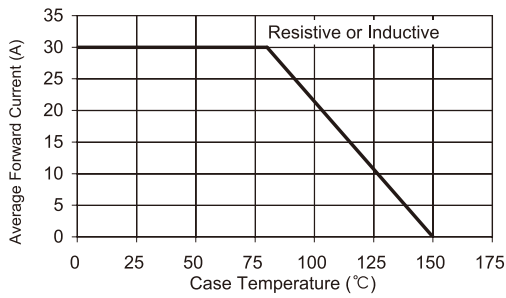


Fig. 2 Maximum Forward Surge Current

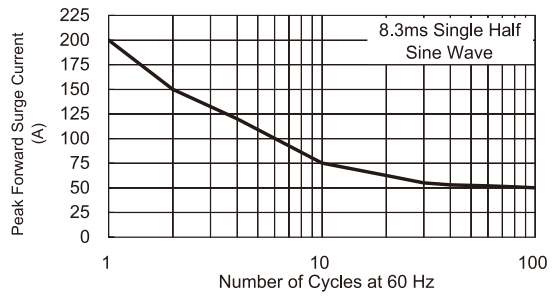


Fig. 3 Typical Forward Characteristics

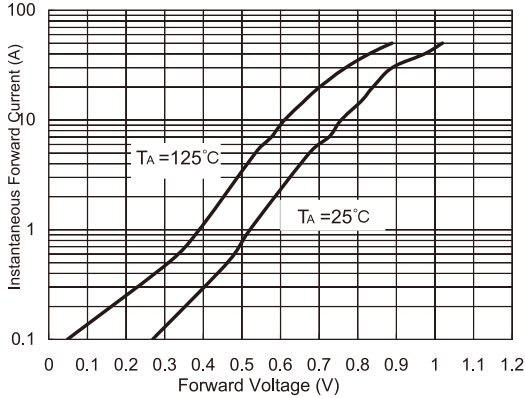


Fig. 4 Typical Reverse Characteristics

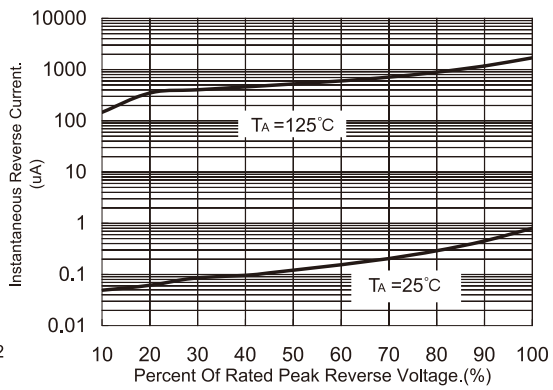


Fig. 5 Typical Junction Capacitance

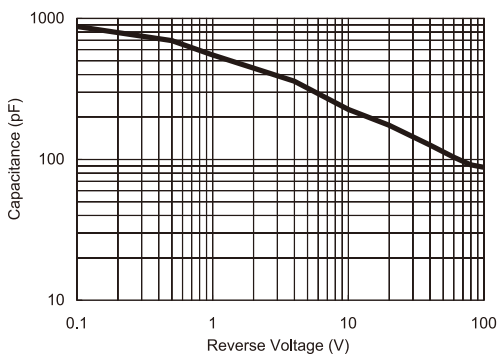


Fig. 6 Typical Transient Thermal Impedance

