

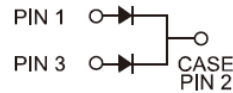
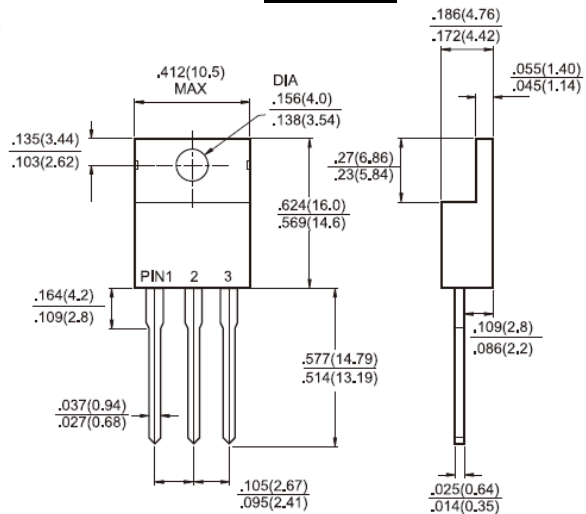


MBR20L100CT - MBR20L120CT
20.0AMPS Low V_F Schottky Barrier Rectifiers

TO-220AB

Features

- ◇ UL Recognized File # E-326243
- ◇ Low power loss, high efficiency
- ◇ High current capability, low forward voltage drop
- ◇ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ◇ High surge current capability
- ◇ Qualified as per AEC-Q101
- ◇ 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



Mechanical Data

- ◇ Case: TO-220AB
- ◇ 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

Dimensions in inches and (millimeters)

Marking Diagram



- MBR20LXXXCT = 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	MBR20L100CT		MBR20L120CT		Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100		120		V
Maximum RMS Voltage	V_{RMS}	70		84		V
Maximum DC Blocking Voltage	V_{DC}	100		120		V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	20				A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz)	I_{FRM}	20				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	150				A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1				A
Maximum Instantaneous Forward Voltage (Note 2) $I_F=10A, T_A=25^\circ C$ $I_F=10A, T_A=125^\circ C$ $I_F=20A, T_A=25^\circ C$ $I_F=20A, T_A=125^\circ C$	V_F	TYP	MAX	TYP	MAX	V
		0.72	0.75	0.78	0.83	
		0.58	0.68	0.63	0.72	
		0.81	0.85	0.86	0.90	
Maximum Reverse Current @ Rated V_R $T_A=25^\circ C$ $T_A=100^\circ C$	I_R	TYP	MAX	TYP	MAX	uA mA
		1.10	20	1.00	20	
Voltage Rate of Change, (Rated V_R)	dV/dt	10000				V/us
Typical Junction Capacitance (Note 3)	C_j	435		270		pF
Typical Thermal Resistance (Note 4)	$R_{\theta JC}$	2.8		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 (MBR20L100CT - MBR20L120CT)

FIG.1 FORWARD CURRENT DERATING CURVE

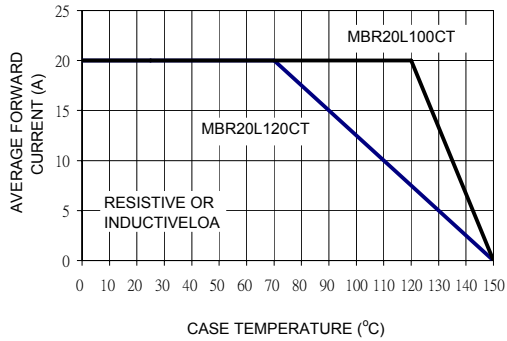


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

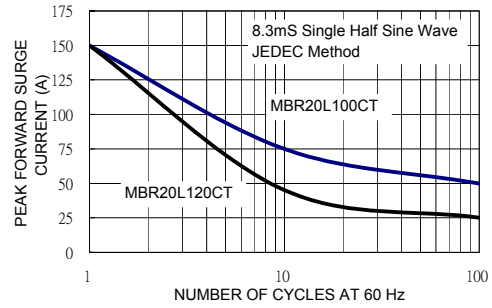


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

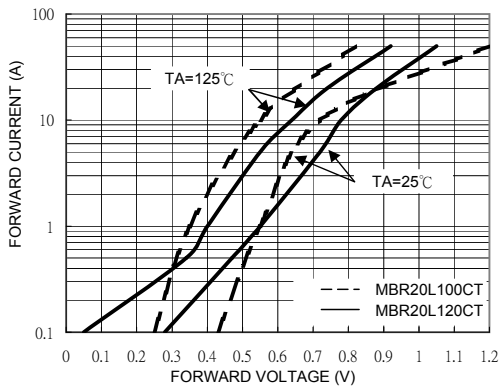


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

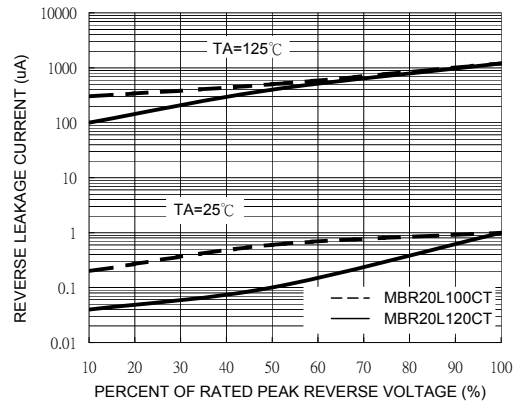


FIG. 5 TYPICAL JUNCTION CAPACITANCE

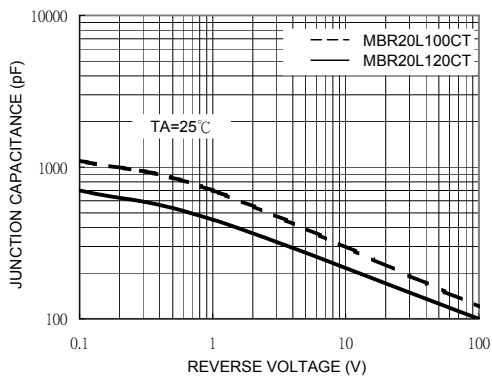


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

