

Features

- ✧ High current capability, low forward voltage drop
- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ High Surge current capability
- ✧ Guard-ring for transient protection
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds, 0.375"(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, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in-lbs. Max.
- ✧ Weight: 1.7 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBRF20L100CT	ITO-220AB	50 / TUBE	D0	D0G

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	MBRF20L100CT		MBRF20L120CT		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 VR, Square Wave, 20KHz)	$I_{F(RMS)}$	20				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150				A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1				A
Maximum Instantaneous Forward Voltage at (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	0.9	
		0.67	0.75	0.73	0.8	
Maximum Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ C$ $T_A = 125^\circ C$	I_R	TYP	MAX	TYP	MAX	uA mA
		1.1	20	1	20	
Voltage rate of change (Rated V_R)	dV/dt	10,000				V/uS
Typical Junction Capacitance (Note 3)	C_j	435		270		pF
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	5.5		5		°C/W
Operating Temperature Range	T_J	-55 to + 150				°C
Storage Temperature Range	T_{STG}	-55 to + 150				°C

Note1: 2.0uS Pulse Width, F=1.0KHz, Continues 10 Cycles

Note2: Pulse Test : 300us Pulse Width, 1% Duty cycle

Note3: Measure at 1MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (MBRF20L100CT THRU MBRF20L120CT)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

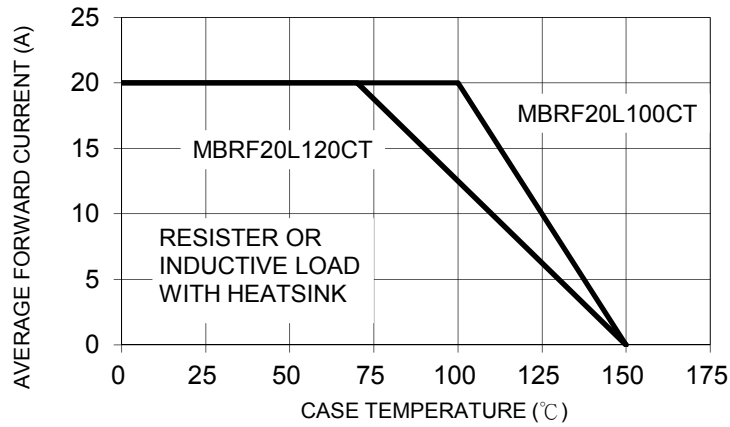


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

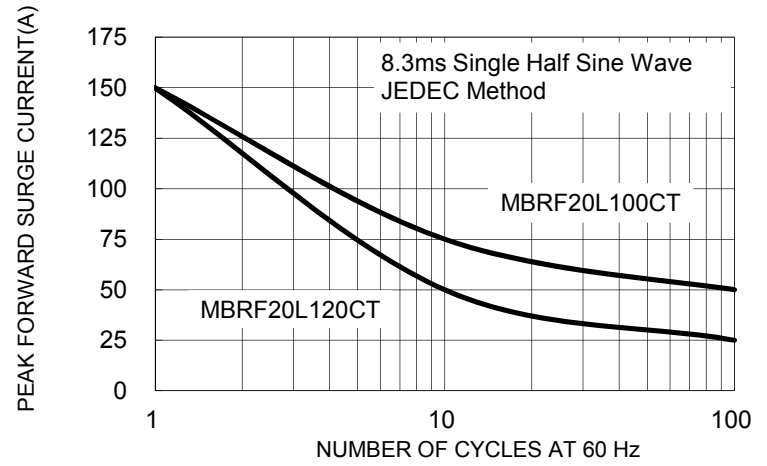


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

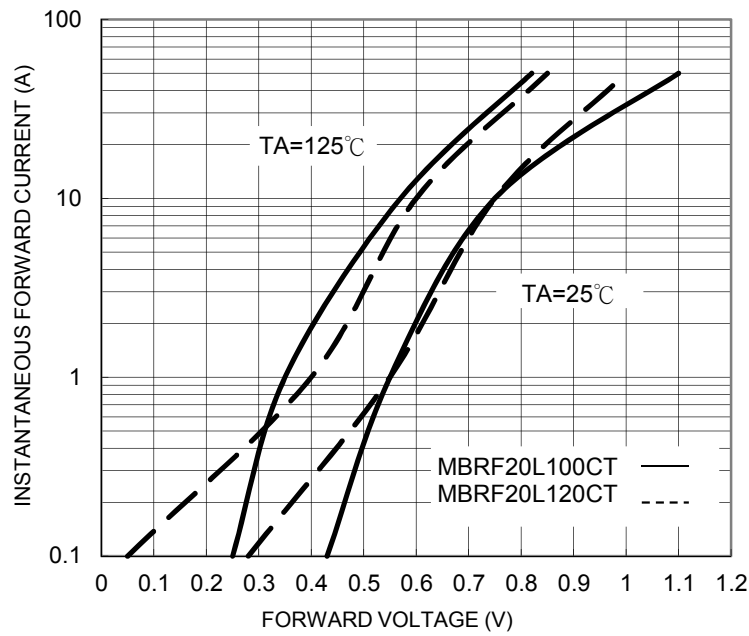


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

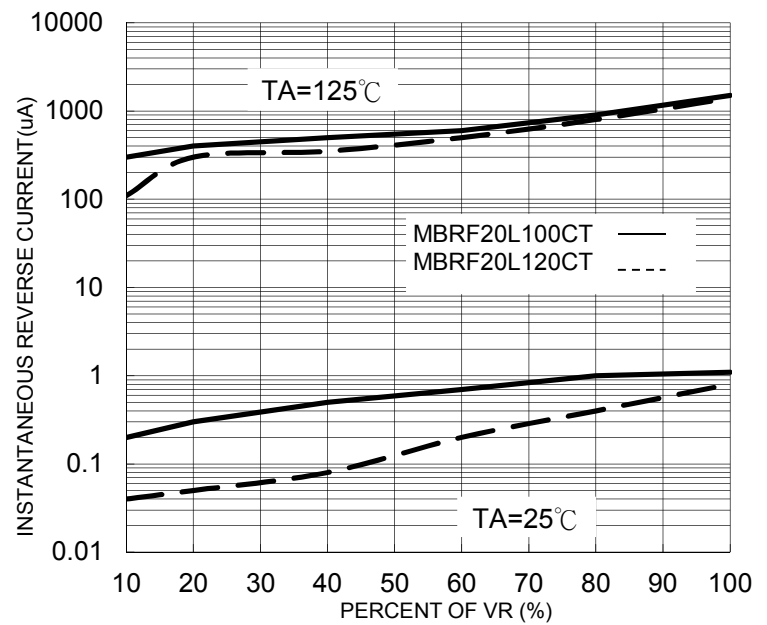


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

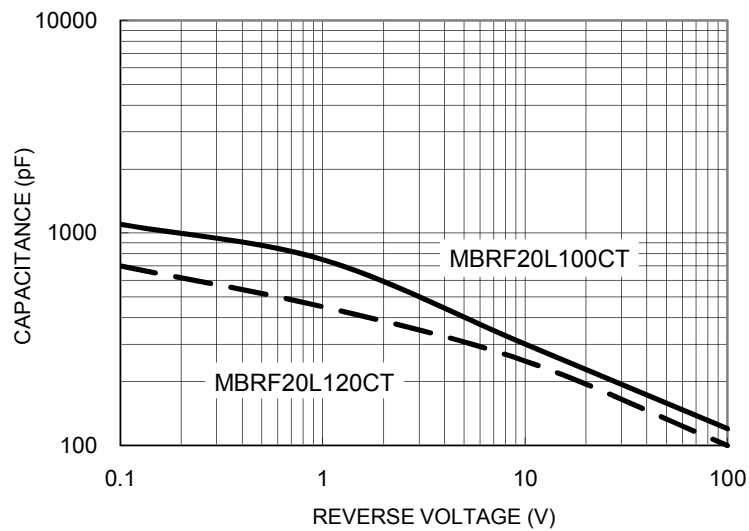
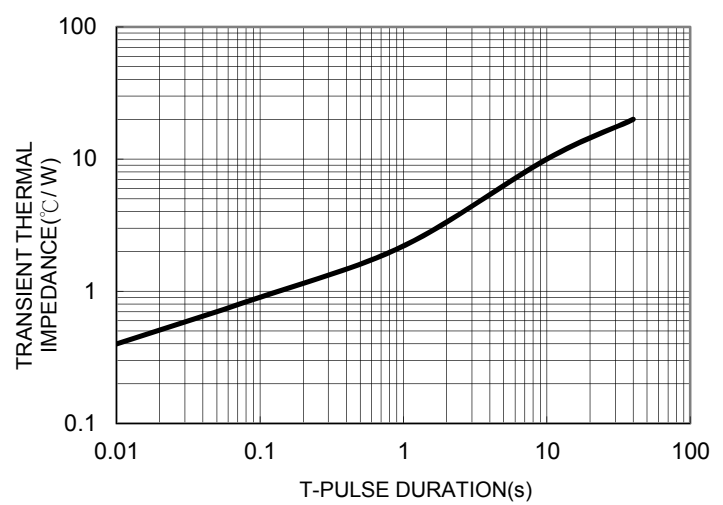


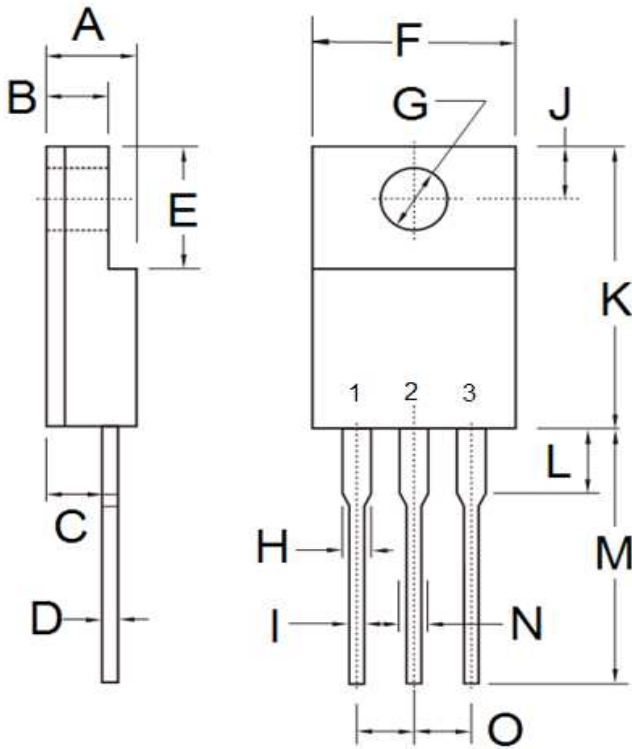
FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



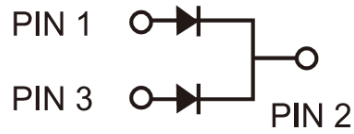
Ordering information

Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBRF20LxxCT	ITO-220AB	50 / TUBE	C0	C0G
	ITO-220AB	50 / TUBE	D0	D0G

Note: "xx" is Device Code from "100" thru "120".

Dimensions


DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	0.583	0.610
L	-	4.10	-	0.161
M	12.60	13.80	0.496	0.543
N	-	1.80	-	0.071
O	2.41	2.67	0.095	0.105


Marking Diagram


P/N = Specific Device Code
 G = Green Compound
 YWW = Date Code