

Features

- ◇ UL Recognized File # E-326243
- ◇ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ◇ Metal silicon junction, majority carrier conduction
- ◇ Low power loss, high efficiency
- ◇ High current capability, low forward voltage drop
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◇ Guard-ring for overvoltage protection
- ◇ High temperature soldering guaranteed: 260°C/10 seconds/.25", (6.35mm) from case
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

- ◇ Case: ITO-220AB molded plastic body
- ◇ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Mounting position: Any
- ◇ Mounting torque: 5 in. - lbs, max
- ◇ Weight: 1.75 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBRF20H100CT	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	MBRF 20H100CT	MBRF 20H150CT	MBRF 20H200CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	150	200	V
Maximum RMS Voltage	V_{RMS}	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	20			A
Peak Repetitive Surge 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 (JEDEC Method)	I_{FSM}	150			A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1		0.5	A
Maximum Instantaneous Forward Voltage (Note 2) IF=10A, $T_A=25^\circ C$ IF=10A, $T_A=125^\circ C$ IF=20A, $T_A=25^\circ C$ IF=20A, $T_A=125^\circ C$	V_F	0.85 0.75 0.95 0.85	0.88 0.75 0.97 0.85		V
Maximum Reverse Current @ Rated V_R $T_A=25^\circ C$ $T_A=125^\circ C$	I_R	5			uA
		2			mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10000			V/us
RMS Isolation Voltage (t=1.0 second, R.H. $\leq 30\%$, $T_A=25^\circ C$)	V_{ISO}	4500 (Note 3)			V
		3500 (Note 4)			
		1500 (Note 5)			
Typical Thermal Resistance	$R_{\theta JC}$	3.5			$^\circ C/W$
Operating Temperature Range	T_J	- 65 to + 175			$^\circ C$
Storage Temperature Range	T_{STG}	- 65 to + 175			$^\circ C$

Note 1: 2.0uS Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

Note 3: Clip Mounting (on case), where lead does not overlap heatsink with 0.11" offset

Note 4: Clip Mounting (on case), where lead do overlap heatsink.

Note 5: Screw mounting with 4-40 screw, where washer diameter is $\leq 4.9mm$ (0.19")

RATINGS AND CHARACTERISTIC CURVES (MBRF20H100CT THRU MBRF20H200CT)

FIG. 1 FORWARD CURRENT DERATING CURVE

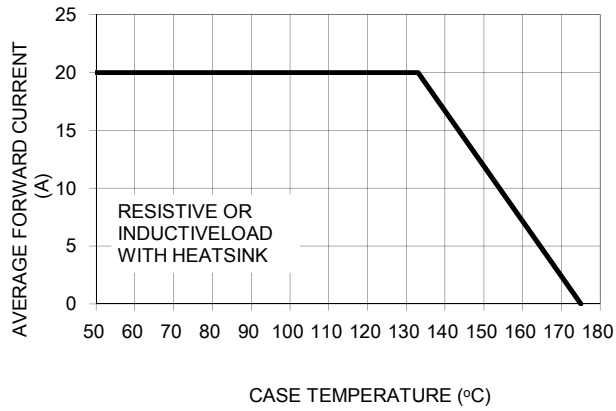


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

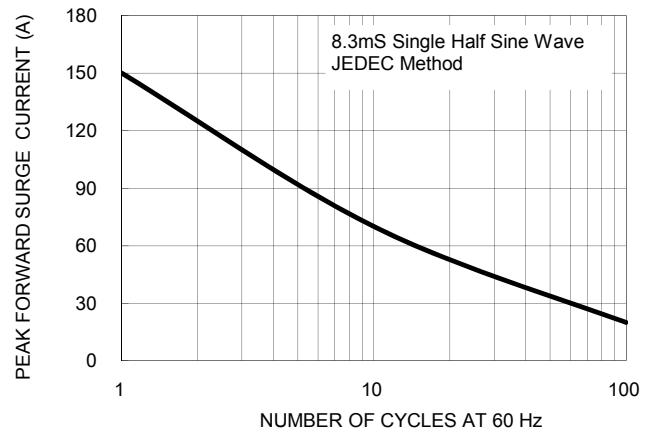


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

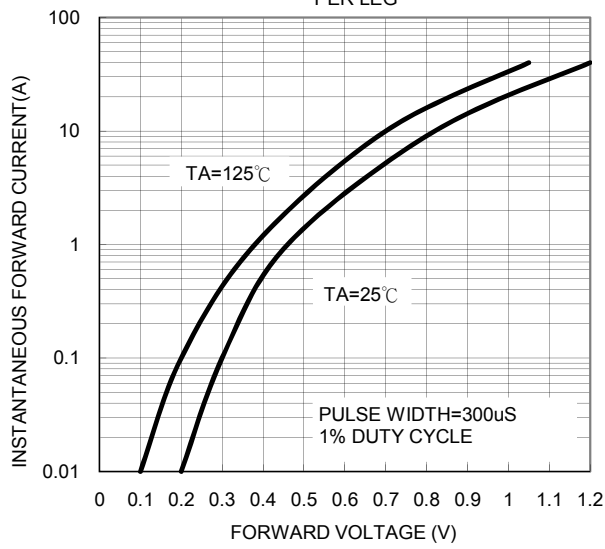


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

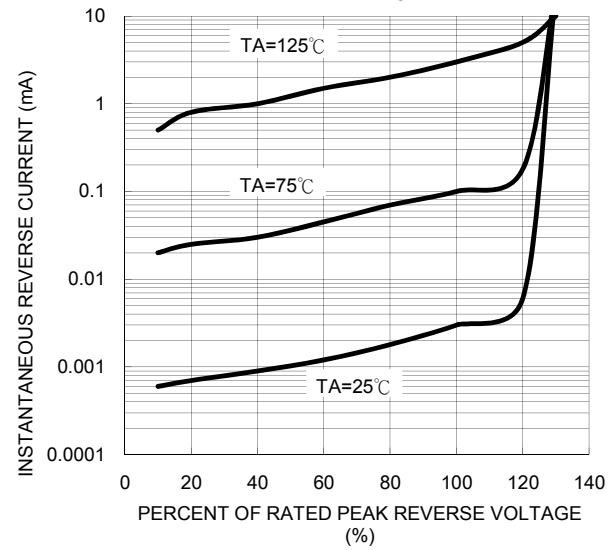


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

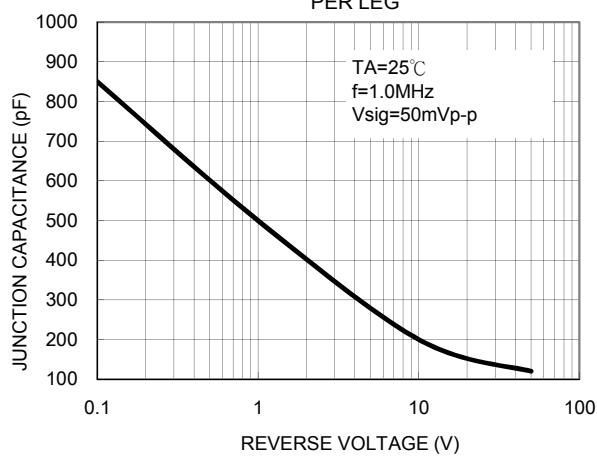
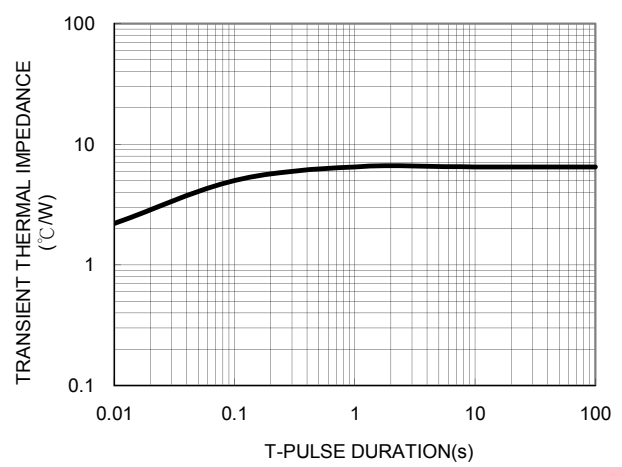


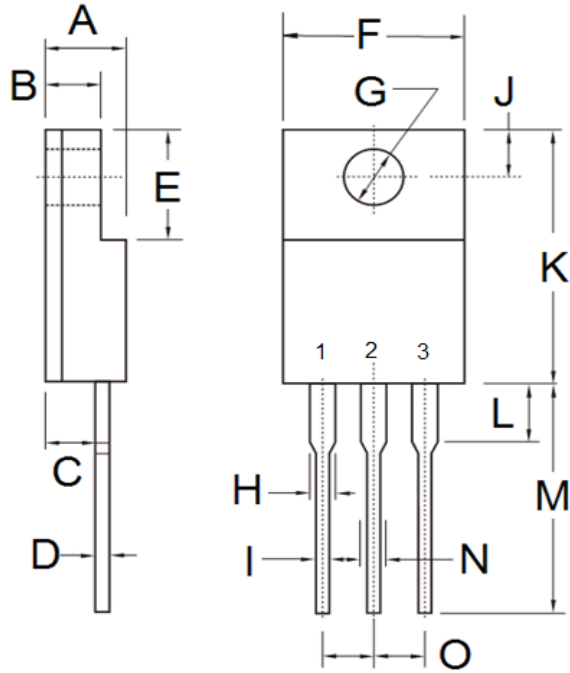
FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



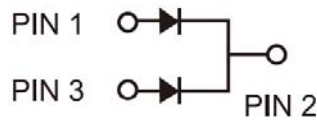
Ordering information

Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBRF20HxxCT	ITO-220AB	50 / TUBE	C0	C0G
	ITO-220AB	50 / TUBE	D0	D0G

Note: "xx" is Device Code from "100" thru "200".

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