

### 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, at terminals
- ✧ 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: 1.74 grams

### Ordering Information (example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBRF1035CT	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 1035 CT	MBRF 1045 CT	MBRF 1050 CT	MBRF 1060 CT	MBRF 1090 CT	MBRF 10100 CT	MBRF 10150 CT	MBRF 10200 CT	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	63	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10								A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz)	$I_{FRM}$	10								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	120								A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	0.5								A
Maximum Instantaneous Forward Voltage (Note 2) IF=5A, TA=25°C IF=5A, TA=125°C IF=10A, TA=25°C IF=10A, TA=125°C	$V_F$	0.70 0.57 0.80 0.67	0.80 0.65 0.90 0.75	0.85 0.75 0.95 0.85	0.88 0.78 0.98 0.88					V
Maximum Reverse Current @ Rated VR TA=25 °C TA=125 °C	$I_R$	0.1								mA
		15	10	5						
Voltage Rate of Change (Rated VR)	dV/dt	10000								V/us
Typical Thermal Resistance	$R_{\theta JC}$	3.5								°C/W
Operating Temperature Range	$T_J$	- 65 to + 150								°C
Storage Temperature Range	$T_{STG}$	- 65 to + 150								°C

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

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

RATINGS AND CHARACTERISTIC CURVES (MBRF1035CT THRU MBRF10200CT)

FIG.1 FORWARD CURRENT DERATING CURVE

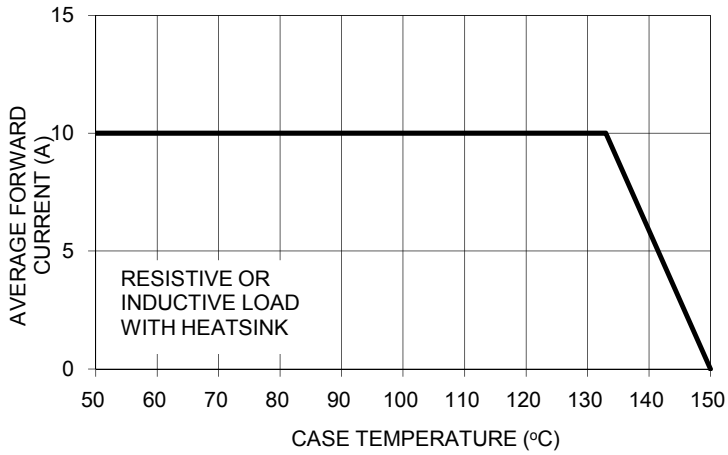


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

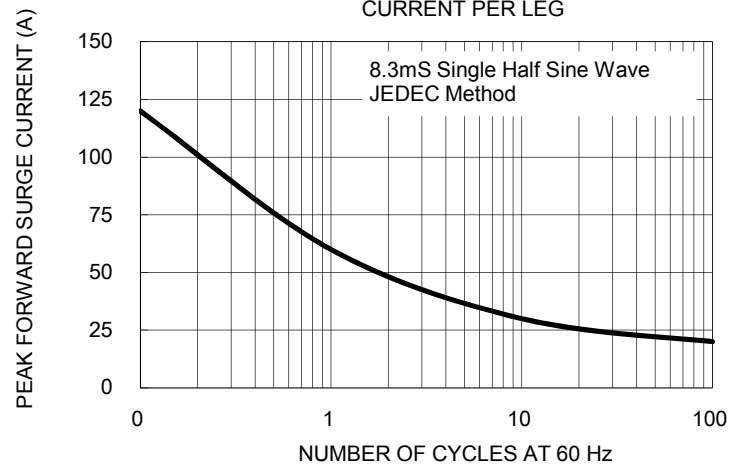


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

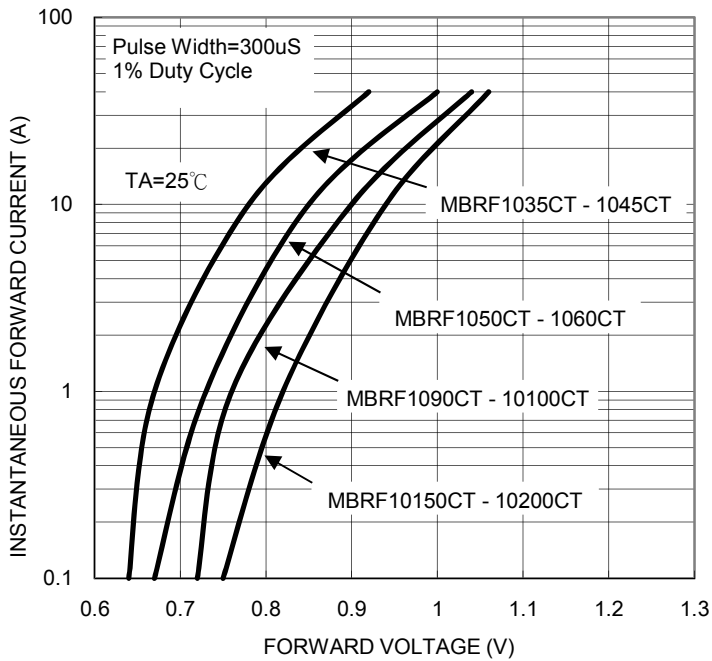


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

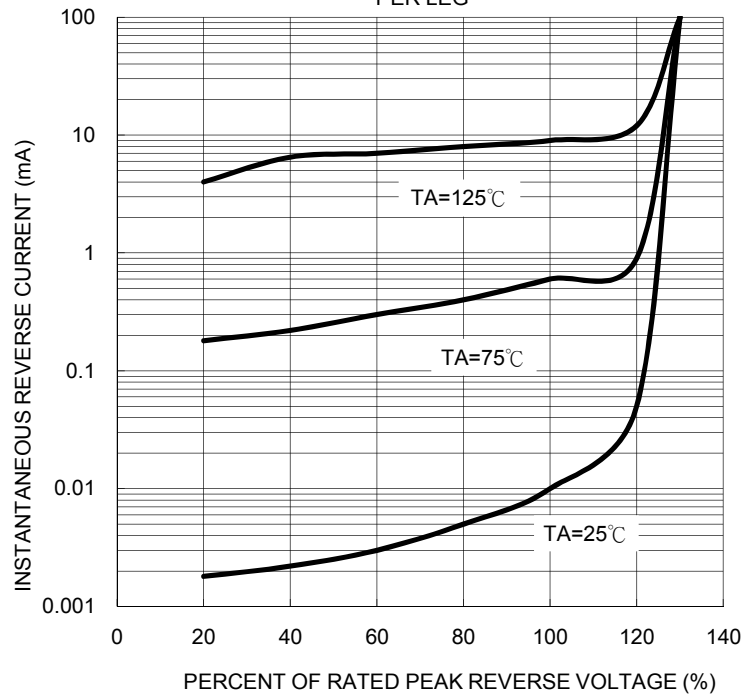


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

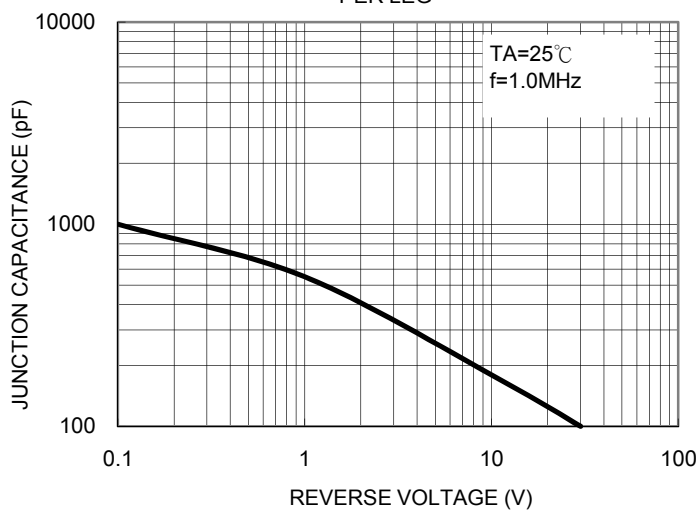
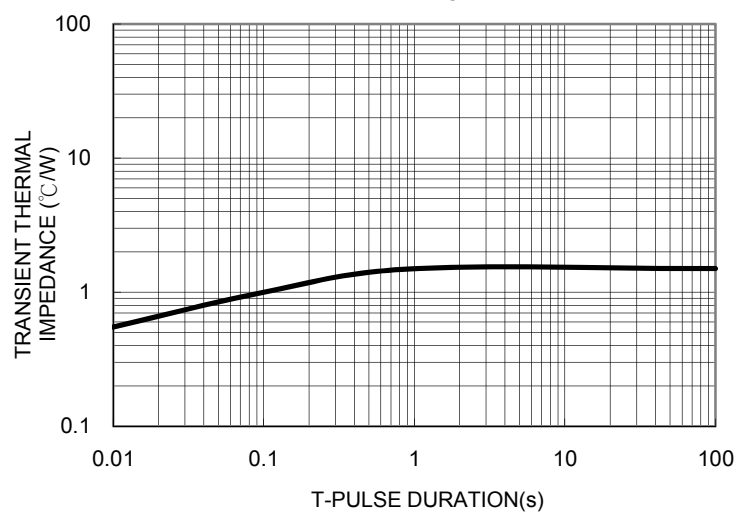


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

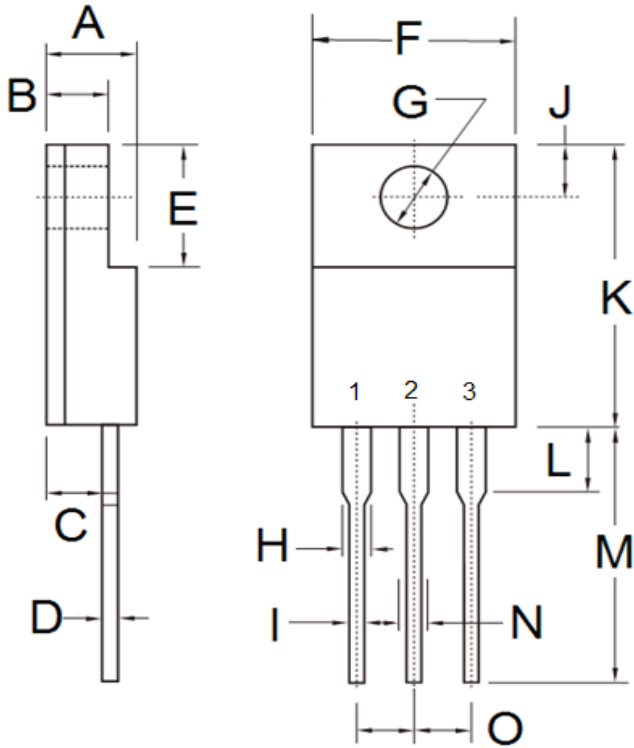


**Ordering information**

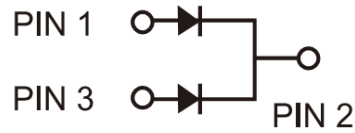
Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBRF10xxCT	ITO-220AB	50 / TUBE	C0	C0G
	ITO-220AB	50 / TUBE	D0	D0G

Note: "xx" is Device Code from "35" 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