

Features

- ✧ UL Recognized File # E-326243
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Metal silicon rectifier, majority carrier conductor
- ✧ 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, 0.25"(6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

- ✧ Cases: ITO-220AC 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: 1.69 grams

Ordering Information(example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBRF735	ITO-220AC	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 735	MBRF 745	MBRF 750	MBRF 760	MBRF 790	MBRF 7100	MBRF 7150	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	7.5							A
Peak Repetitive Forward Current (Square Wave, 20KHz)	I_{FRM}	15							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		0.5					A
Maximum Instantaneous Forward Voltage at $I_F=7.5A, T_A=25^\circ C$ $I_F=7.5A, T_A=125^\circ C$ $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$	V_F	-	0.75	0.92	1.02				V
		0.57	0.65	0.82	0.92				
		0.84	-	-	-				
		0.72	-	-	-				
Maximum Instantaneous Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage (Note 2) @ $T_A=125^\circ C$	I_R	0.1		0.1		0.1			mA
		15		10		5			mA
Voltage Rate of Change (Rated V_R)	dV/dt	10,000							V/uS
Typical Junction Capacitance	C_j	350		280		200			pF
Maximum Thermal Resistance	$R_{\theta JC}$	7.0							°C/W
Operating Junction Temperature Range	T_J	- 65 to + 150							°C
Storage Temperature Range	T_{STG}	- 65 to + 175							°C

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

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

RATINGS AND CHARACTERISTIC CURVES (MBRF735 THRU MBRF7150)

FIG. 1- FORWARD CURRENT DERATING CURVE

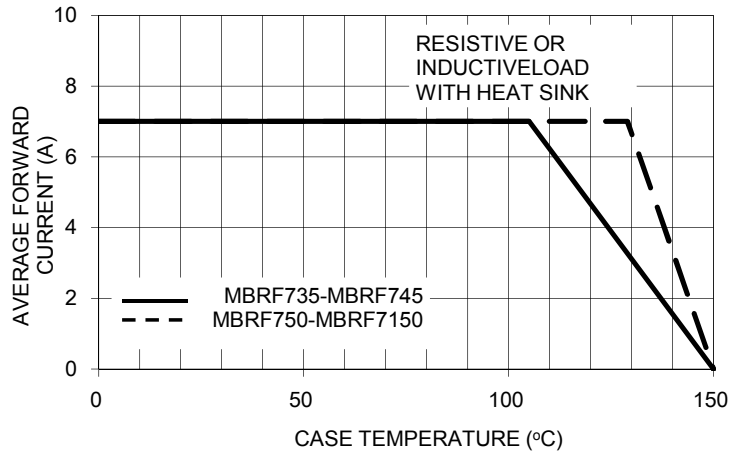


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

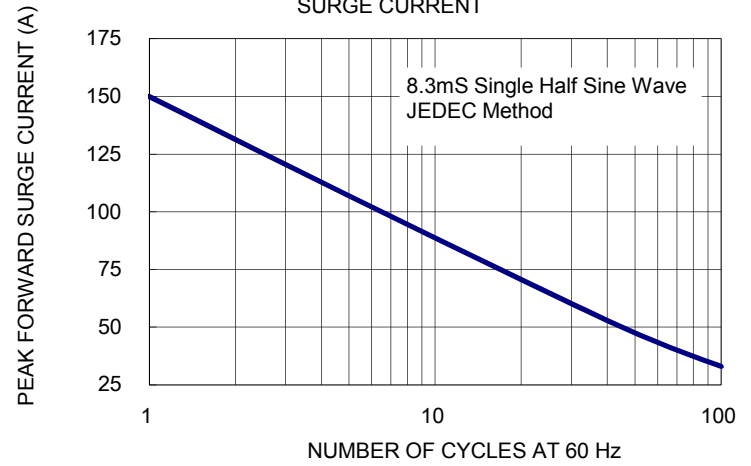


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

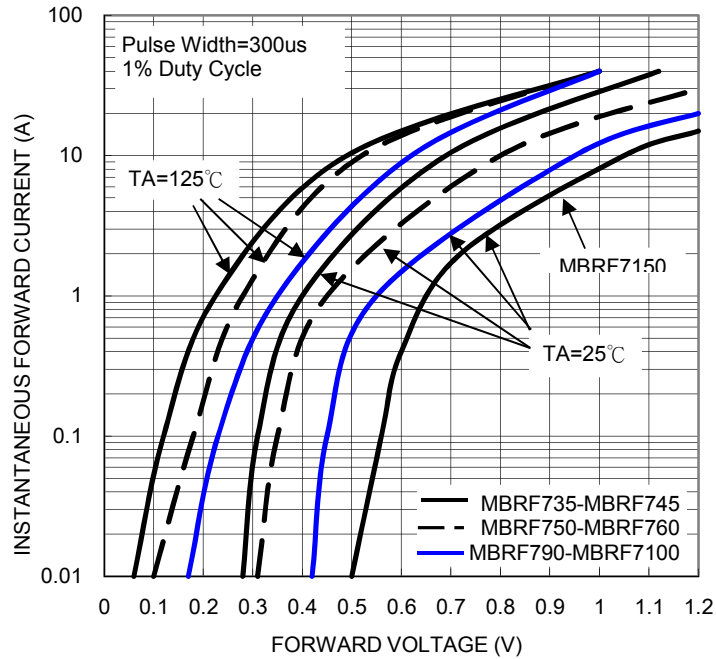


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

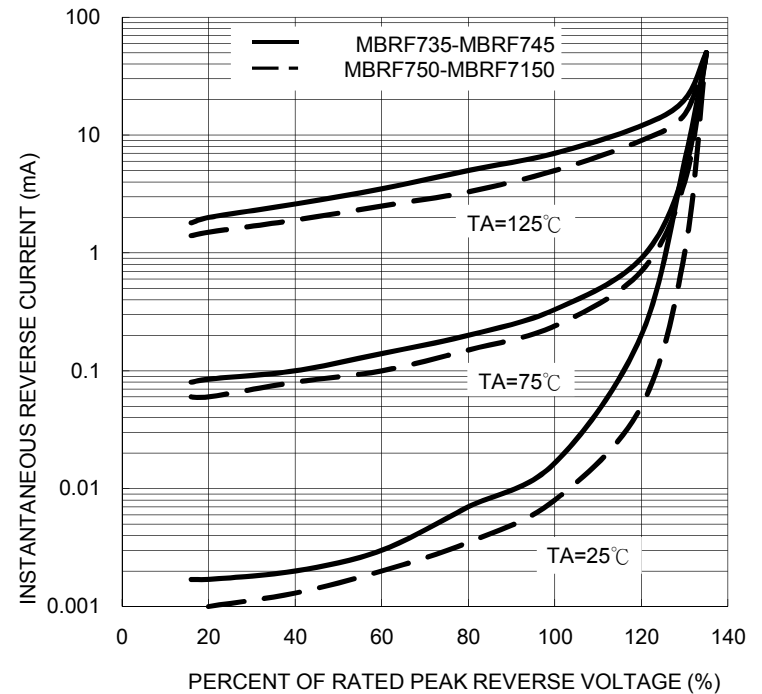


FIG. 5- TYPICAL JUNCTION CAPACITANCE

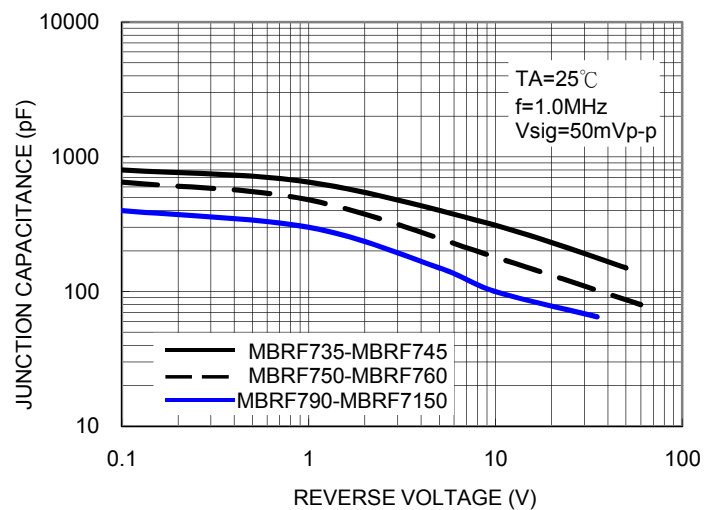
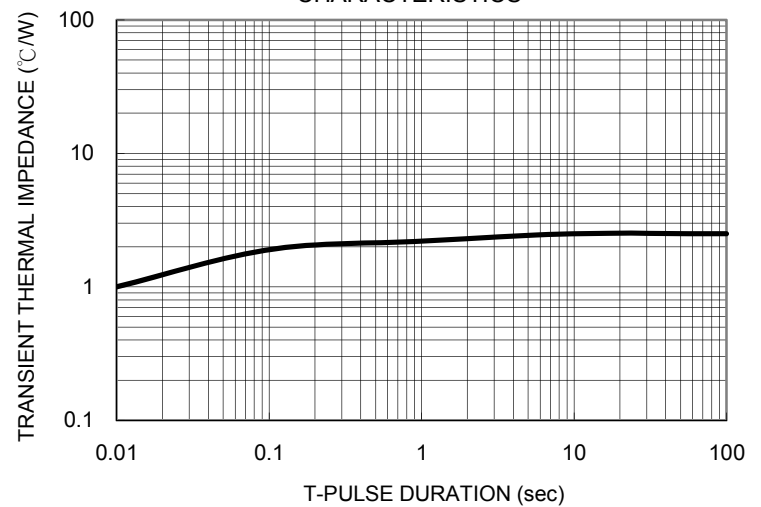


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

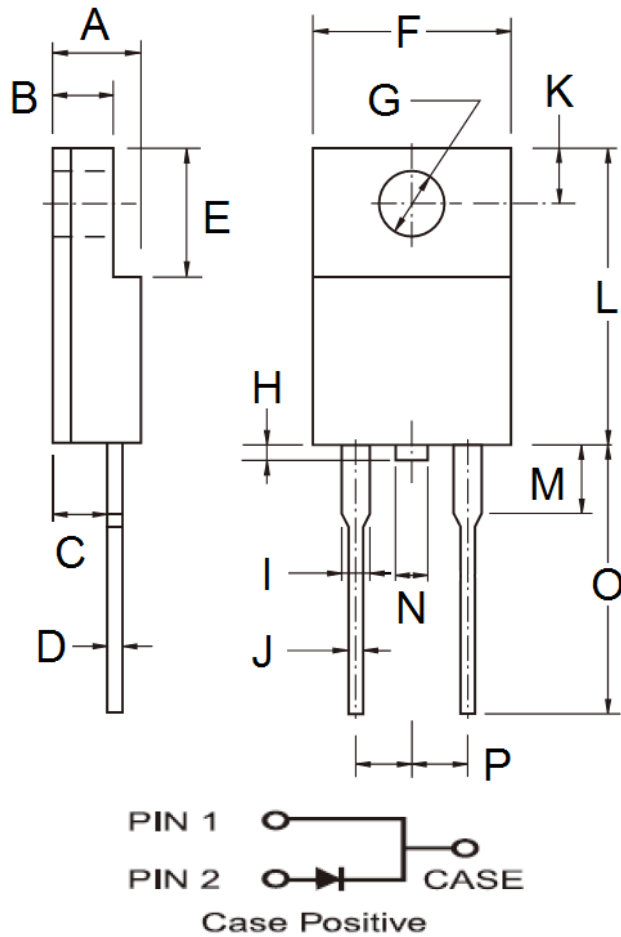


Ordering information

Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBRF7xx	ITO-220AC	50 / TUBE	C0	C0G
	ITO-220AC	50 / TUBE	D0	D0G

Note: "xx" is Device Code from "35" thru "150".

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.10	0.098	0.122
C	2.30	2.90	0.091	0.114
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	-	1.60	-	0.063
I	0.95	1.45	0.037	0.057
J	0.50	0.90	0.020	0.035
K	2.40	3.20	0.094	0.126
L	14.80	15.50	0.583	0.610
M	-	4.10	-	0.161
N	-	1.80	-	0.071
O	12.60	13.80	0.496	0.543
P	4.95	5.20	0.195	0.205

Marking Diagram



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