

Features

- ✧ 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, 0.25"(6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

- ✧ Cases: JEDEC TO-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: 1.90 grams

Ordering Information(example)

Part No.	Package	Packing	Packing code	Packing code (Green)
MBR1035CT	TO-220AB	50 / TUBE	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR 1535 CT	MBR 1545 CT	MBR 1550 CT	MBR 1560 CT	MBR 1590 CT	MBR 15100 CT	MBR 15150 CT	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)}	15							A
Peak Repetitive Forward Current (Rated VR, 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: (Note 2) IF=7.5A, T _A =25℃ IF=7.5A, T _A =125℃ IF=15A, T _A =25℃ IF=15A, T _A =125℃	V _F	- 0.57 0.84 0.72	- 0.65 - -	0.75 0.65 - -	0.92 0.82 - -		1.05 0.92 - -	V	
Maximum Instantaneous Reverse Current @ T _A =25 °C at Rated DC Blocking Voltage @ T _A =125 °C	I _R	0.5		0.3		0.1		mA	
		10		7.5		5.0		mA	
Voltage Rate of Change (Rated V _R)	dV/dt	10,000							V/us
Typical Junction Capacitance	C _j	400				200			pF
Maximum Typical Thermal Resistance	R _{θJA} R _{θJC}	10 1.5							°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 (MBR1535CT THRU MBR15150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

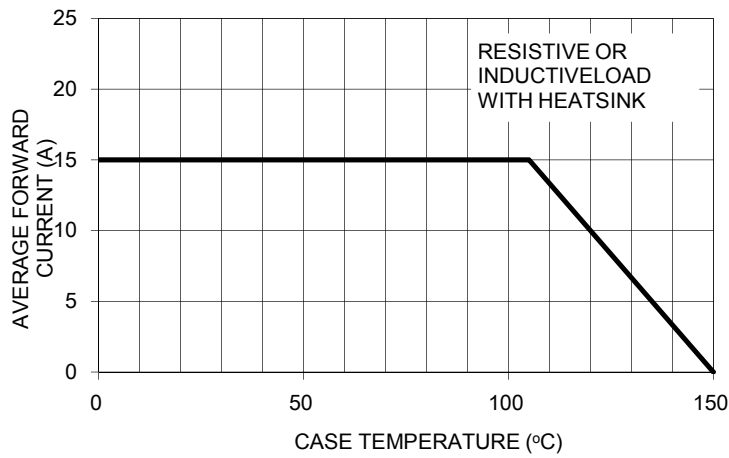


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

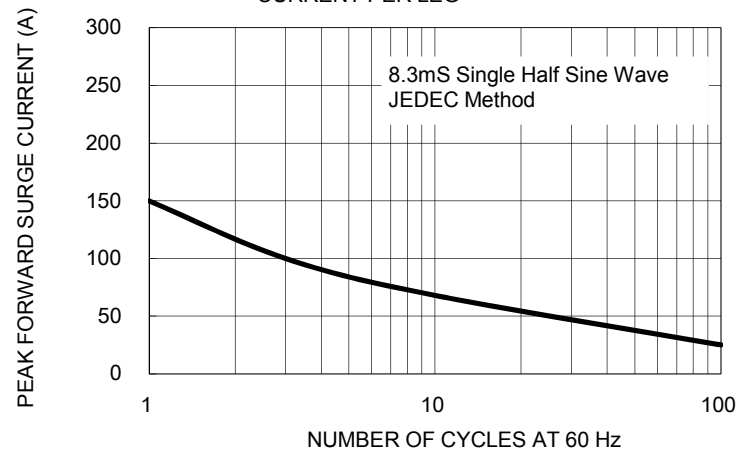


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

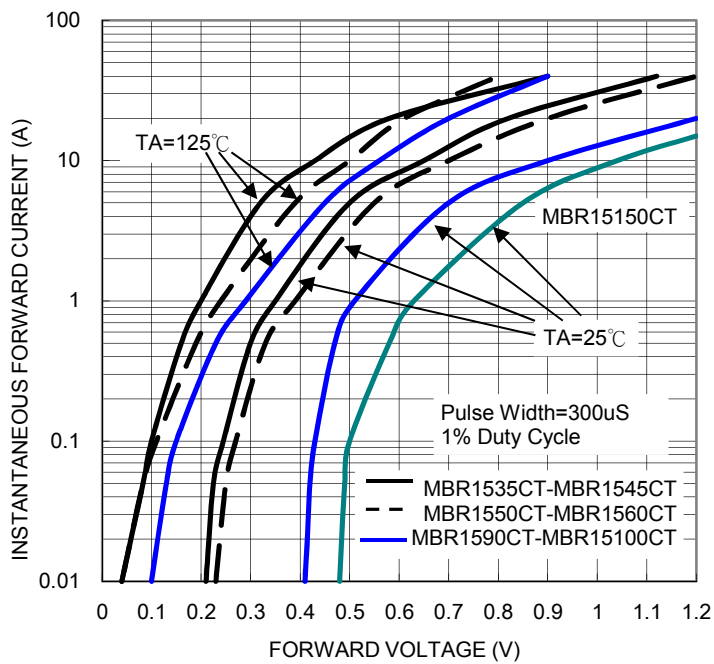


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

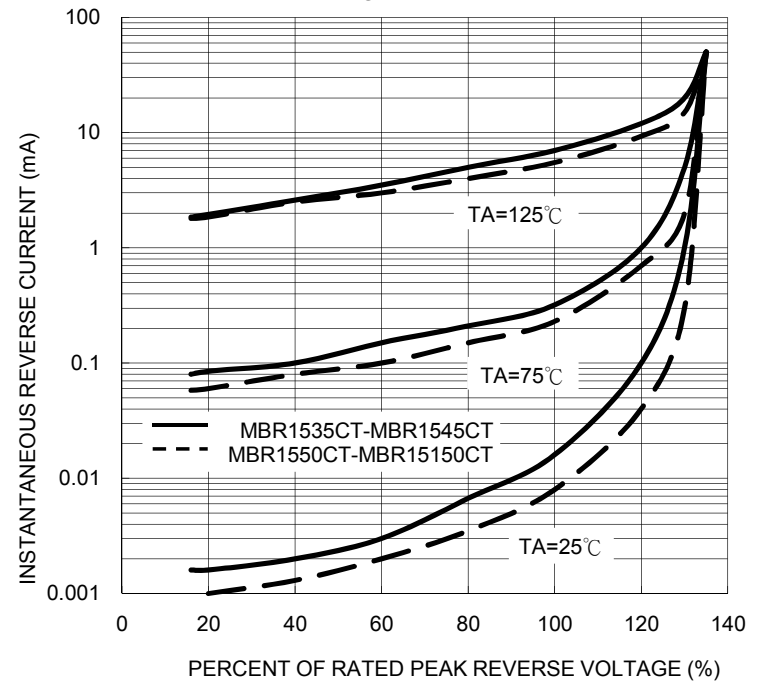


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

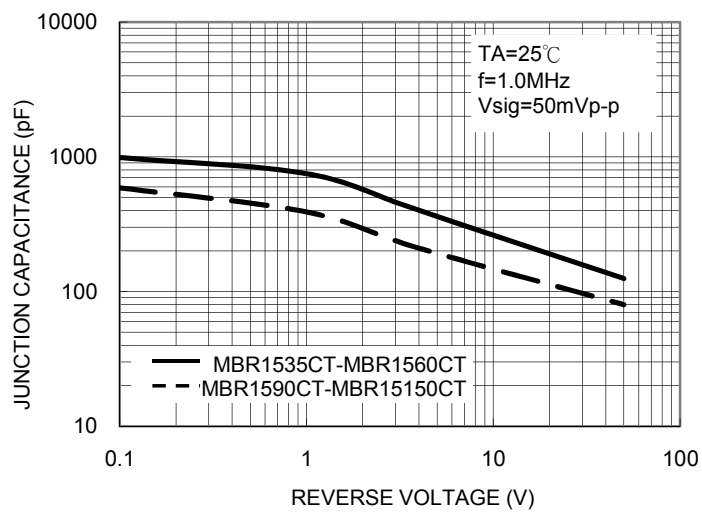
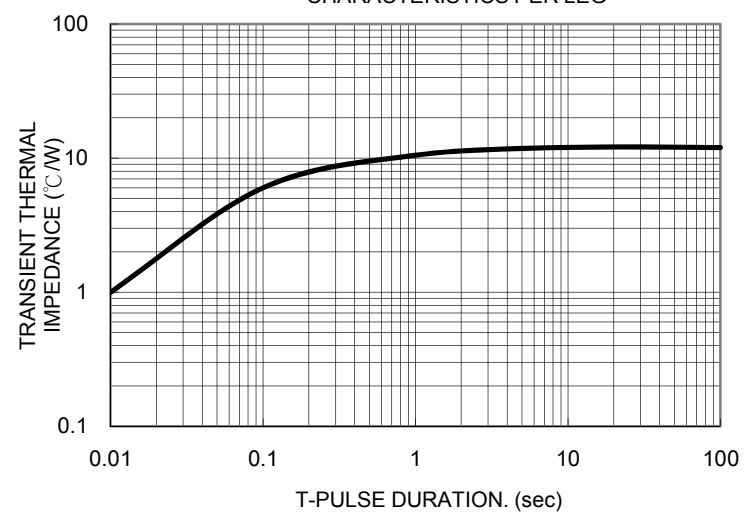


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

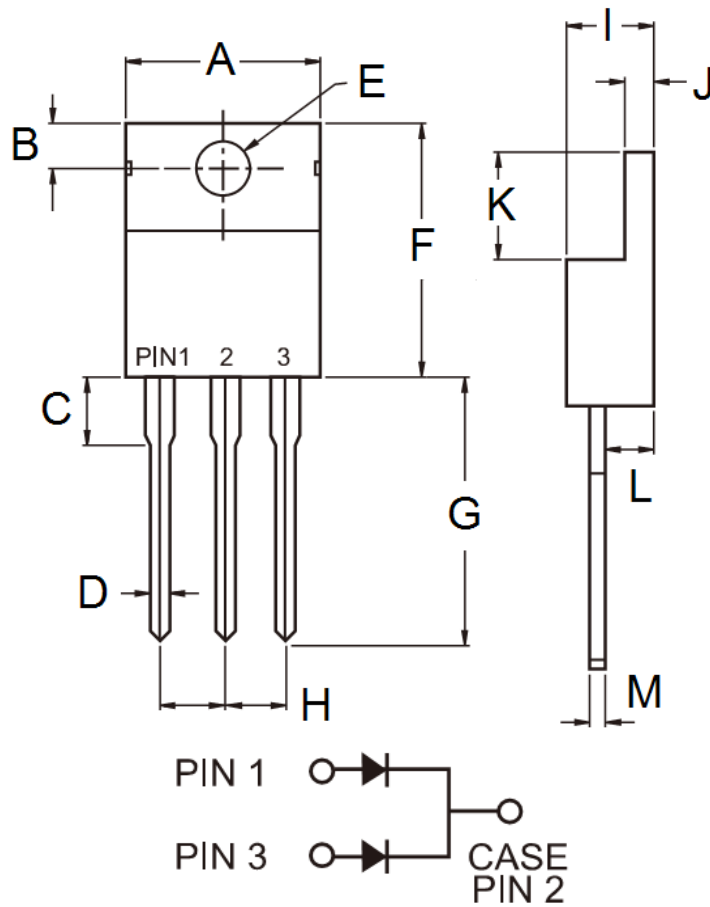


Ordering information

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
MBR15xxCT	TO-220AB	50 / TUBE	C0	C0G

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

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025

Marking Diagram



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