

## 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
- ✧ 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	Green Compound Packing code
MBR2535CT	TO-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	MBR 2535 CT	MBR 2545 CT	MBR 2550 CT	MBR 2560 CT	MBR 2590 CT	MBR 25100 CT	MBR 25150 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	$I_{F(AV)}$	25							A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz)	$I_{FRM}$	25							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	200							A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1.0	0.5					A	
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=12.5A, T_A=25^\circ C$ $I_F=12.5A, T_A=125^\circ C$ $I_F=25A, T_A=25^\circ C$ $I_F=25A, T_A=125^\circ C$	$V_F$	-	0.75	0.85	0.95	-	-	-	V
		-	0.65	0.75	0.92	-	-	-	V
		0.82	-	0.92	1.02	-	-	-	V
		0.73	-	0.88	0.98	-	-	-	V
Maximum Instantaneous Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage Per Leg @ $T_A=125^\circ C$	$I_R$	0.2	0.2	0.1	0.1				mA
		15	10	7.5	5				mA
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000							V/us
Typical Junction Capacitance	$C_j$	600	460					pF	
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	1.0							$^\circ C/W$
Operating Junction Temperature Range	$T_J$	- 65 to + 150							$^\circ C$
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

RATINGS AND CHARACTERISTIC CURVES (MBR2535CT THRU MBR25150CT)

FIG. 1- FORWARD CURRENT DERATING CURVE

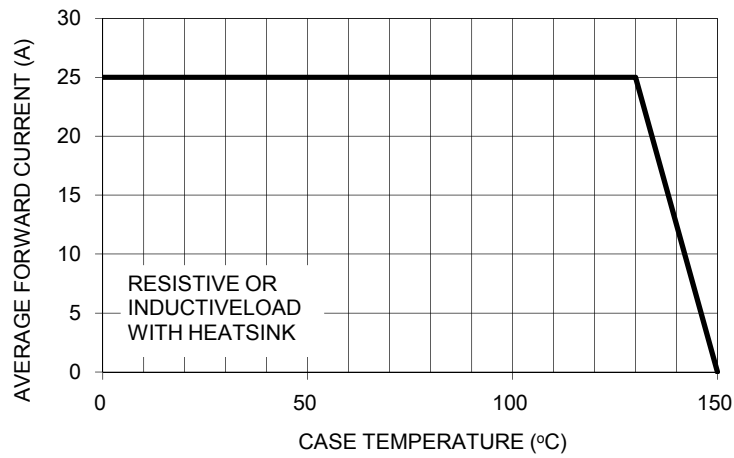


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

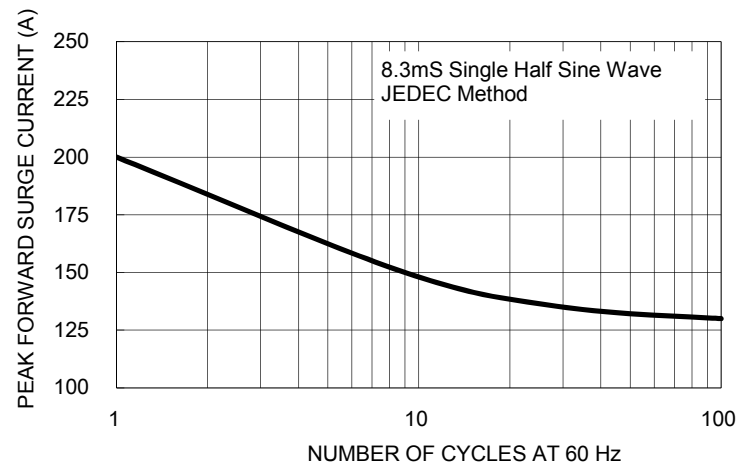


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

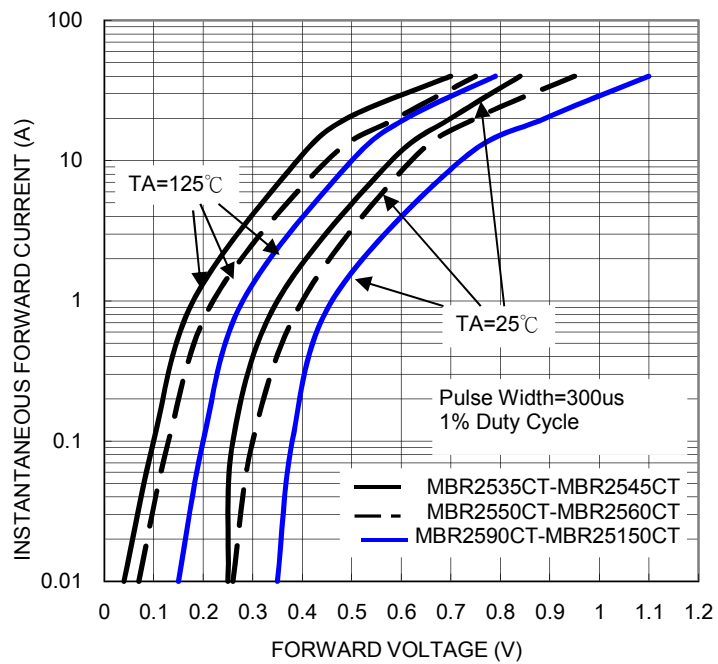


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

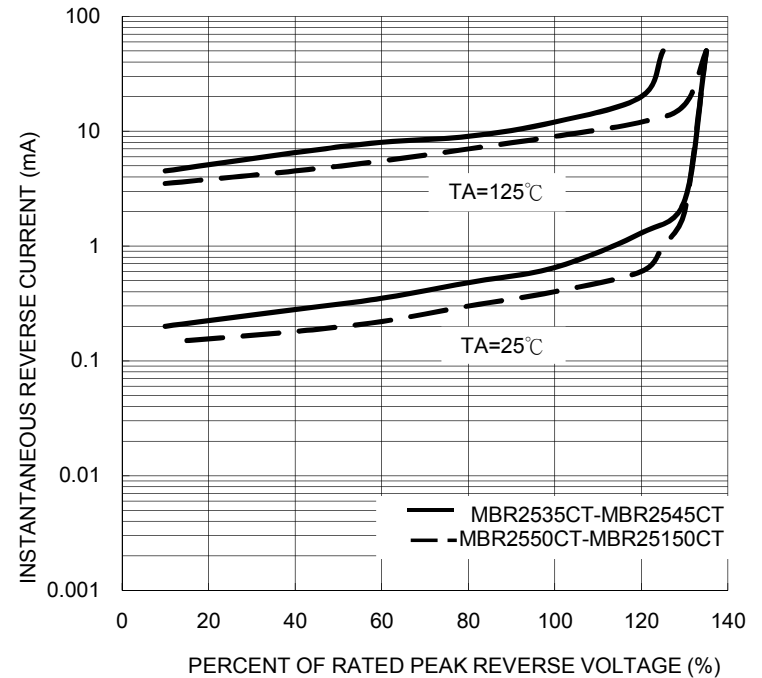


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

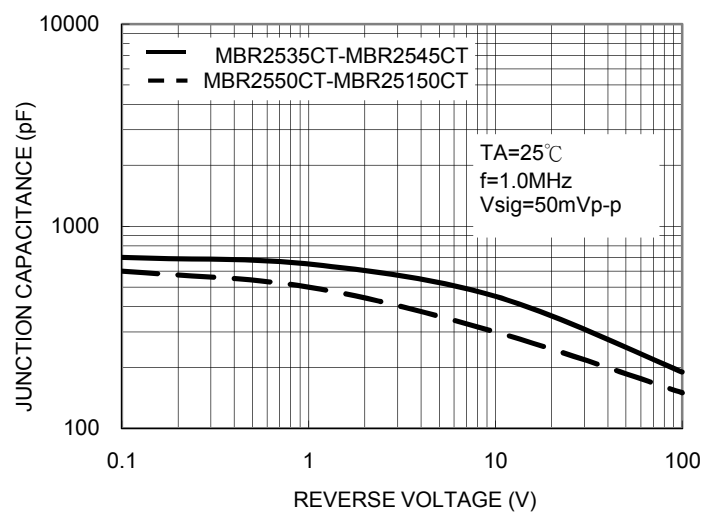
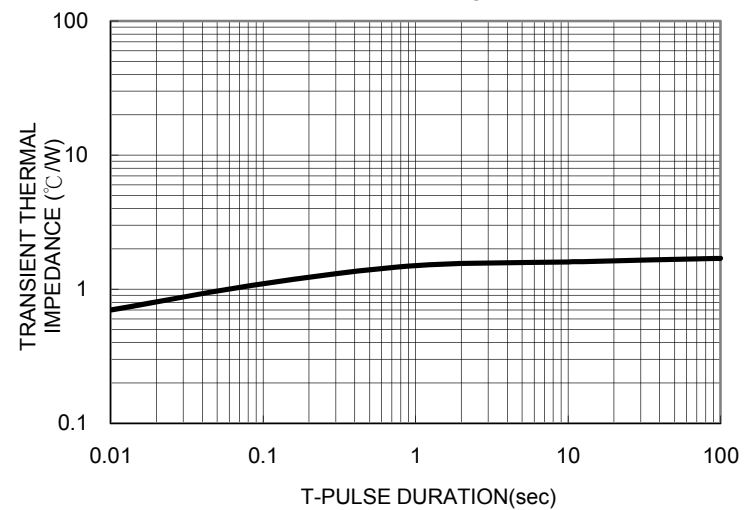


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

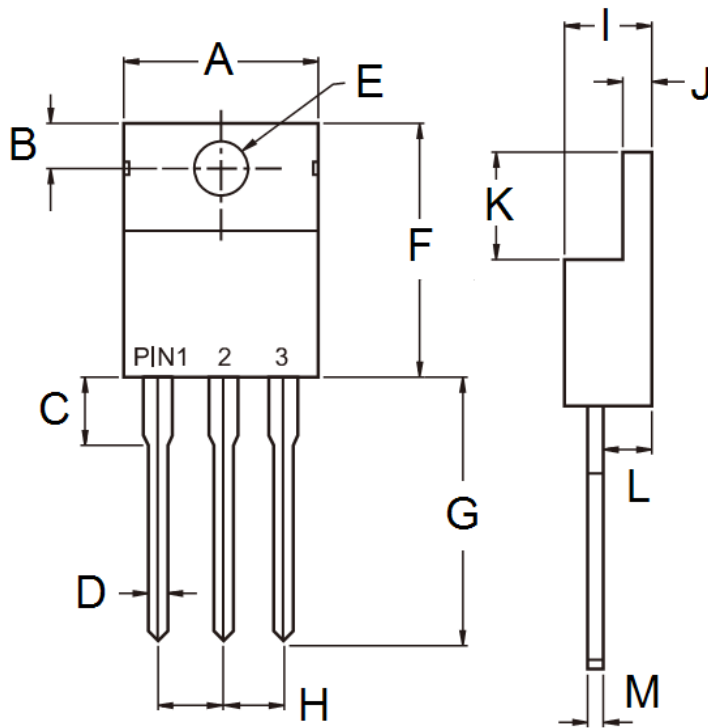


### Ordering information

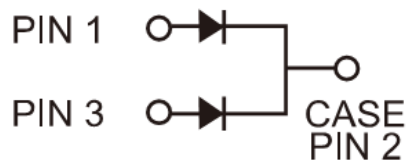
Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBR25xxCT	TO-220AB	50 / TUBE	C0	C0G
	TO-220AB	50 / TUBE	D0	D0G

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