

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/.17", (4.3mm) from case
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

- ◇ Cases: JEDEC TO-3P/TO-247AD molded plastic
- ◇ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Mounting position: Any
- ◇ Mounting torque: 10 in- lbs, max
- ◇ Weight: 6.15 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
MBR6035PT	TO-3P	30 / TUBE	C0	C0G

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 6035 PT	MBR 6045 PT	MBR 6050 PT	MBR 6060 PT	MBR 6090 PT	MBR 60100 PT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	60						A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz)	I_{FRM}	60						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	420						A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1						A
Maximum Instantaneous Forward Voltage at (Note 2) $I_F=30A, T_A=25^\circ C$ $I_F=30A, T_A=125^\circ C$ $I_F=60A, T_A=25^\circ C$	V_F	0.70 0.60 0.82		0.75 0.65 0.93		0.84 - 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	1 30 20 10						mA mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10000						V/us
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	1.2						°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 (MBR6035PT THRU MBR60100PT)

FIG.1 FORWARD CURRENT DERATING CURVE

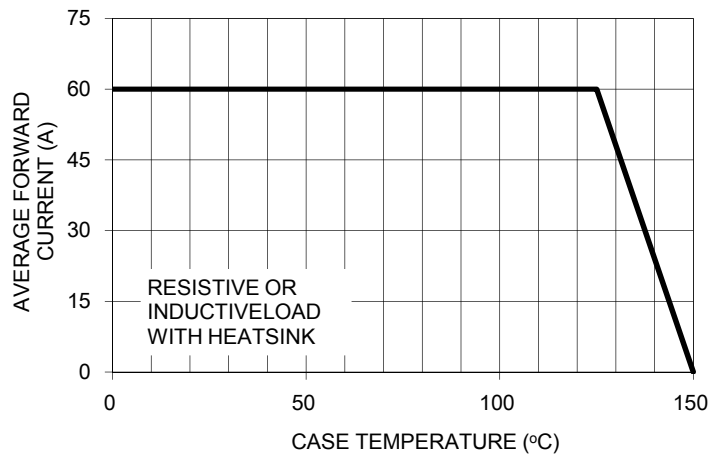


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

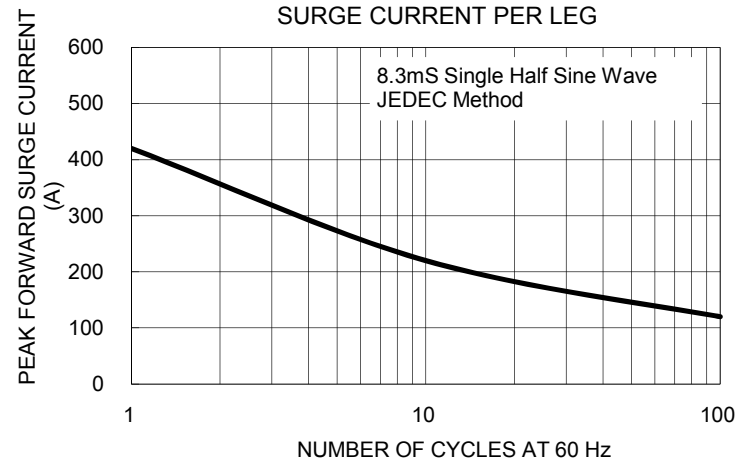


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

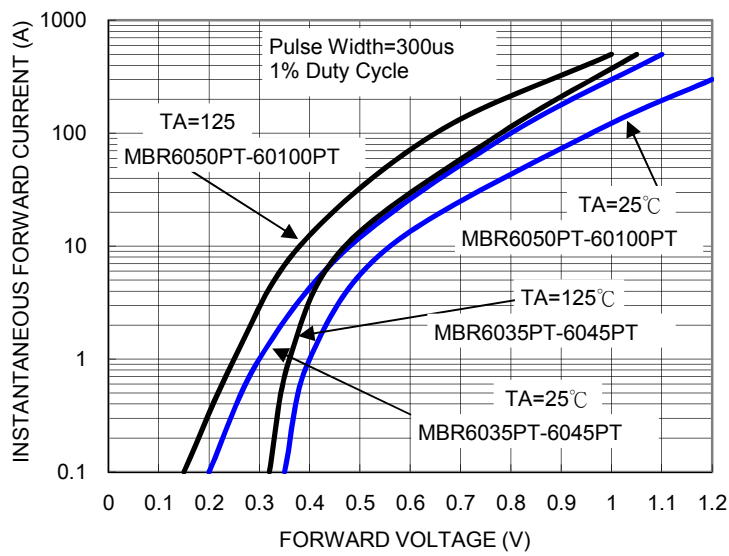


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

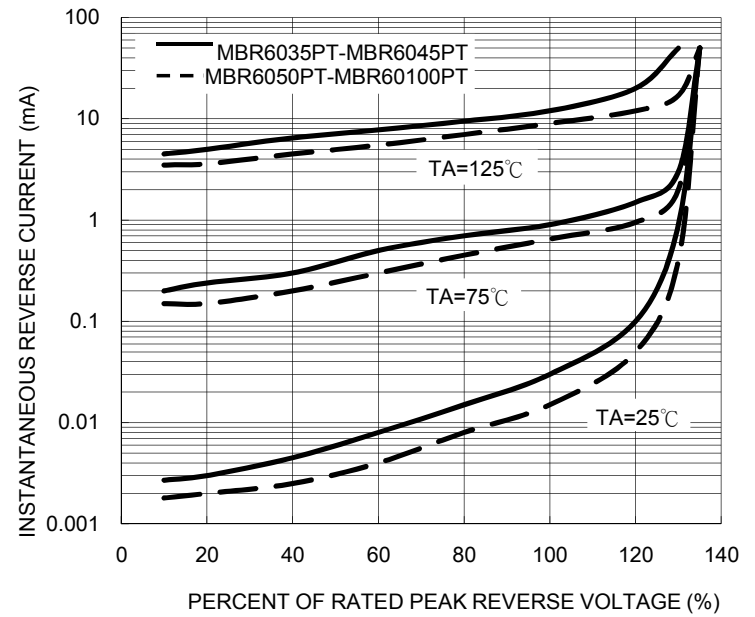


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

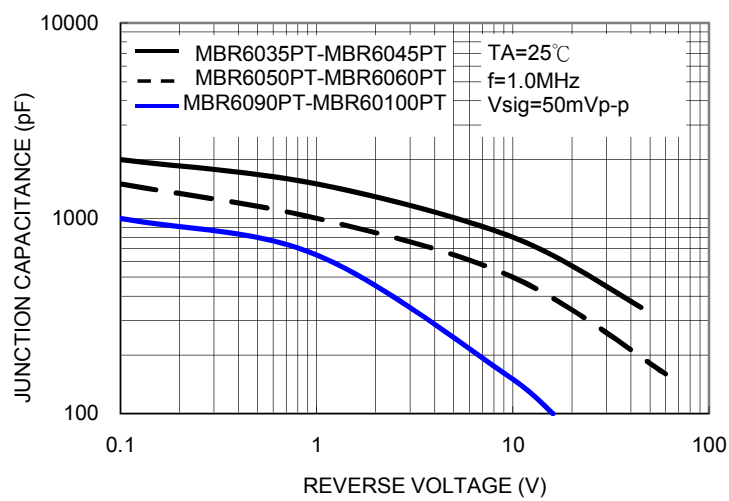
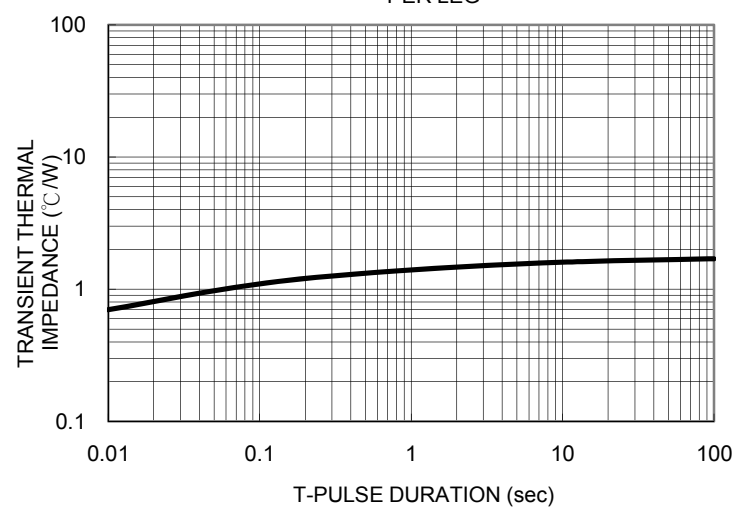


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

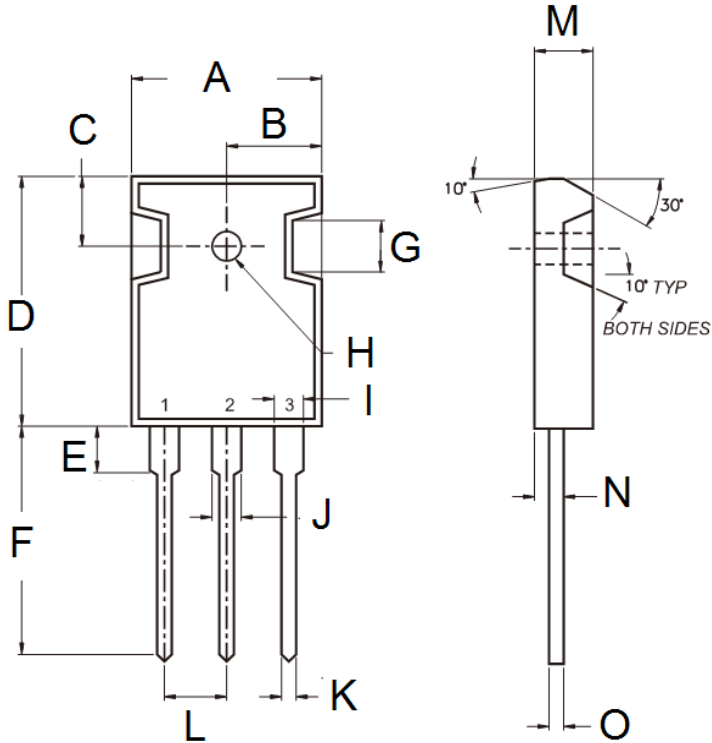


Ordering information

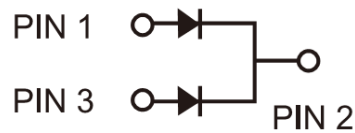
Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
MBR60xxPT	TO-3P	30 / TUBE	C0	C0G

Note: "xx" is Device Code from "35" thru "100".

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	15.90	16.40	0.626	0.646
B	7.90	8.20	0.311	0.323
C	5.70	6.20	0.224	0.244
D	20.80	21.30	0.819	0.839
E	3.50	4.10	0.138	0.161
F	19.70	20.20	0.776	0.795
G	-	4.30	-	0.169
H	2.90	3.40	0.114	0.134
I	1.93	2.18	0.076	0.086
J	2.97	3.22	0.117	0.127
K	1.12	1.22	0.044	0.048
L	5.20	5.70	0.205	0.224
M	4.90	5.16	0.193	0.203
N	2.70	3.00	0.106	0.118
O	0.51	0.76	0.020	0.030



Marking Diagram



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