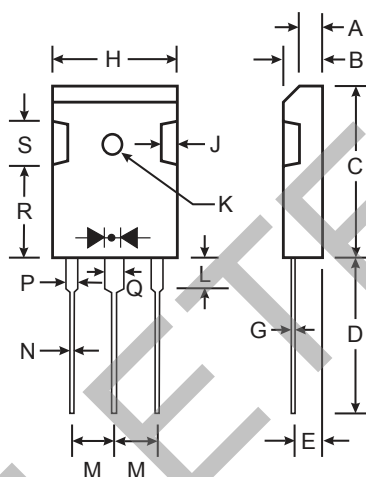


MBR6030PT - MBR6045PT**60A SCHOTTKY BARRIER RECTIFIER****Features**

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish, RoHS Compliant (Note 3)**

Mechanical Data

- Case: TO-3P
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: 5.6 grams (approximate)



TO-3P		
Dim	Min	Max
A	1.88	2.08
B	4.68	5.36
C	20.63	22.38
D	18.5	21.5
E	2.1	2.4
G	0.51	0.76
H	15.38	16.25
J	1.90	2.70
K	2.9 \varnothing	3.65 \varnothing
L	3.78	4.50
M	5.2	5.7
N	0.89	1.53
P	1.82	2.46
Q	2.92	3.23
R	11.70	12.84
S	—	6.10
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 6030PT	MBR 6035PT	MBR 6040PT	MBR 6045PT	Unit
Peak Repetitive Reverse Voltage	V_{RRM}					
Working Peak Reverse Voltage	V_{RWM}	30	35	40	45	V
DC Blocking Voltage	V_R					
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	V
Average Rectified Output Current @ $T_C = 125^\circ\text{C}$ (Note 1)	I_O	60				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	500				A
Forward Voltage Drop @ $I_F = 30\text{A}, T_C = 25^\circ\text{C}$ @ $I_F = 30\text{A}, T_C = 125^\circ\text{C}$ @ $I_F = 60\text{A}, T_C = 25^\circ\text{C}$	V_{FM}		0.62 0.55 0.75			V
Peak Reverse Current at Rated DC Blocking Voltage @ $T_C = 25^\circ\text{C}$ @ $T_C = 100^\circ\text{C}$	I_{RM}		1.0 50			mA
Typical Total Capacitance (Note 2)	C_T		650			pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$		1.0			$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}		-55 to +150			$^\circ\text{C}$

- Notes:
1. Thermal resistance junction to case mounted on heatsink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

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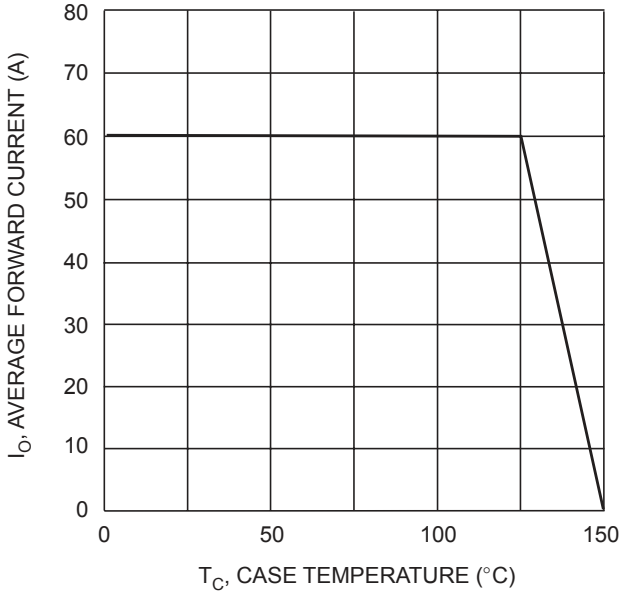


Fig. 1 Forward Current Derating Curve

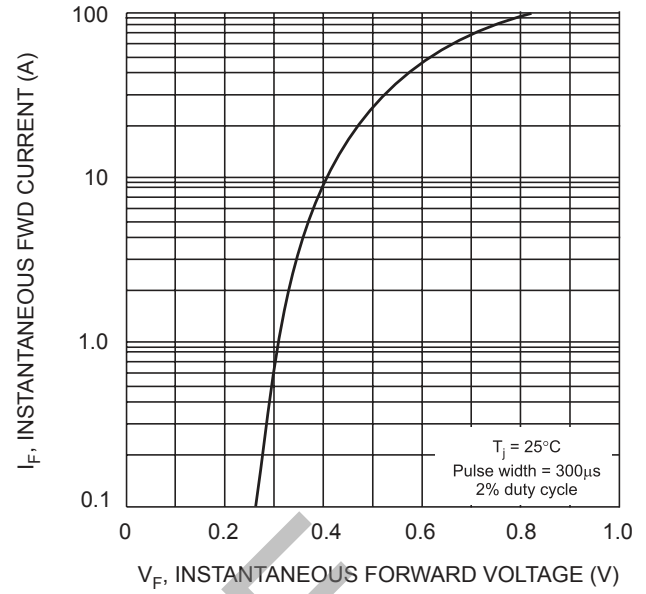


Fig. 2 Typical Forward Characteristics

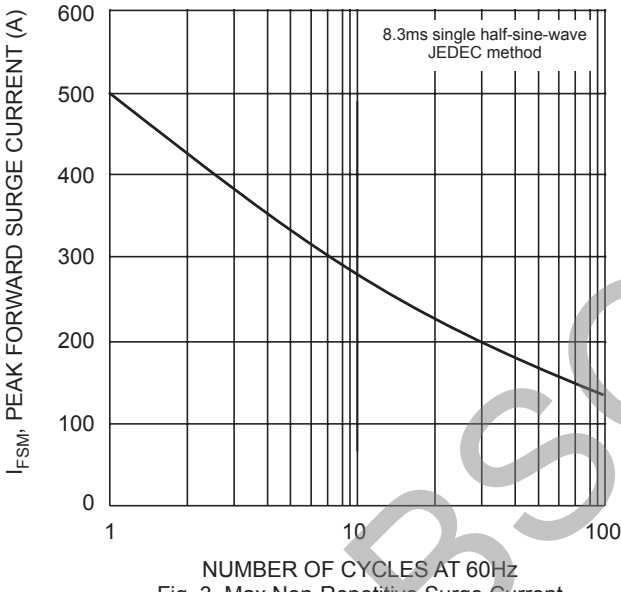


Fig. 3 Max Non-Repetitive Surge Current

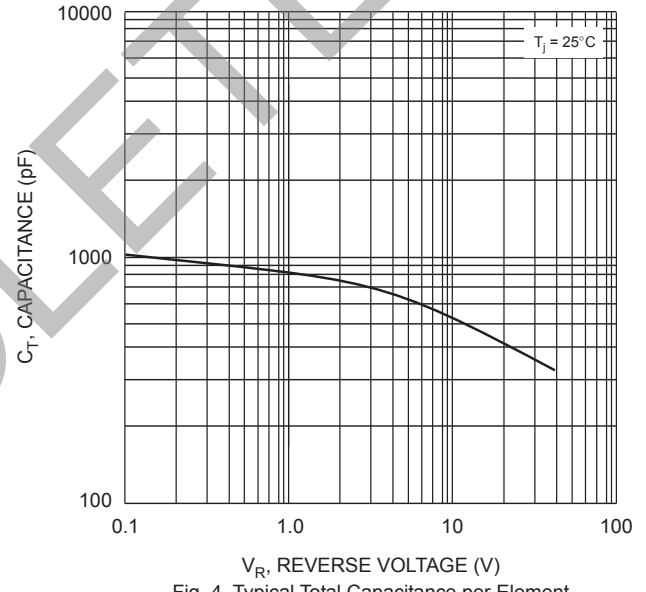


Fig. 4 Typical Total Capacitance per Element

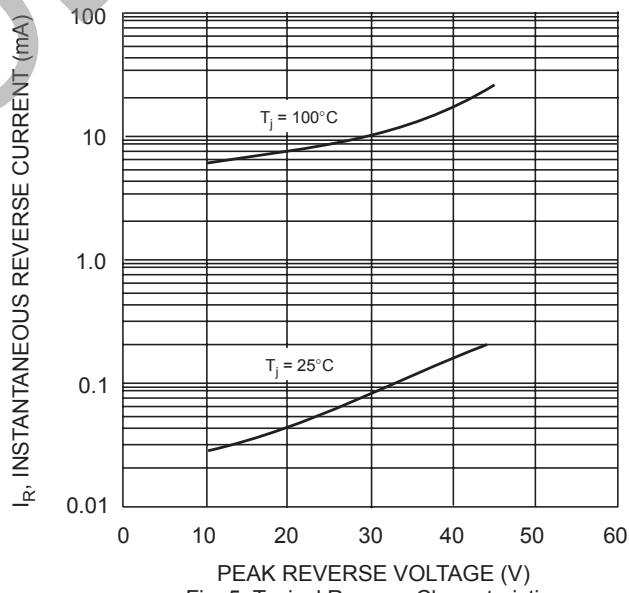


Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 4)

Device	Packaging	Shipping
MBR6030PT	TO-3P	30/Tube
MBR6035PT	TO-3P	30/Tube
MBR6040PT	TO-3P	30/Tube
MBR6045PT	TO-3P	30/Tube

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>

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