

MBR6030PT - MBR6045PT

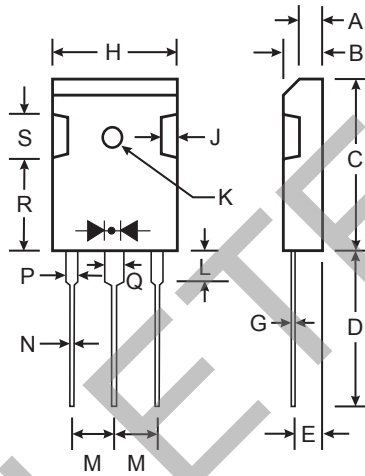
60A SCHOTTKY BARRIER RECTIFIER

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)



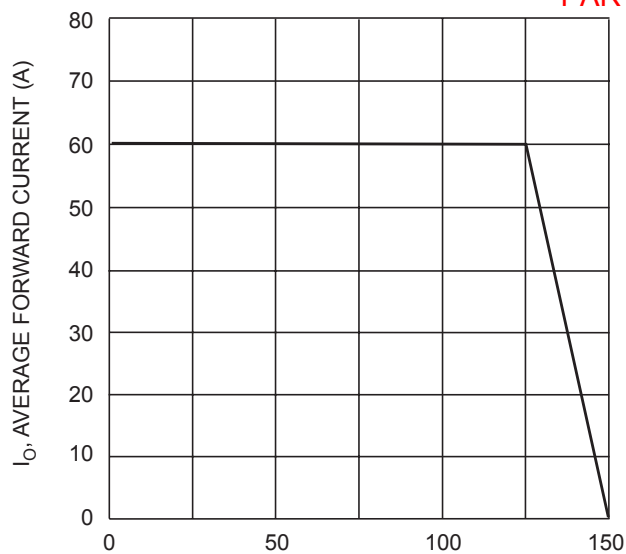
TO-3P		
Dim	Min	Max
A	1.88	2.08
B	4.68	5.36
C	20.63	22.38
D	18.5	21.5
E	2.1	2.4
G	0.51	0.76
H	15.38	16.25
J	1.90	2.70
K	2.90	3.65
L	3.78	4.50
M	5.2	5.7
N	0.89	1.53
P	1.82	2.46
Q	2.92	3.23
R	11.70	12.84
S	—	6.10
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

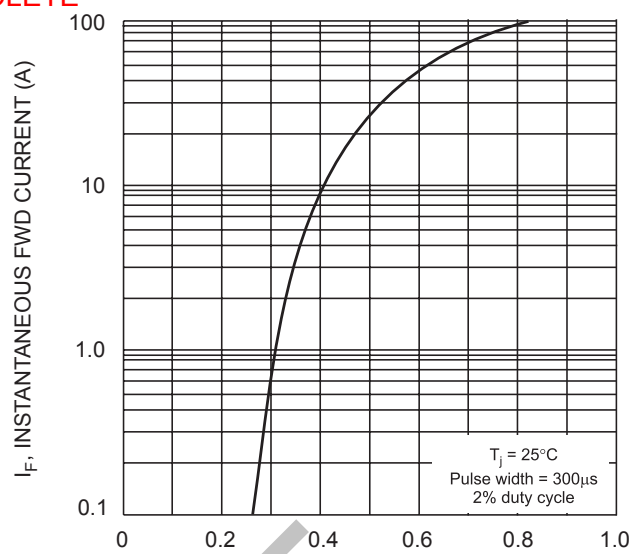
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 6030PT	MBR 6035PT	MBR 6040PT	MBR 6045PT	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	35	40	45	V
Working Peak Reverse Voltage	V _{RWM}					
DC Blocking Voltage	V _R					
RMS Reverse Voltage	V _{R(RMS)}	21	25	28	32	V
Average Rectified Output Current @ T _C = 125°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 = 30A, T _C = 25°C @ I _F = 30A, T _C = 125°C @ I _F = 60A, T _C = 25°C	V _{FM}	0.62 0.55 0.75				V
Peak Reverse Current @ T _C = 25°C at Rated DC Blocking Voltage @ T _C = 100°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 _{θJC}	1.0				°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150				°C

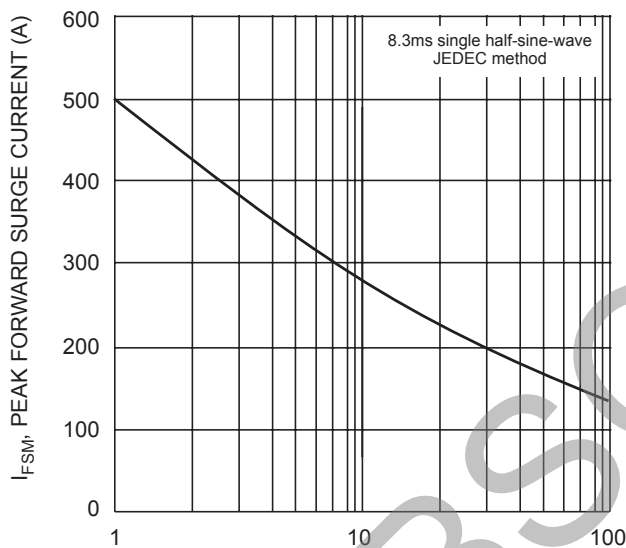
- Notes:
1. Thermal resistance junction to case mounted on heatsink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.



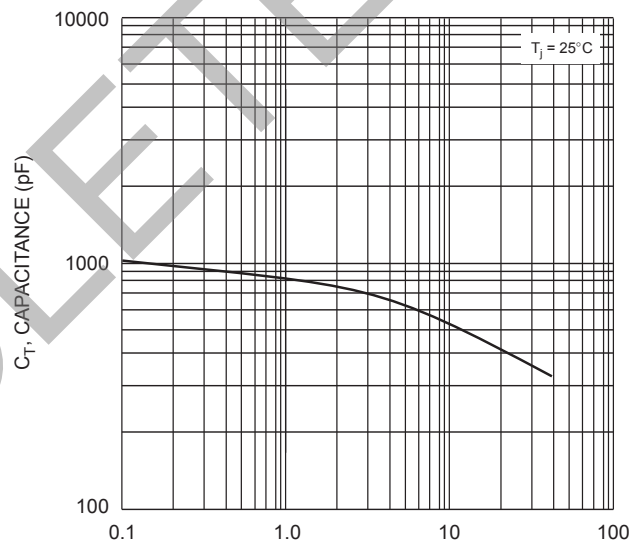
T_C , CASE TEMPERATURE ($^{\circ}C$)
Fig. 1 Forward Current Derating Curve



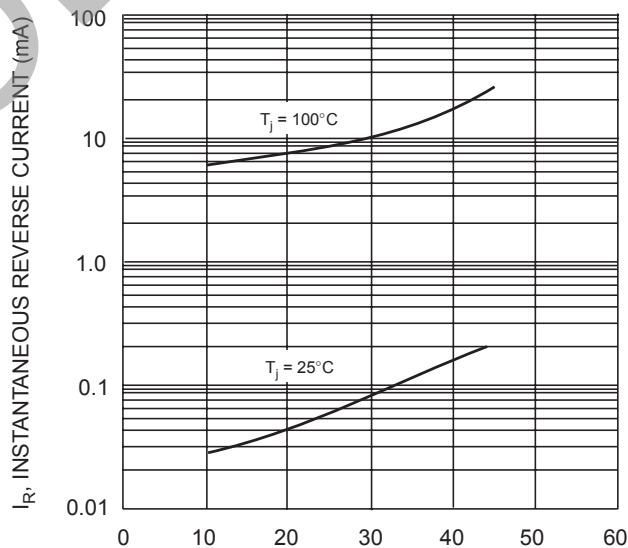
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60Hz
Fig. 3 Max Non-Repetitive Surge Current



V_R , REVERSE VOLTAGE (V)
Fig. 4 Typical Total Capacitance per Element



PEAK REVERSE VOLTAGE (V)
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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