

MBR3030PT - MBR3060PT

30A SCHOTTKY BARRIER RECTIFIER

Features

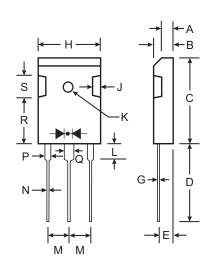
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Lead Free Finish, RoHS Compliant (Note 4)

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				
Α	1.88	2.08				
В	4.68	5.36				
С	20.63	22.38				
D	18.5	21.5				
Е	2.1	2.4				
G	0.51	0.76				
Н	15.38	16.25				
J	1.90	2.70				
K	2.9Ø	3.65∅				
L	3.78	4.50				
M	5.2	5.7				
N	0.89	1.53				
Р	1.82	2.46				
Q	2.92	3.23				
R	11.70	12.84				
S		6.10				
All Dimensions in mm						

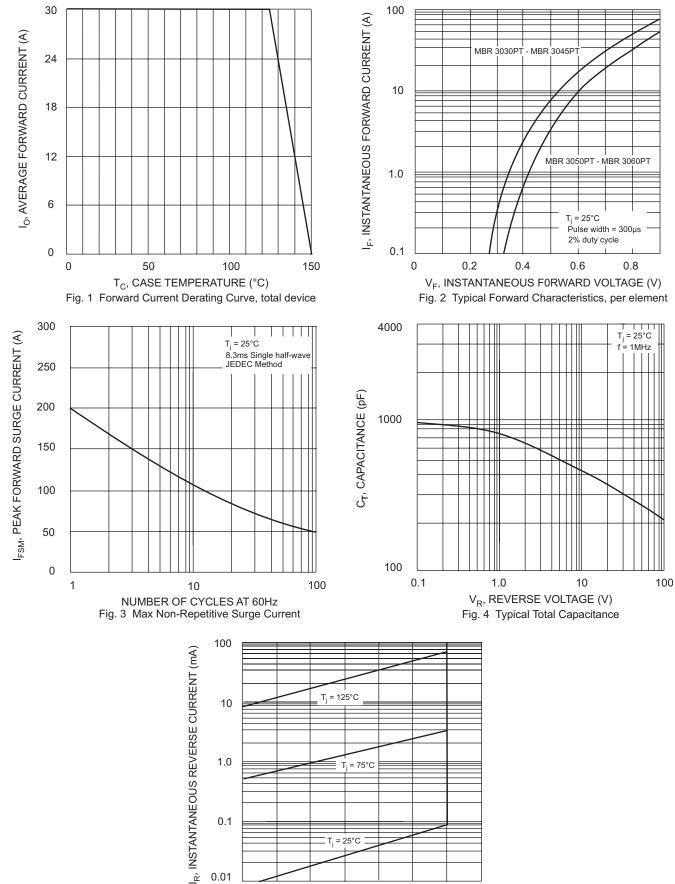
Maximum Ratings and Electrical Characteristics @ $T_A = 25^{\circ}C$ unless otherwise specified

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

Characteristic	Symbol	MBR 3030PT	MBR 3035PT	MBR 3040PT	MBR 3045PT	MBR 3050PT	MBR 3060PT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	30	35	40	45	50	60	٧
RMS Reverse Voltage	V _{R(RMS)}	21	24.5	28	31.5	35	42	V
Average Rectified Output Current @ T _C = 125°C Total Device (See Fig. 1)	Io	30					Α	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	200					А	
	V _{FM}	— 0.75 0.60 0.65 0.76 0.80 0.72 0.75			65 80	V		
Peak Reverse Current	I _{RM}	1.0 5.0 60 100				mA		
Typical Total Capacitance (Note 2)	C _T	500					pF	
Typical Thermal Resistance Junction to Case (Note 1)	R ₀ Jc	1.4					°C/W	
Voltage Rate of Change (Rated V _R)	dV/dt	10,000					V/µs	
Operating Temperature Range	Tj	-65 to +150						°C
Storage Temperature Range	T _{STG}	-65 to +175				°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. Pulse width ≤300 µs, duty cycle ≤2%.
 - 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.





PERCENT OF RATED PEAK REVERSE VOLTAGE (%) Fig. 5 Typical Reverse Characteristics, per element

80

100

140

120

60

0.01 0

20

40



Ordering Information (Note 5)

Device	Packaging	Shipping
MBR3030PT	TO-3P	30/Tube
MBR3035PT	TO-3P	30/Tube
MBR3040PT	TO-3P	30/Tube
MBR3045PT	TO-3P	30/Tube
MBR3050PT	TO-3P	30/Tube
MBR3060PT	TO-3P	30/Tube

 $Notes: \quad 5. \quad \text{For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf.}$