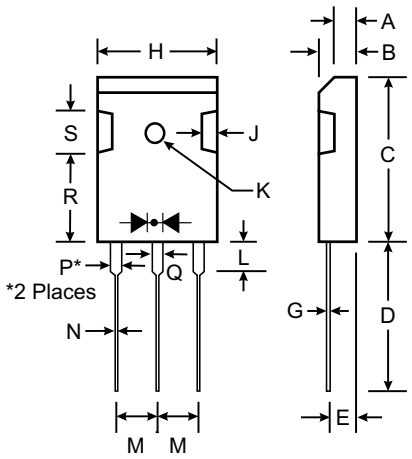
MBR3030PT - MBR3060PT

30A 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 Applications
- Plastic Material: UL Flammability Classification Rating 94V-0



TO-3P		
Dim	**Min**	**Max**
A	3.20	3.50
B	4.59	5.16
C	20.80	21.30
D	19.70	20.20
E	2.10	2.40
G	0.51	0.76
H	15.90	16.40
J	1.70	2.70
K	3.10∅	3.30∅
L	3.50	4.51
M	5.20	5.70
N	1.12	1.22
P	1.93	2.18
Q	2.97	3.22
R	11.70	12.80
S	4.30 Typical	
All Dimensions in mm		

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 5.6 grams (approx.)
- Mounting Position: Any

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 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	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	24.5	28	31.5	35	42	V
Average Rectified Output Current @ T_C = 125°C (Note 1)	I_O	30						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200						A
Forward Voltage Drop per element (Note 3) @ I_F = 20A, T_C = 25°C @ I_F = 20A, T_C = 125°C	V_{FM}	0.65 0.60				0.75 0.65		V
Peak Reverse Current @ T_C = 25°C at Rated DC Blocking Voltage, per element @ T_C = 125°C	I_{RM}	1.0 60				5.0 100		mA
Typical Junction Capacitance (Note 2)	C_j	700						pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta Jc}$	1.4				2.0		K/W
Voltage Rate of Change (Rated V_R)	dV/dt	10,000						V/µs
Operating and Storage Temperature Range	T_j, T_{STG}	-65 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. Pulse width ≤300 µs, duty cycle ≤2%.

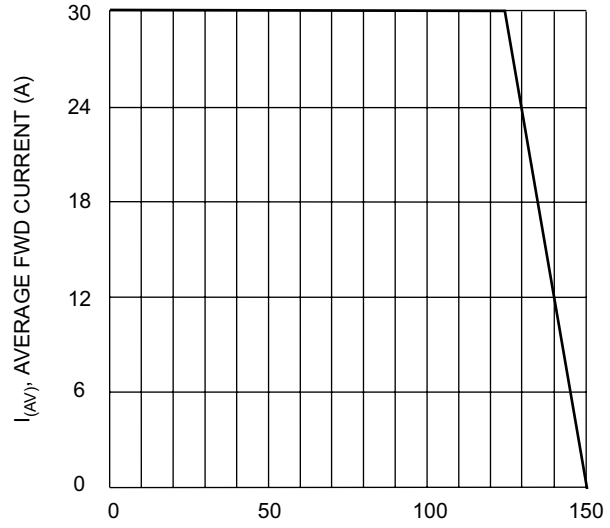


Fig. 1 Fwd Current Derating Curve

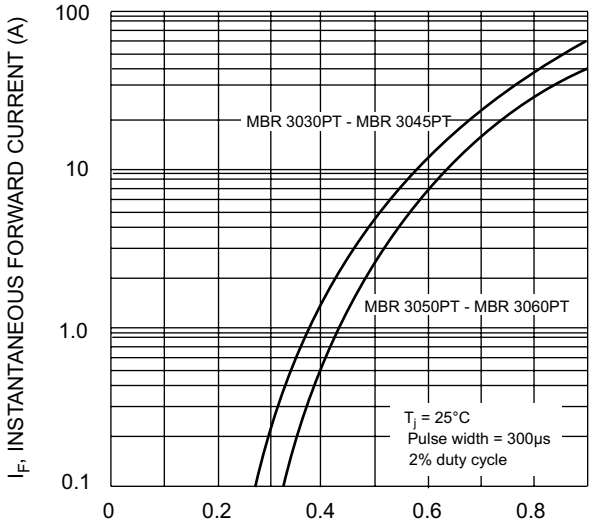


Fig. 2 Typical Forward Characteristics

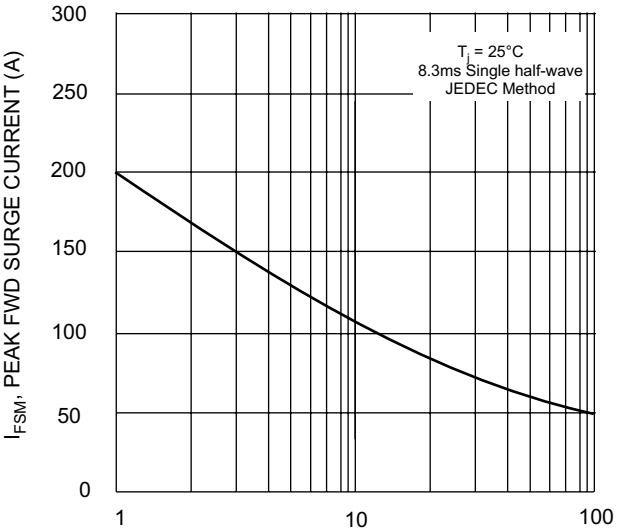


Fig. 3 Max Non-Repetitive Surge Current

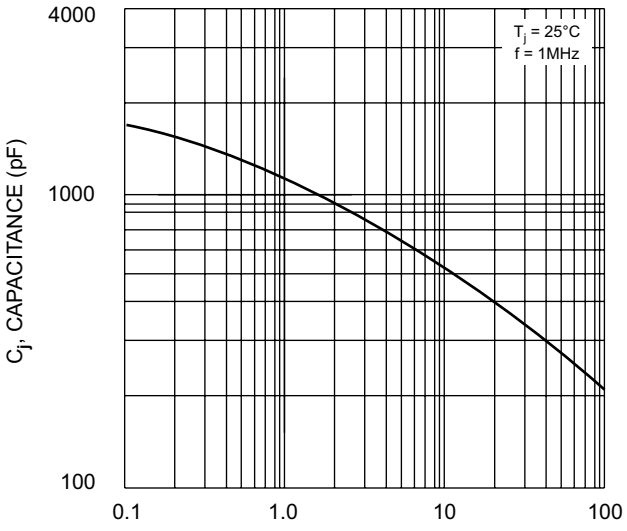


Fig. 4 Typical Junction Capacitance

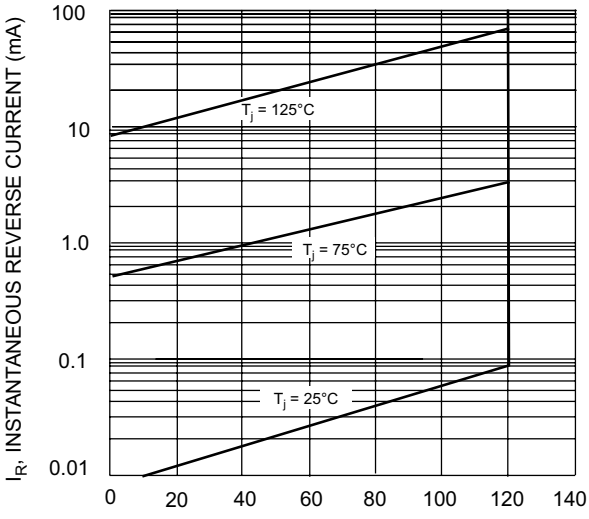


Fig. 5 Typical Reverse Characteristics