



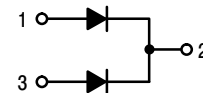
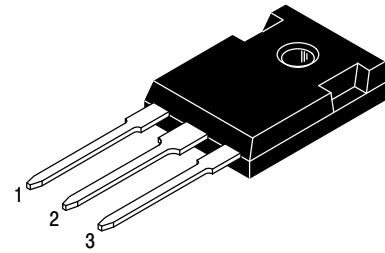
MBR3040PTG THRU MBR30200PTG

30.0 AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD

Features

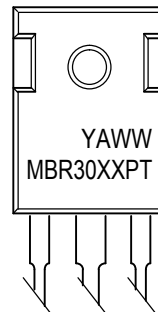
- Metal silicon junction, majority carrier conduction
- Plastic material used carriers Underwriters Laboratory Classification 94V-0
- High surge capability
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- For use in low voltage - high frequency inverters, free wheeling, 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

- Case: JEDEC TO-3P/TO-247AD molded plastic
- Polarity: As marked
- Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- Mounting position: Any
- Weight: 6.12 grams
- Mounting torque: 10 in- lbs, max

MARKING DIAGRAM



Y = Year
 A = Assembly Location
 WW = Work Week
 MBR30XXPT = Specific Device Code

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 3040 PTG	MBR 3045 PTG	MBR 3050 PTG	MBR 3060 PTG	MBR 3080 PTG	MBR 30100 PTG	MBR 30150 PTG	MBR 30200 PTG	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	45	50	60	80	100	150	200	V
Maximum RMS Voltage	V_{RMS}	28	31	35	42	56	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	40	45	50	60	80	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	30								A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C=105^\circ C$	I_{FRM}	30								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200								A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	2	1							A
Maximum Instantaneous Forward Voltage (Note 2) $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$ $I_F=30A, T_A=25^\circ C$ $I_F=30A, T_A=125^\circ C$	V_F	-	0.75	0.85	0.95	1.05			V	
		0.60	0.65	0.75	0.92	-				
		0.82	-	-	1.02	1.10				
		0.73	-	-	0.98	-				
Maximum Reverse Current @ Rated V_R $T_A=25^\circ C$ $T_A=125^\circ C$	I_R	1		0.5			0.1		mA	
		20	15	10						
Voltage Rate of Change, (Rated V_R)	dV/dt	10000								V/us
Typical Junction Capacitance	C_j	600	460	320					pF	
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	1.4								$^\circ C/W$
Operating Temperature Range	T_J	- 65 to + 150								$^\circ C$
Storage Temperature Range	T_{STG}	- 65 to + 175								$^\circ C$

Note 1: 2.0uS Pulse Width, $f=1.0KHz$

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

RATINGS AND CHARACTERISTIC CURVES

FIG.1 FORWARD CURRENT DERATING CURVE

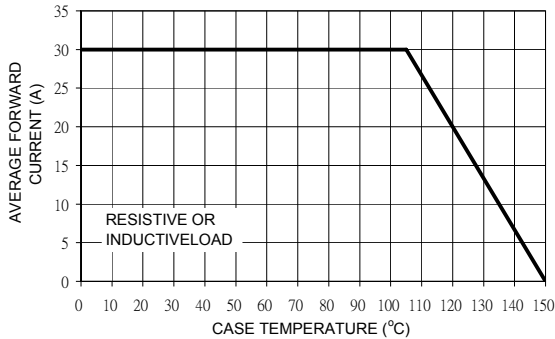


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

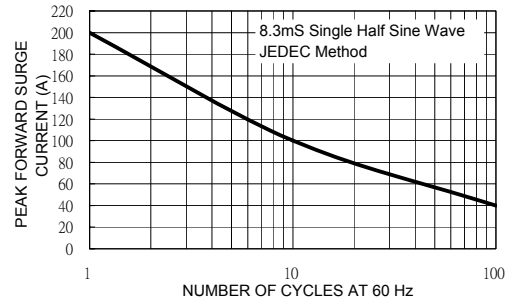


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

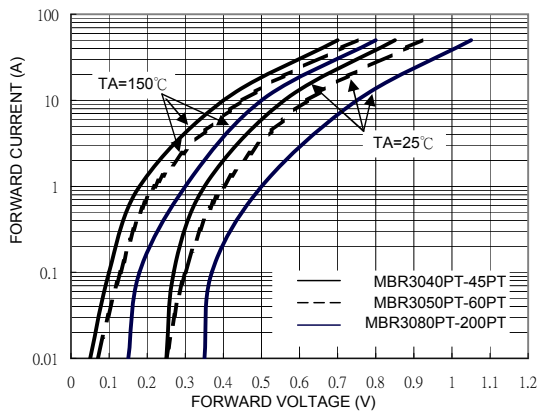


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

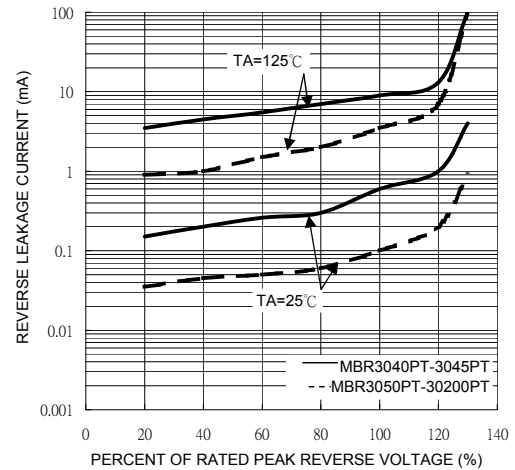


FIG. 5 TYPICAL JUNCTION CAPACITANCE

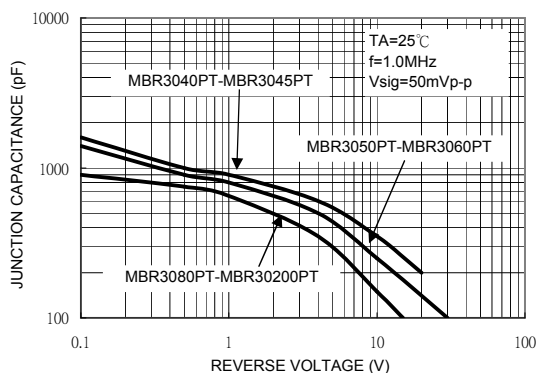
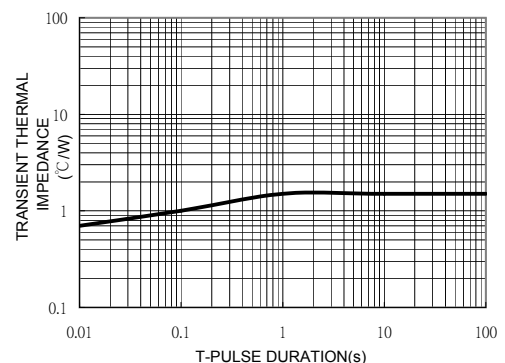
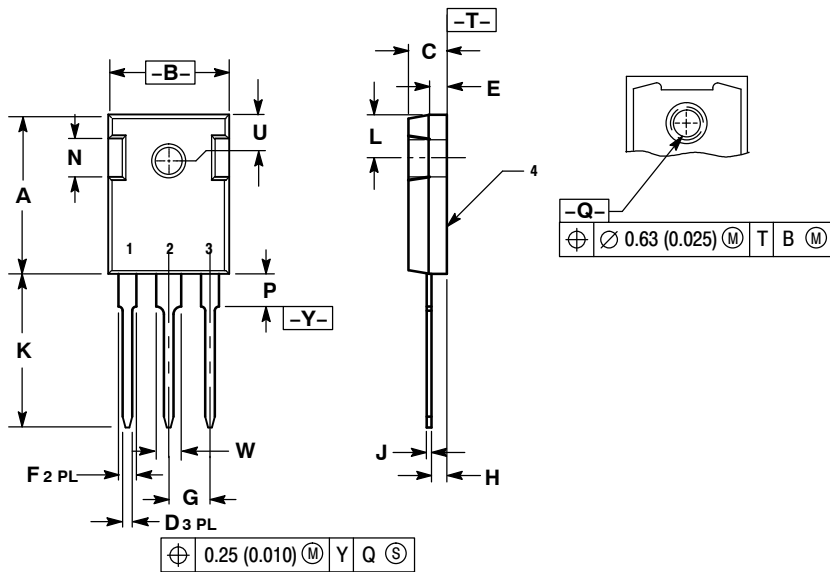


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



TO-3P/TO-247AD



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	20.32	21.08	0.800	0.830
B	15.75	16.26	0.620	0.640
C	4.70	5.30	0.185	0.209
D	1.00	1.40	0.040	0.055
E	1.90	2.60	0.075	0.102
F	1.65	2.13	0.065	0.084
G	5.45 BSC		0.215 BSC	
H	1.50	2.49	0.059	0.098
J	0.40	0.80	0.016	0.031
K	19.81	20.83	0.780	0.820
L	5.40	6.20	0.212	0.244
N	4.32	5.49	0.170	0.216
P	---	4.50	---	0.177
Q	3.55	3.65	0.140	0.144
U	6.15 BSC		0.242 BSC	
W	2.87	3.12	0.113	0.123

- STYLE 2:
1. ANODE
 2. CATHODE (S)
 3. ANODE 2
 4. CATHODES (S)