



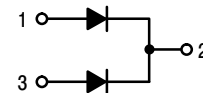
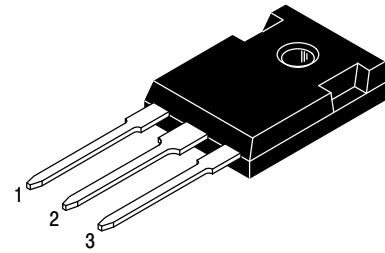
MBR4040PTG THRU MBR40200PTG

40.0 AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD

Features

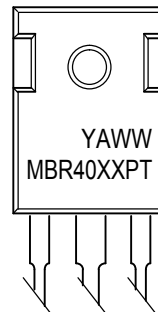
- Metal silicon junction, majority carrier conduction
- Plastic material used carriers Underwriters Laboratory Classification 94V-0
- High surge capability
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- For use in low voltage - high frequency inverters, free wheeling, 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: 6.16 grams
- Mounting torque: 10 in- lbs, max

MARKING DIAGRAM



Y = Year
 A = Assembly Location
 WW = Work Week
 MBR40XXPT = 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 4040 PTG	MBR 4045 PTG	MBR 4050 PTG	MBR 4060 PTG	MBR 4080 PTG	MBR 40100 PTG	MBR 40150 PTG	MBR 40200 PTG	Units
Maximum Recurrent 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 @ $T_c = 125^\circ\text{C}$ (Total Device)	$I_{F(AV)}$	40.0								A
Peak Repetitive Forward Current (Rated V_R Square Wave, 20KHz) at $T_c=120^\circ\text{C}$	I_{FRM}	40.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	330.0								A
Peak Repetitive Reverse Surge Current(Note2)	I_{RRM}	2.0		1.0						A
Maximum Instantaneous Forward Voltage at $I_F = 20\text{A}, T_A=25^\circ\text{C}$ $I_F = 20\text{A}, T_A=125^\circ\text{C}$ $I_F = 40\text{A}, T_A=25^\circ\text{C}$ $I_F = 40\text{A}, T_A=125^\circ\text{C}$	V_F	0.75		0.77		0.84		0.90		V
		0.65		0.67		0.74		0.80		
		0.80		-		-		1.01		
		0.75		-		-		-		
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Leg (Note1)	I_R	1.0		0.5		0.1				mA
		30		20		10				
Voltage Rate of Change (Rated V_R)	dV/dt	10,000								V/uS
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	1.2								$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +150								$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175								$^\circ\text{C}$

Notes: 1. Pulse Test: 300us Pulse Width, 1% Duty Cycle
 2. 2.0us Pulse Width, f=1.0 KHz

RATINGS AND CHARACTERISTIC CURVES

FIG.1- FORWARD CURRENT DERATING CURVE

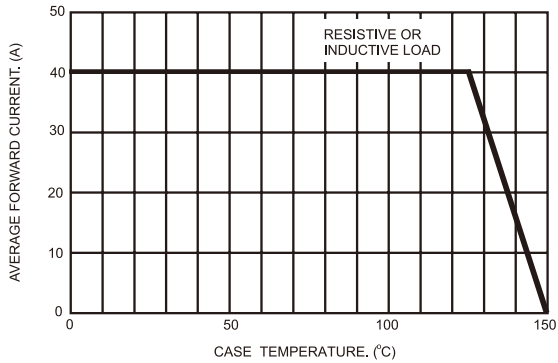


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

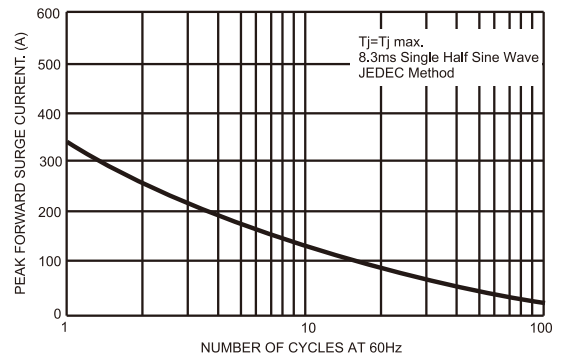


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

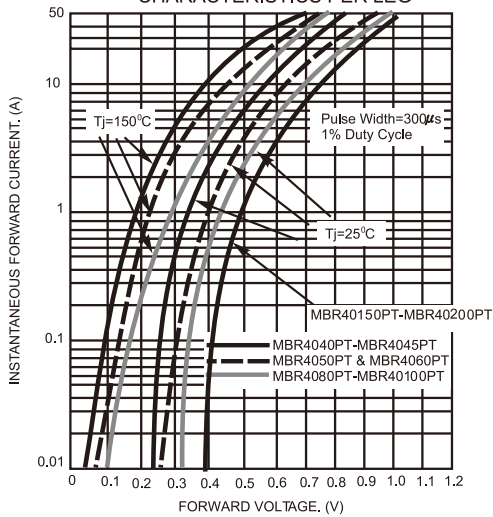


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

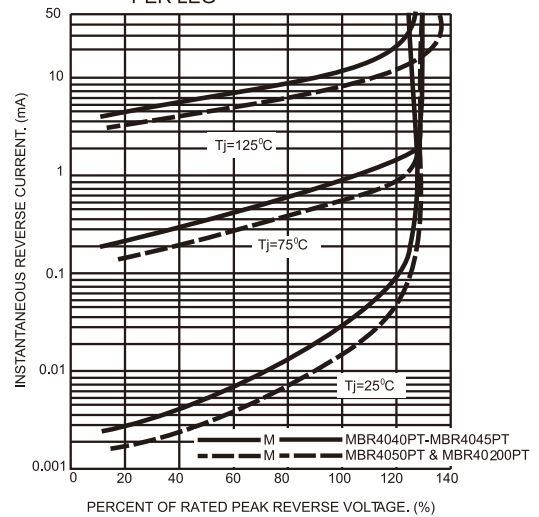


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

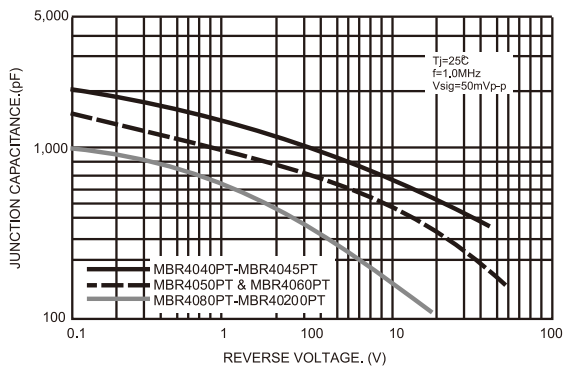
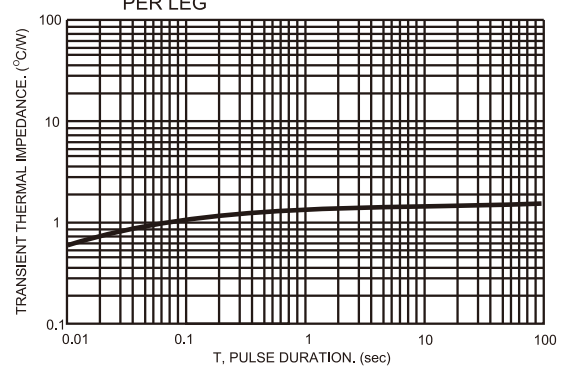
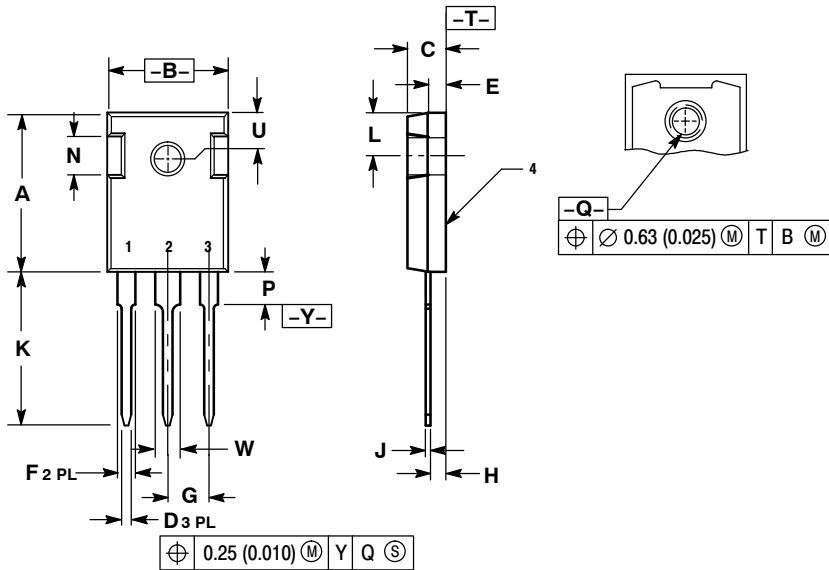


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



Package Dimensions

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)