Dual Common Cathode Schottky Rectifier

FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

TO-247AD (TO-3P)

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: TO-247AD (TO-3P)
Molding compound, UL flammability classification rating 94V-0
Base P/N with suffix "G" on packing code - halogen-free
Base P/N with prefix "H" on packing code - AEC-Q101 qualified
Terminal: Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test
with prefix "H" on packing code meet JESD 201 class 2 whisker test
Polarity: As marked
Mounting torque: 10 in-lbs maximum
Weight: 6.1 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

PARAMETER	SYMBOL	MBR 4035 PT	MBR 4045 PT	MBR 4050 PT	MBR 4060 PT	MBR 4090 PT	MBR 40100 PT	MBR 40150 PT	MBR 40200 PT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	90	100	150	200	V
Maximum RMS voltage	V_{RMS}	24	31	35	42	63	70	105	140	V
Maximum DC blocking voltage	V_{DC}	35	45	50	60	90	100	150	200	V
Maximum average forward rectified current	$I_{F(AV)}$	40								A
Peak repetitive forward current (Rated V_R, Square wave, 20KHz)	I_{FRM}	40								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	330								A
Peak repetitive reverse surge Current (Note 1)	I_{RRM}	2		1						A
Maximum instantaneous forward voltage (Note 2) I_F=20A, T_J=25℃ I_F=20A, T_J=125℃ I_F=40A, T_J=25℃ I_F=40A, T_J=125℃	V_F	 0.75 0.65 0.80 0.75		 0.77 0.67 - -		 0.84 0.74 - -		 0.90 0.80 1.01 -		V
Maximum reverse current @ rated VR T_J=25 ℃	I_R	1.0				0.5		0.1		mA
T_J=125 ℃		30		20		10				
Voltage rate of change (Rated V_R)	dV/dt	10,000								V/μs
Typical thermal resistance	$R_{\theta JC}$	1.2								^{O}C/W
Operating junction temperature range	T_J	- 55 to + 150								^{O}C
Storage temperature range	T_{STG}	- 55 to + 150								^{O}C

Note 1: 2.0μs Pulse Width, f=1.0KHz

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

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
MBR40xxPT (Note 1)	Prefix "H"	C0	Suffix "G"	TO-3P	30 / Tube

Note 1: "xx" defines voltage from 35V (MBR4035PT) to 200V (MBR40200PT)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBR4060PT C0	MBR4060PT		C0		
MBR4060PT C0G	MBR4060PT		C0	G	Green compound
MBR4060PTHC0	MBR4060PT	H	C0		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

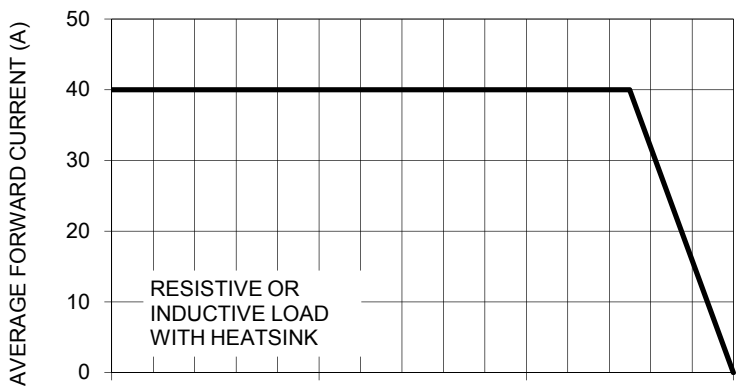


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

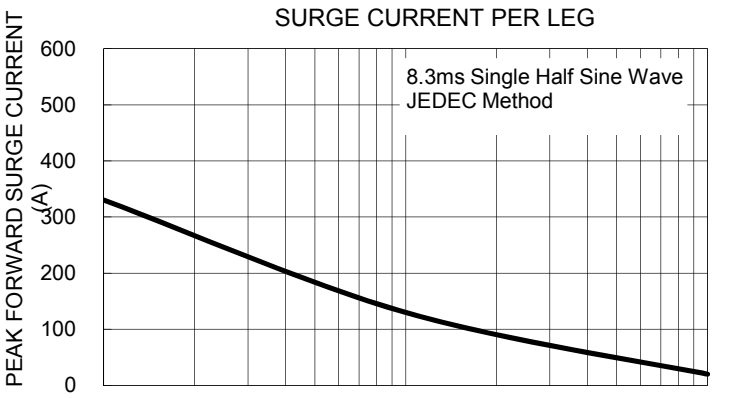


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

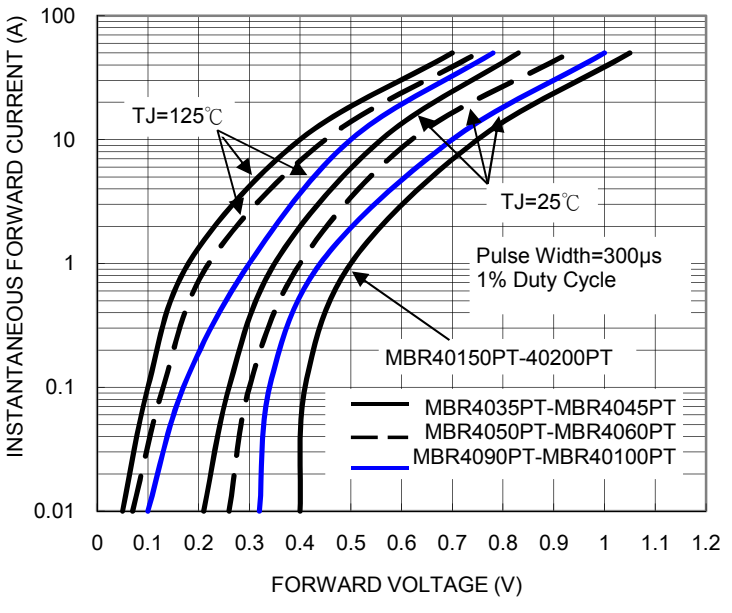


FIG.4 TYPICAL REVERSE CHARACTERISTICS PER LEG

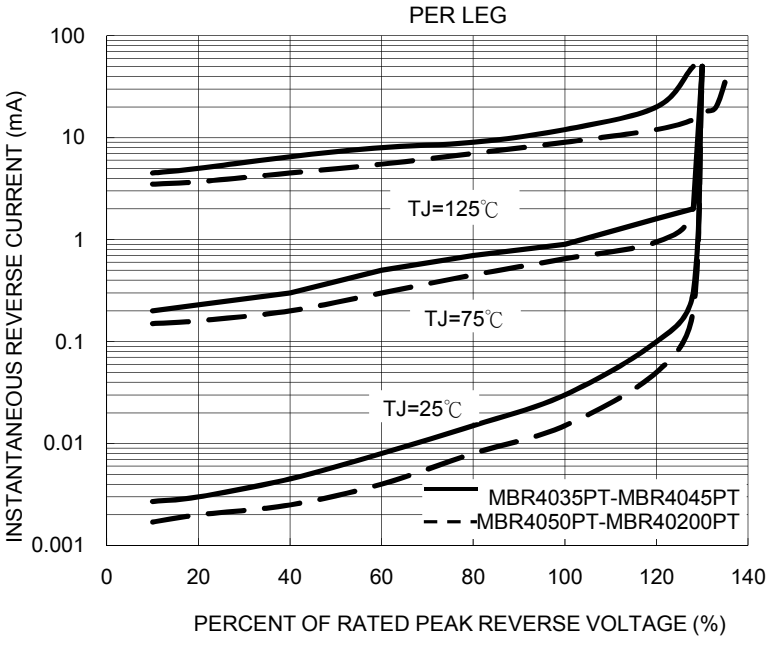


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

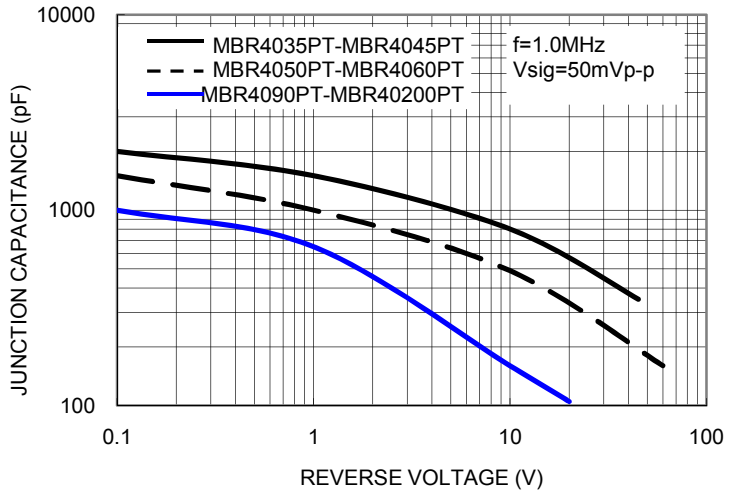
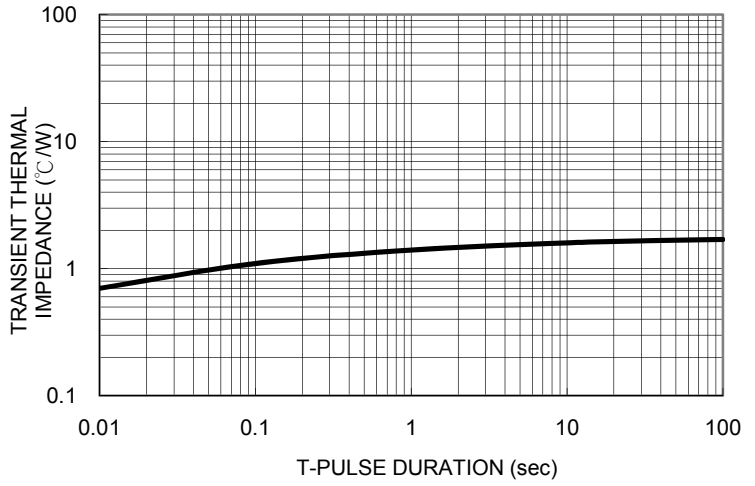
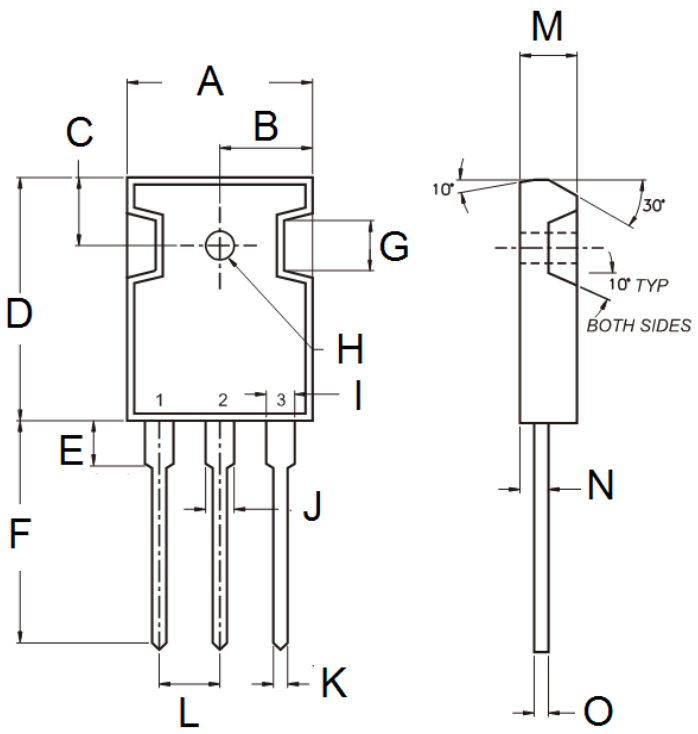


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	15.90	16.40	0.626	0.646
B	7.90	8.20	0.311	0.323
C	5.70	6.20	0.224	0.244
D	20.80	21.30	0.819	0.839
E	3.50	4.10	0.138	0.161
F	19.70	20.20	0.776	0.795
G	-	4.30	-	0.169
H	2.90	3.40	0.114	0.134
I	1.93	2.18	0.076	0.086
J	2.97	3.22	0.117	0.127
K	1.12	1.22	0.044	0.048
L	5.20	5.70	0.205	0.224
M	4.90	5.16	0.193	0.203
N	2.70	3.00	0.106	0.118
O	0.51	0.76	0.020	0.030

MARKING DIAGRAM

P/N = Marking Code
G = Green Compound
YWW = Date Code
F = Factory Code

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