Dual Common Cathode Schottky Rectifier

FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- 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-220AB

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: TO-220AB

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: 5 in-lbs maximum

Weight: 1.9 g (approximately)

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

PARAMETER	SYMBOL	MBR 3035 CT	MBR 3045 CT	MBR 3050 CT	MBR 3060 CT	MBR 3090 CT	MBR 30100 CT	MBR 30150 CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC blocking voltage	V_{DC}	35	45	50	60	90	100	150	V
Maximum average forward rectified current	$I_{F(AV)}$	30							A
Peak repetitive forward current (Rated VR, Square wave, 20KHz)	I_{FRM}	30							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	200							A
Peak repetitive reverse surge current (Note 1)	I_{RRM}	1.0			0.5				A
Maximum instantaneous forward voltage (Note 2) I_F=15A, T_J=25℃ I_F=15A, T_J=125℃ I_F=30A, T_J=25℃ I_F=30A, T_J=125℃	V_F	 0.7 0.6 0.82 0.73		0.77 0.67 - -		0.84 0.70 0.94 0.82		0.95 0.92 1.02 0.98	V
Maximum reverse current @ rated VR T_J=25 ℃	I_R	0.2						0.1	mA
T_J=125 ℃		15		10		7.5		5	
Voltage rate of change (Rated V_R)	dV/dt	10000							V/μs
Typical thermal resistance	$R_{\theta JC}$	1.0				1.5			^{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: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
MBR30xxCT	Prefix "H"	C0	Suffix "G"	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 35V (MBR3035CT) to 150V (MBR30150CT)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBR3060CT C0	MBR3060CT		C0		
MBR3060CT C0G	MBR3060CT		C0	G	Green compound
MBR3060CTHC0	MBR3060CT	H	C0		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1- FORWARD CURRENT DERATING CURVE

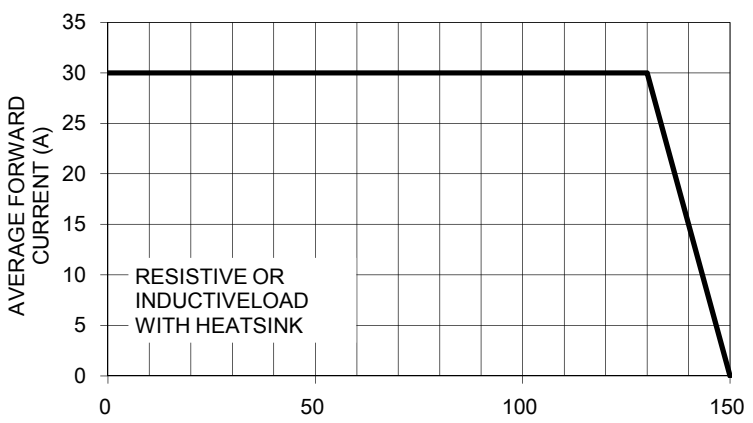


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

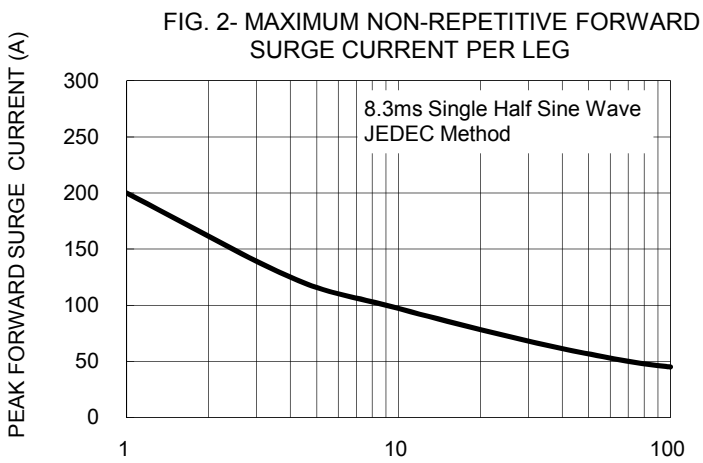


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

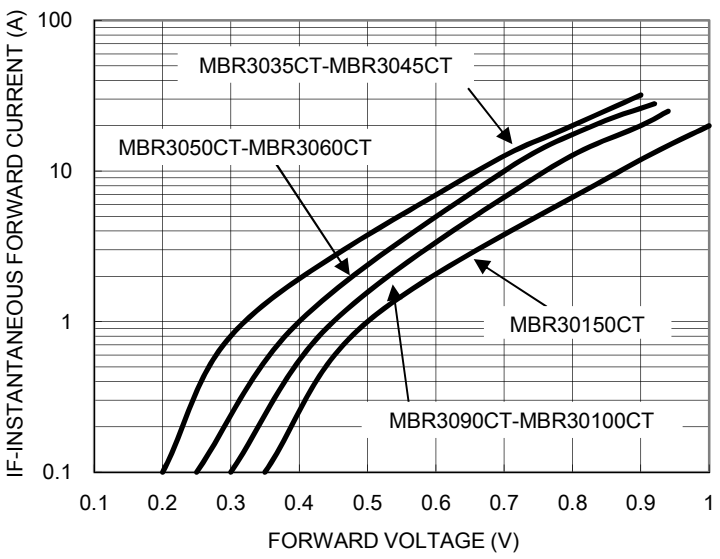


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

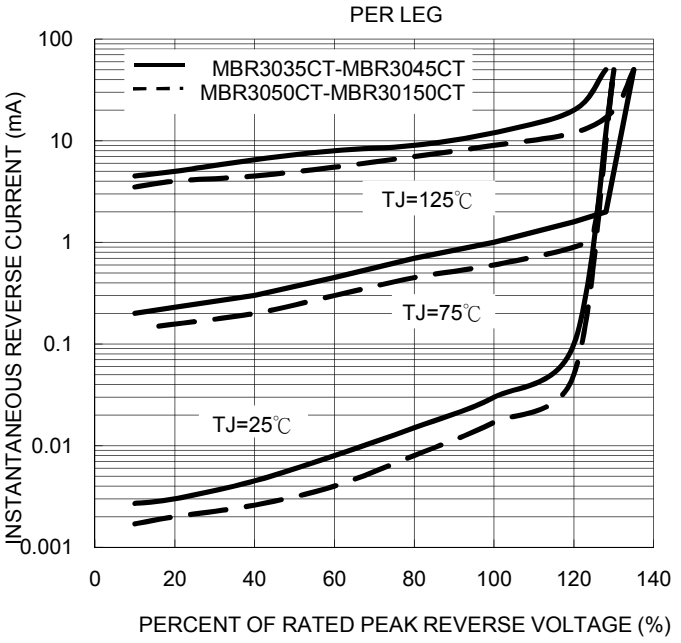


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

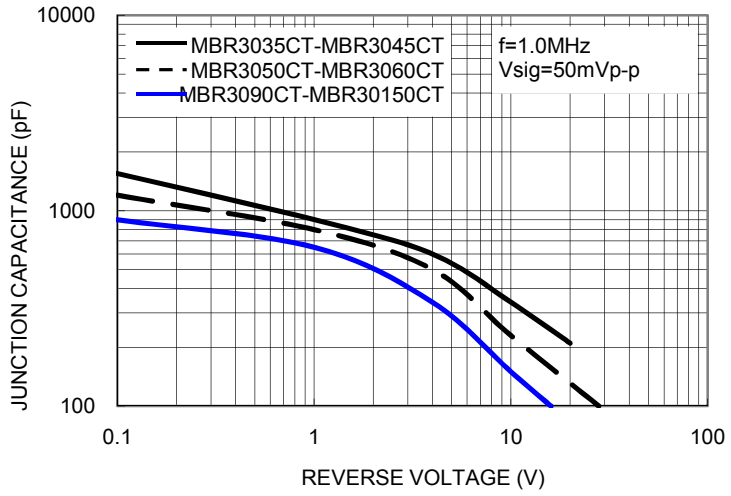
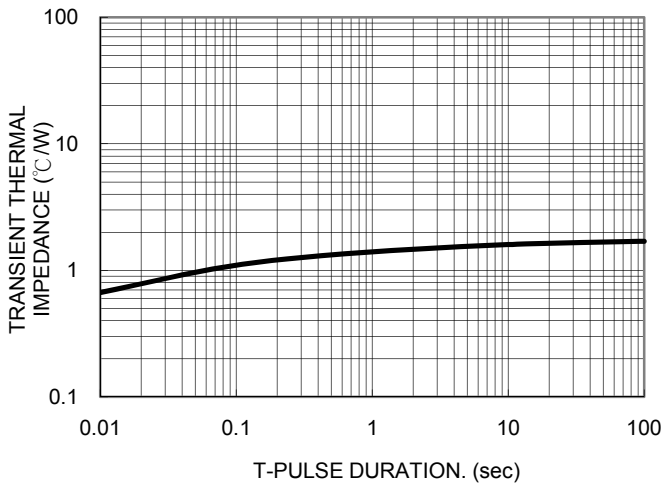
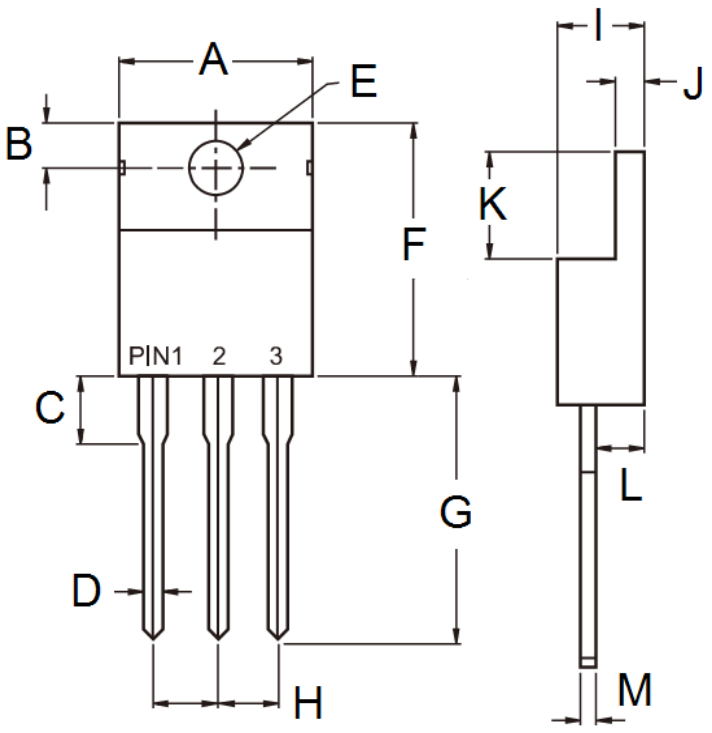


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025

MARKING DIAGRAM

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

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