

## 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



### 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,

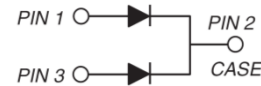
with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 5 in-lbs maximum

**Weight:** 1.9 g (approximately)

### TO-220AB



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)				
PARAMETER	SYMBOL	MBR30L120CT		UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	120		V
Maximum RMS voltage	V <sub>RMS</sub>	84		V
Maximum DC blocking voltage	V <sub>DC</sub>	120		V
Maximum average forward rectified current	I <sub>F(AV)</sub>	30		A
Peak repetitive forward current (Rated VR, Square Wave, 20KHz)	I <sub>FRM</sub>	30		A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	200		A
Peak repetitive reverse surge current (Note 1)	I <sub>RRM</sub>	1		A
Maximum instantaneous forward voltage (Note 2) I <sub>F</sub> =15A, T <sub>J</sub> =25°C I <sub>F</sub> =15A, T <sub>J</sub> =125°C I <sub>F</sub> =30A, T <sub>J</sub> =25°C I <sub>F</sub> =30A, T <sub>J</sub> =125°C	V <sub>F</sub>	TYP	MAX	V
		0.81	0.88	
		0.66	0.75	
		0.89	0.95	
		0.76	0.82	
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	TYP	MAX	
		1.1	20	μA
		1.7	25	mA
Voltage rate of change (Rated V <sub>R</sub> )	dV/dt	10000		V/μs
Typical thermal resistance	R <sub>θJC</sub>	3		°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150		°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150		°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
MBR30L120CT	Prefix "H"	C0	Suffix "G"	TO-220AB	50 / Tube

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBR30L120CT C0	MBR30L120CT		C0		
MBR30L120CT C0G	MBR30L120CT		C0	G	Green compound
MBR30L120CTHC0	MBR30L120CT	H	C0		AEC-Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

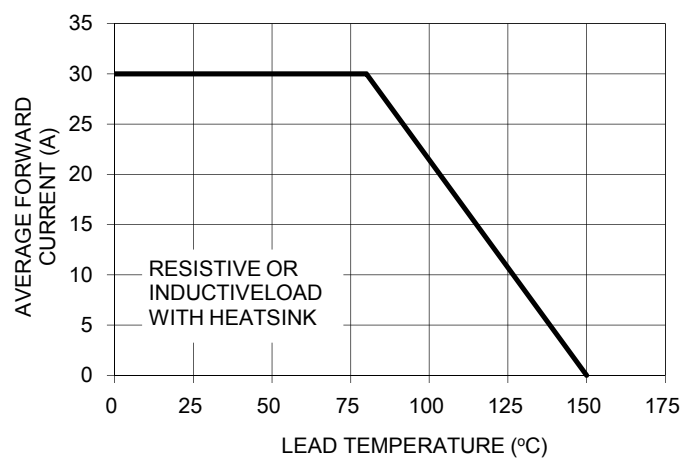


FIG. 2 MAXIMUM FORWARD SURGE CURRENT PER LEG

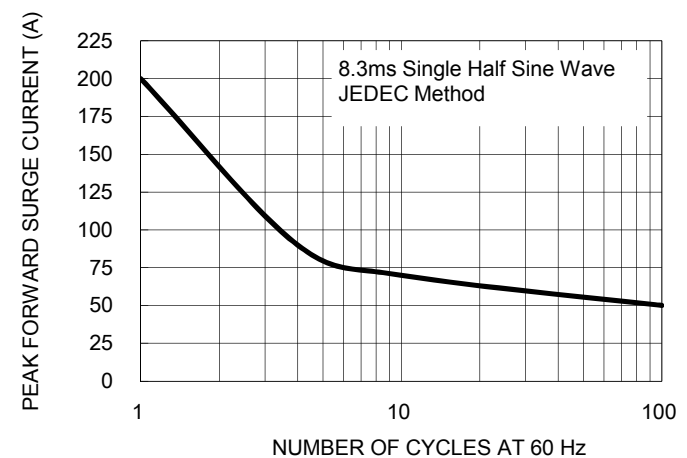


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

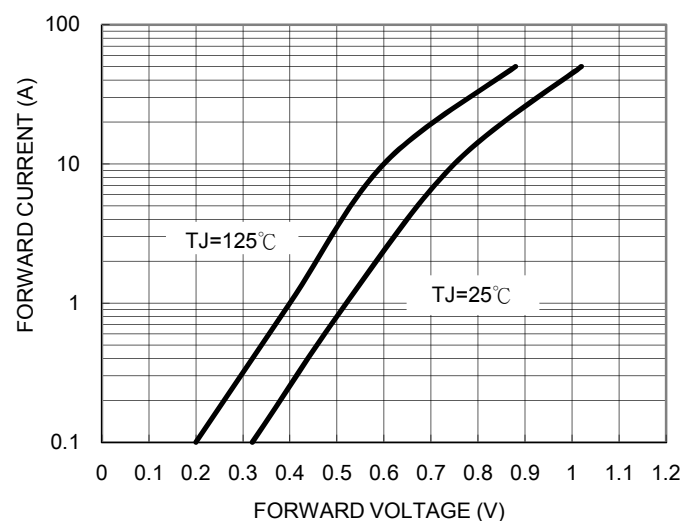


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

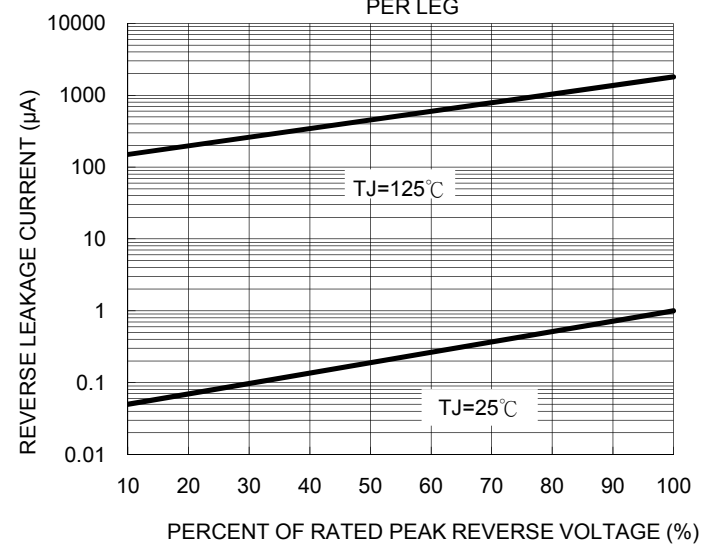


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

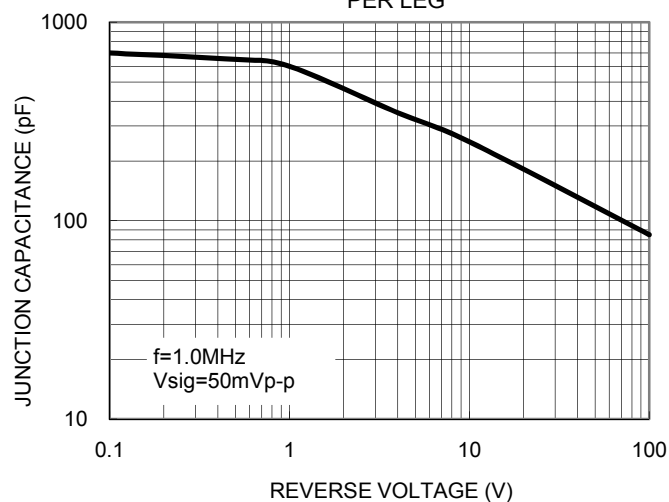
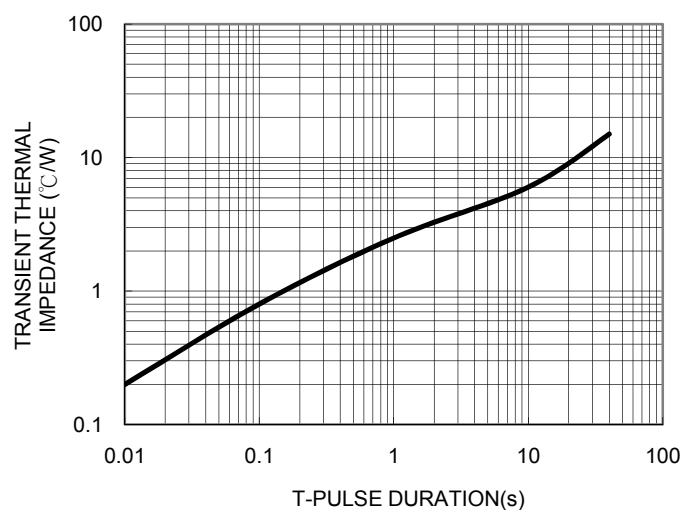
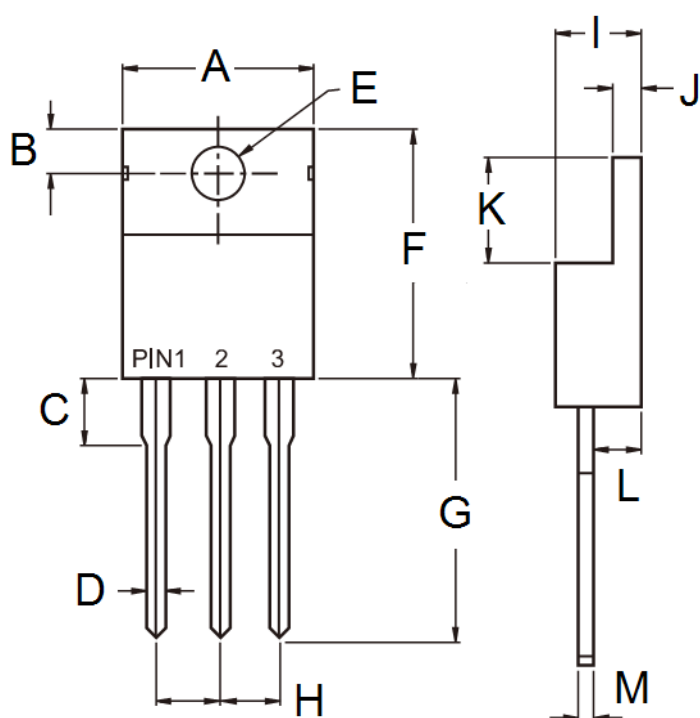


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



## 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 = Specific Device Code  
 G = Green Compound  
 YWW = Date Code  
 F = Factory Code

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