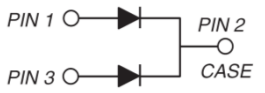
Dual Common Cathode Schottky Rectifier

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 30L45CT	MBR 30L60CT	MBR 30L100CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	45	60	100	V
Maximum RMS voltage	V_{RMS}	31	42	70	V
Maximum DC blocking voltage	V_{DC}	45	60	100	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}	220			A
Peak repetitive reverse surge current (Note 1)	I_{RRM}	1			A
Maximum instantaneous forward voltage (Note 2) I_F=15A, T_J=25℃ I_F=15A, T_J=125℃	V_F	 0.55 0.50	 0.60 0.56	 0.77 0.67	V
Maximum reverse current @ Rated V_R T_J=25 ℃ T_J=100 ℃	I_R	0.40 200	0.48 150	0.50 32	mA
Voltage rate of change (Rated V_R)	dV/dt	10000			V/μs
Typical thermal resistance	$R_{\theta JC}$	1			^{O}C/W
Operating junction temperature range	T_J	- 55 to +150			^{O}C
Storage temperature range	T_{STG}	- 55 to +175			^{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
MBR30LxxCT (Note 1)	Prefix "H"	C0	Suffix "G"	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 45V (MBR30L45CT) to 100V (MBR30L100CT)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBR30L100CT C0	MBR30L100CT		C0		
MBR30L100CT C0G	MBR30L100CT		C0	G	Green compound
MBR30L100CTHC0	MBR30L100CT	H	C0		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

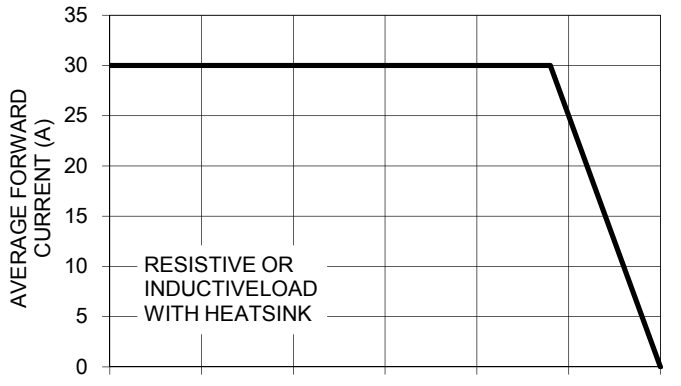


FIG. 2 MAXIMUM FORWARD SURGE CURRENT PER LEG

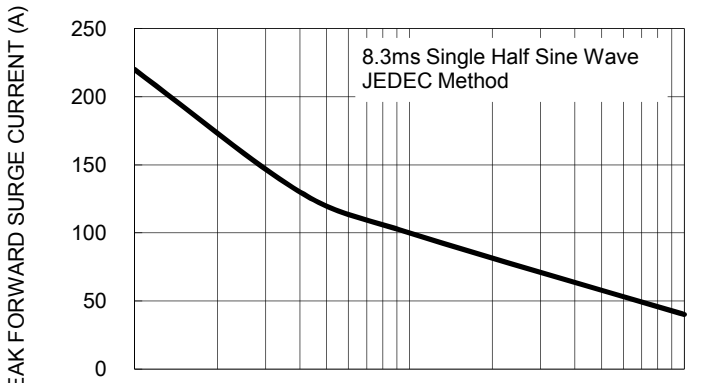


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

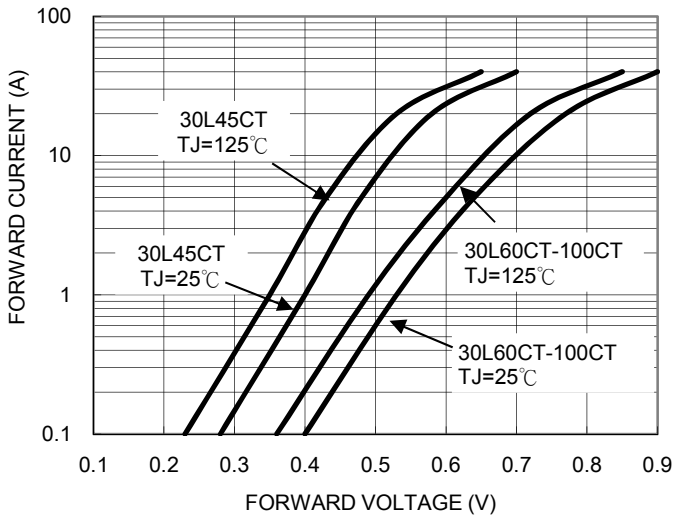


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

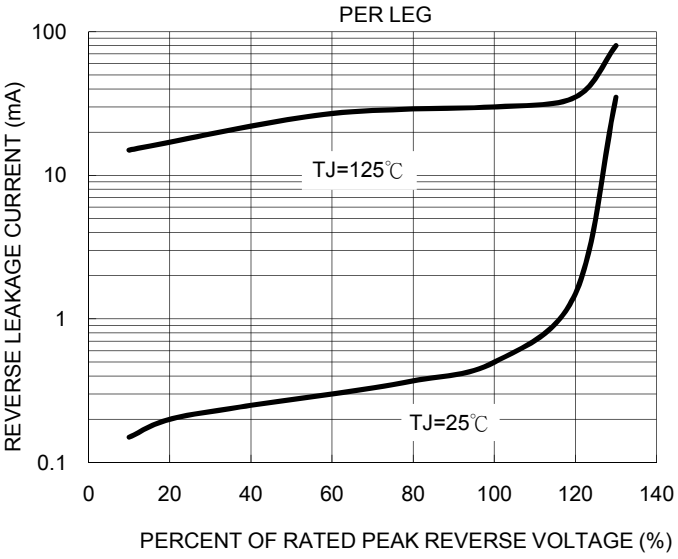


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

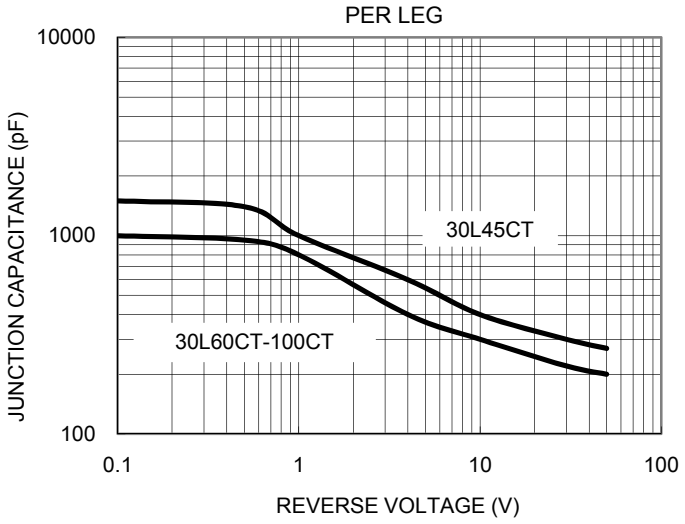
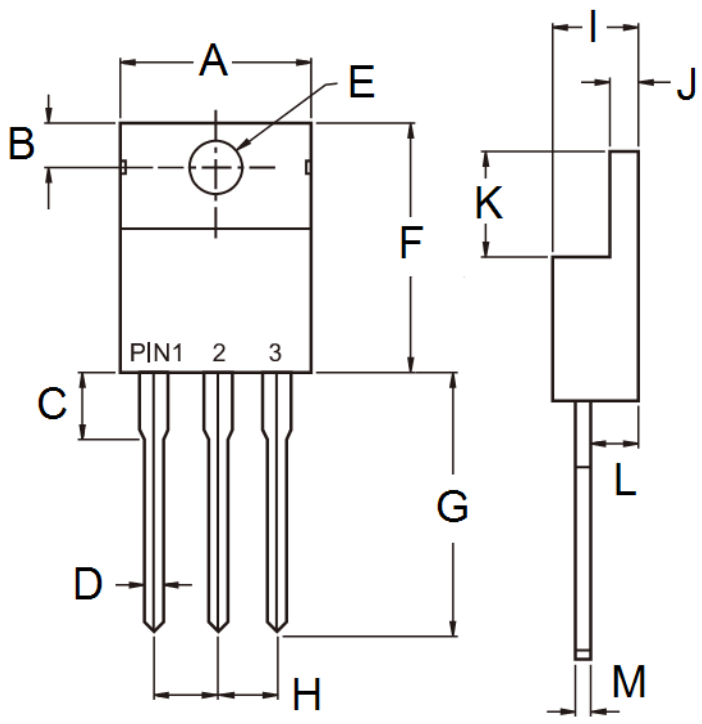


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied,to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or seling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

MBR30L100CT MBR30L120CT MBR30L45CT MBR30L60CT MBR30L100CT C0 MBR30L120CT C0 MBR30L45CT C0 MBR30L60CT C0 MBR30L120CTHC0 MBR30L45CTHC0 MBR30L100CTHC0 MBR30L60CTHC0