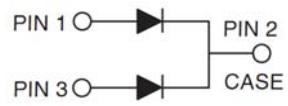
Dual Common Cathode Schottky Rectifier

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



MECHANICAL DATA

Case: TO-220AB
Molding compound, UL flammability classification rating 94V-0
Packing code with suffix "G" means green compound (halogen-free)
Terminal: Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test
Polarity: As marked
Mounting torque: 5 in-lbs maximum
Weight: 1.9 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)							
PARAMETER	SYMBOL	MBR30 45CT-Y	MBR30 60CT-Y	MBR30 80CT-Y	MBR30 100CT-Y	MBR30 150CT-Y	UNIT
Marking code		MBR30 45CT	MBR30 60CT	MBR30 80CT	MBR30 100CT	MBR30 150CT	
Maximum repetitive peak reverse voltage	V_{RRM}	45	60	80	100	150	V
Maximum RMS voltage	V_{RMS}	31	42	56	70	105	V
Maximum DC blocking voltage	V_{DC}	45	60	80	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°C I_F=15A, T_J=125°C I_F=30A, T_J=25°C I_F=30A, T_J=125°C	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°C	I_R	0.2				0.1	mA
T_J=125°C		40	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		°C/W
Operating junction temperature range	T_J	- 55 to +150					°C
Storage temperature range	T_{STG}	- 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.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
MBR30xxCT-Y (Note 1)	C0	G	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 45V (MBR3045CT-Y) to 150V (MBR30150CT-Y)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MBR3060CT-Y C0	MBR3060CT-Y	C0		
MBR3060CT-Y C0G	MBR3060CT-Y	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1- FORWARD CURRENT DERATING CURVE

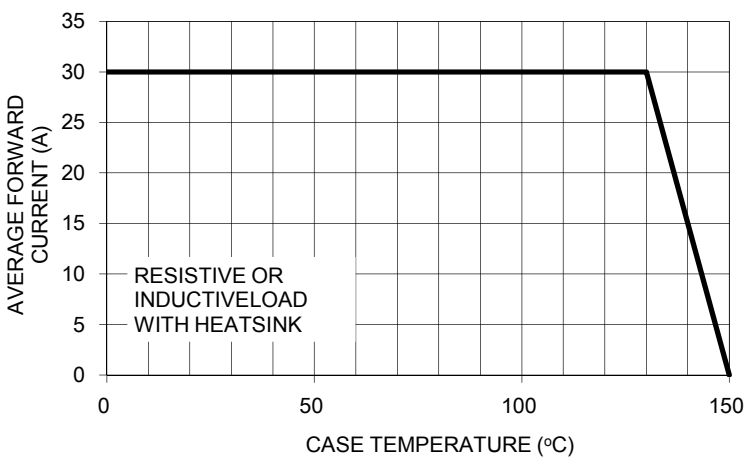


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

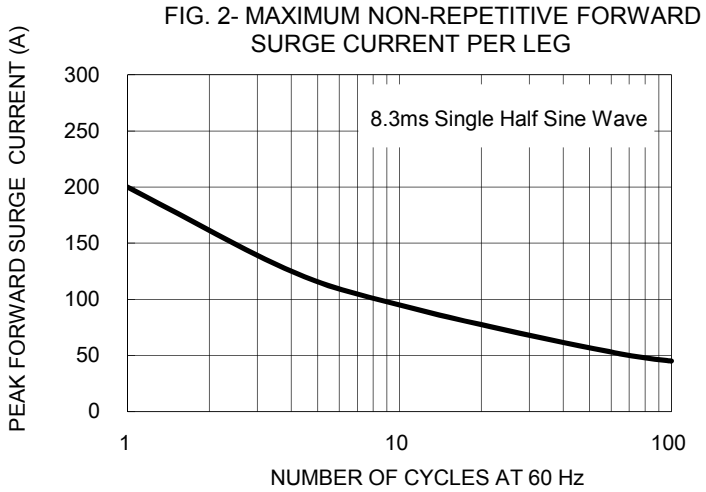


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

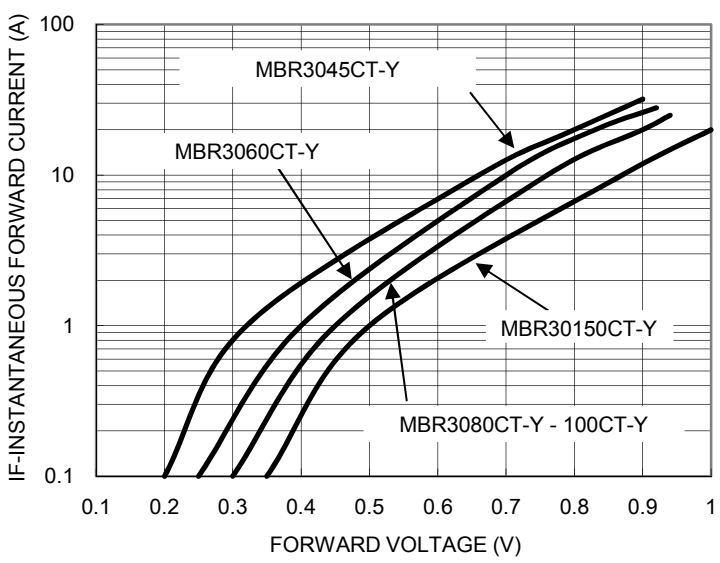


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

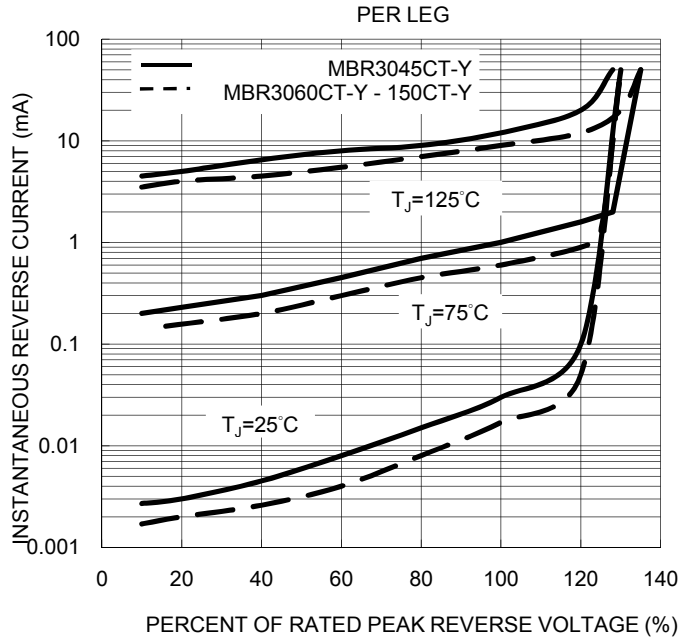


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

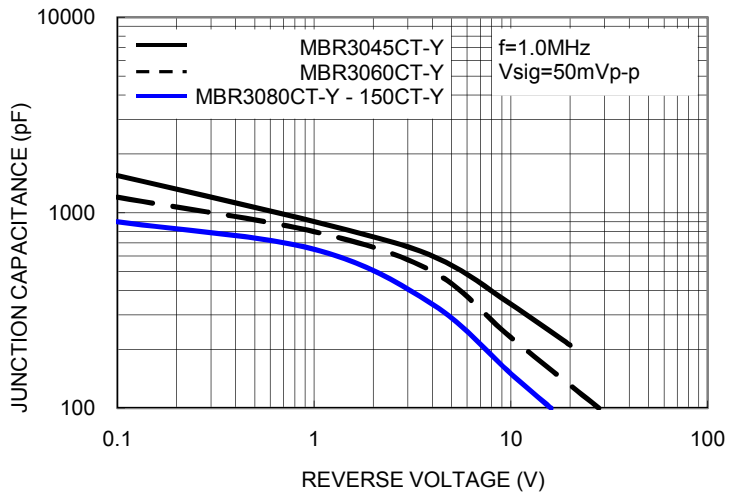
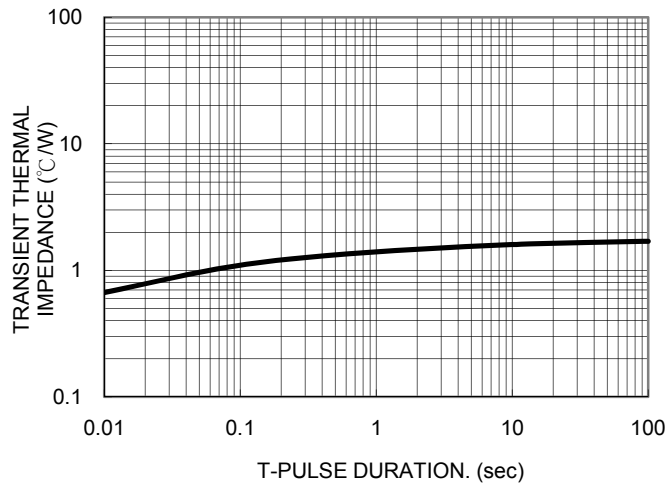
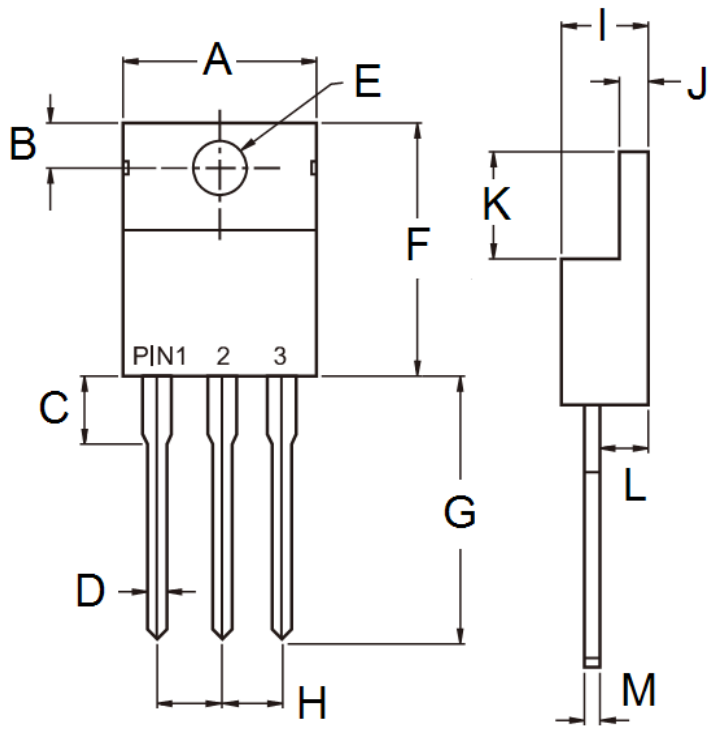


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

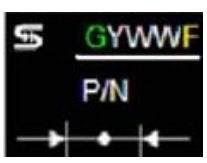


PACKAGE OUTLINE DIMENSIONS



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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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

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