

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

Base P/N with suffix "G" on packing code - 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: 1.88 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)							
PARAMETER	SYMBOL	MBR 1045 CT-Y	MBR 1060 CT-Y	MBR 10100 CT-Y	MBR 10150 CT-Y	MBR 10200 CT-Y	UNIT
Marking code		MBR10 45CT	MBR10 60CT	MBR10 100CT	MBR10 150CT	MBR10 200CT	
Maximum repetitive peak reverse voltage	V _{RRM}	45	60	100	150	200	V
Maximum RMS voltage	V _{RMS}	31	42	70	105	140	V
Maximum DC blocking voltage	V _{DC}	45	60	100	150	200	V
Maximum average forward rectified current	I _{F(AV)}	10					A
Peak repetitive forward current (Rated VR, Square wave, 20KHz)	I _{FRM}	10					A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	120					A
Peak repetitive reverse surge current (Note 1)	I _{RRM}	1	0.5				A
Maximum instantaneous forward voltage (Note 2) I _F = 5 A, T _J =25°C I _F = 5 A, T _J =125°C I _F = 10 A, T _J =25°C I _F = 10 A, T _J =125°C	V _F	0.70 0.57 0.80 0.67	0.80 0.65 0.90 0.75	0.85 0.75 0.95 0.85	0.88 0.78 0.98 0.88		V
Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C	I _R	0.1 15 10 2 5					mA
Voltage rate of change (Rated V _R)	dV/dt	10000					V/μs
Typical thermal resistance	R _{θJC}	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	GREEN COMPOUND CODE	PACKAGE	PACKING
MBR10xxCT-Y (Note 1)	C0	Suffix "G"	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 45V (MBR1045CT-Y) to 200V (MBR10200CT-Y)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBR1060CT-Y C0	MBR1060CT-Y	C0		
MBR1060CT-Y C0G	MBR1060CT-Y	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- FORWARD CURRENT DERATING CURVE

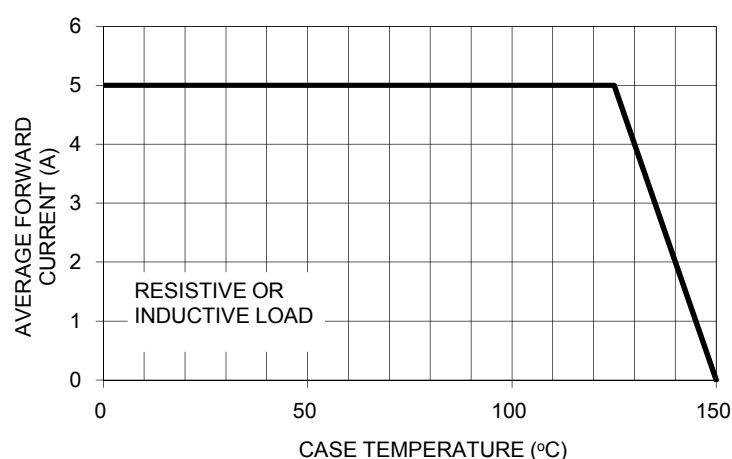


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

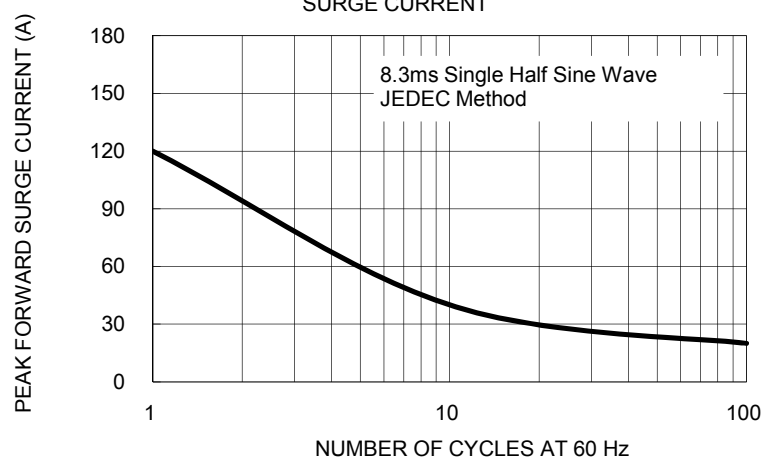


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

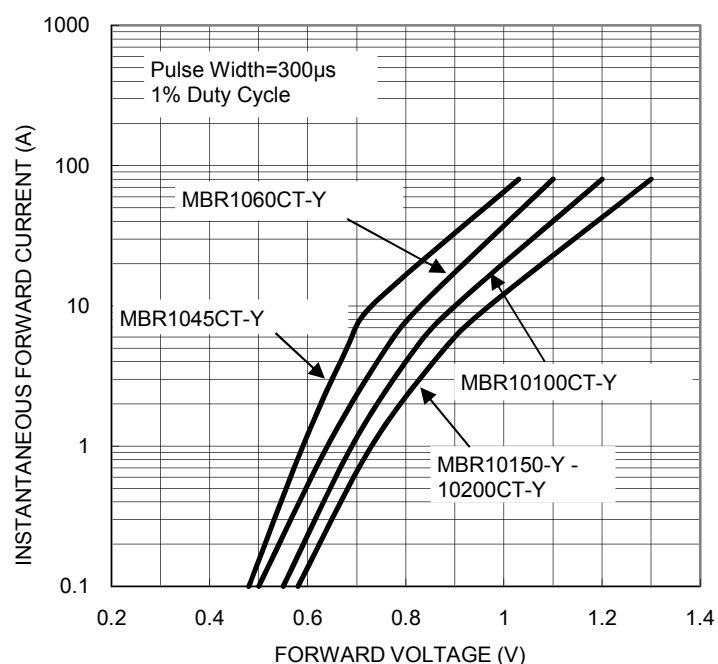


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

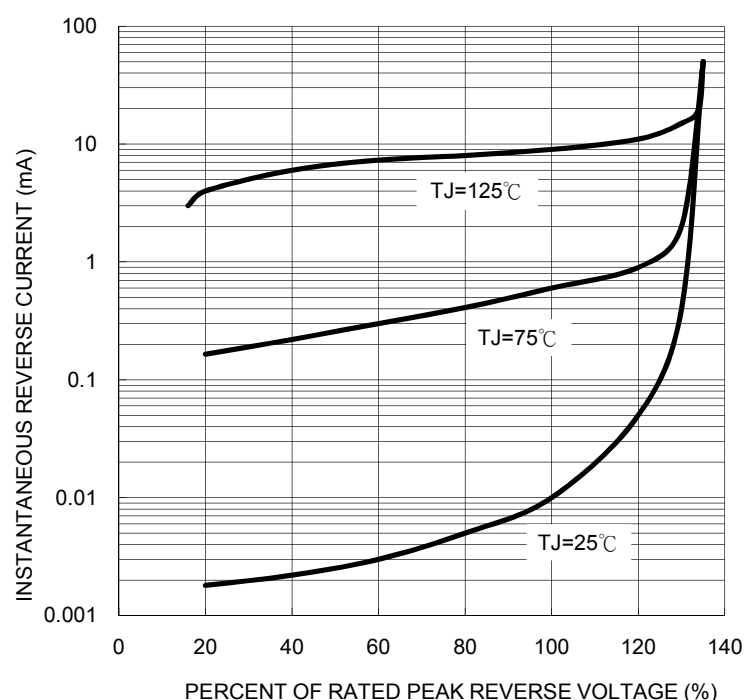


FIG. 5- TYPICAL JUNCTION CAPACITANCE

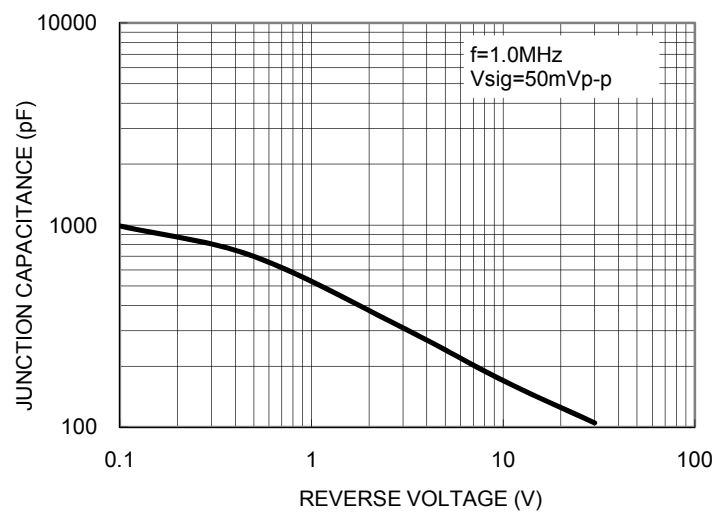
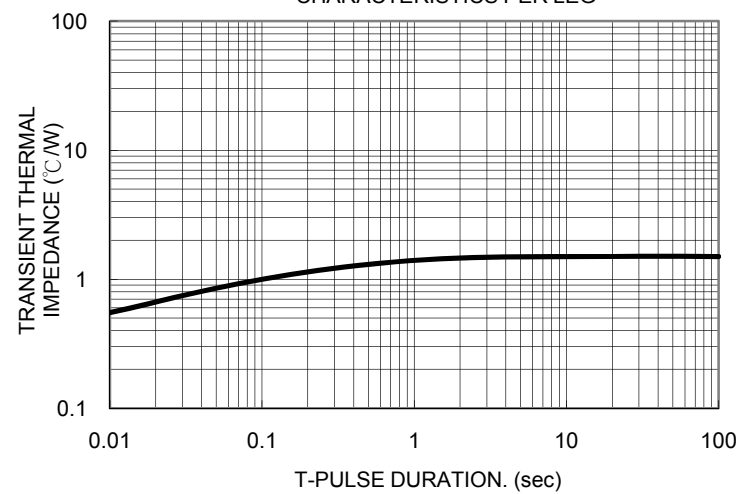
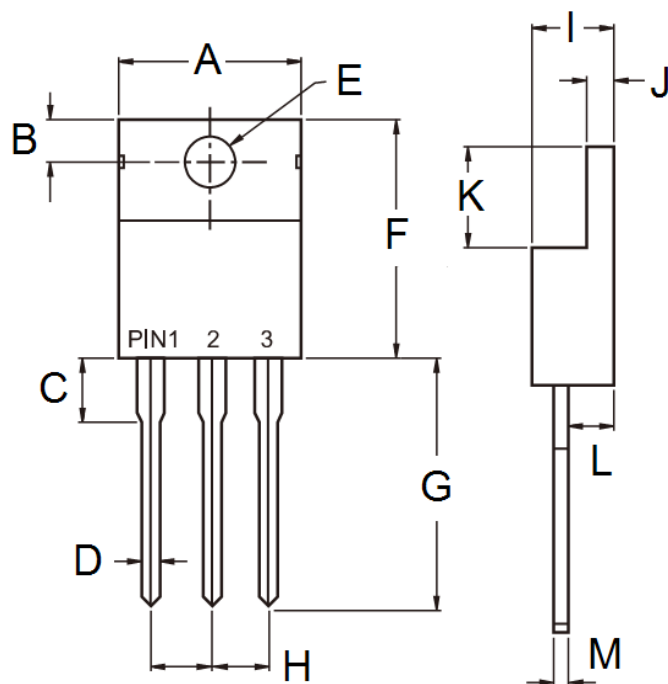


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG



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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