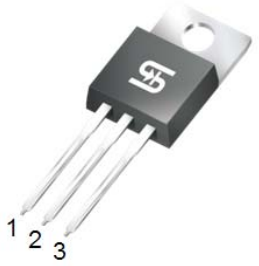
15A, 45V - 200V Dual Common Cathode Schottky Rectifiers

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



TO-220AB

Pb-Free

RoHS COMPLIANT

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: 1.88 g (approximately)

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

PARAMETER	SYMBOL	MBR 1545 CT-Y	MBR 1560 CT-Y	MBR 15100 CT-Y	MBR 15150 CT-Y	MBR 15200 CT-Y	UNIT
Marking code		MBR15 45CT	MBR15 60CT	MBR15 100CT	MBR15 150CT	MBR15 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	$I_{F(AV)}$	15					A
Peak repetitive forward current (Rated V_R, Square wave, 20KHz)	I_{FRM}	15					A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	150					A
Peak repetitive reverse surge current (Note 1)	I_{RRM}	1	0.5				A
Maximum instantaneous forward voltage (Note 2) I_F=7.5A, T_J=25°C I_F=7.5A, T_J=125°C I_F=15A, T_J=25°C I_F=15A, T_J=125°C	V_F	 - 0.57 0.84 0.72	 0.75 0.65 - -	 0.92 0.82 - -	 1.05 0.92 - -		V
Maximum reverse current @ rated V_R T_J=25°C	I_R	0.5	0.3	0.1			mA
Maximum reverse current @ rated V_R T_J=125°C	I_R	10	7.5	5.0			mA
Voltage rate of change (Rated V_R)	dV/dt	10000					V/μs
Typical thermal resistance	$R_{\theta JC}$	1.5					°C/W
Typical thermal resistance	$R_{\theta JA}$	10					°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
MBR15xxCT-Y (Note 1)	C0	G	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 45V (MBR1545CT-Y) to 200V (MBR15200CT-Y)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MBR1560CT-Y C0G	MBR1560CT-Y	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

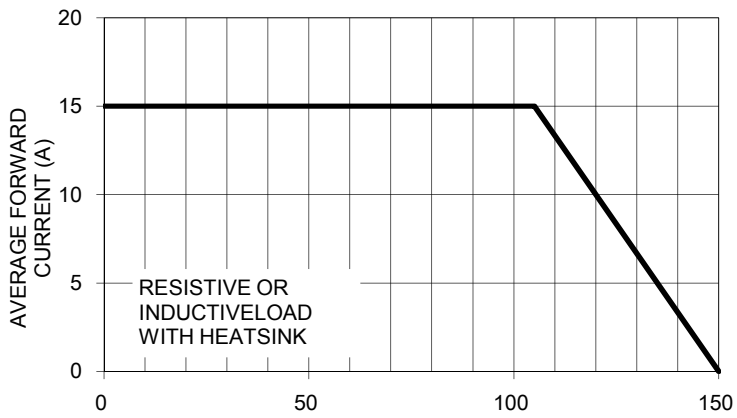


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

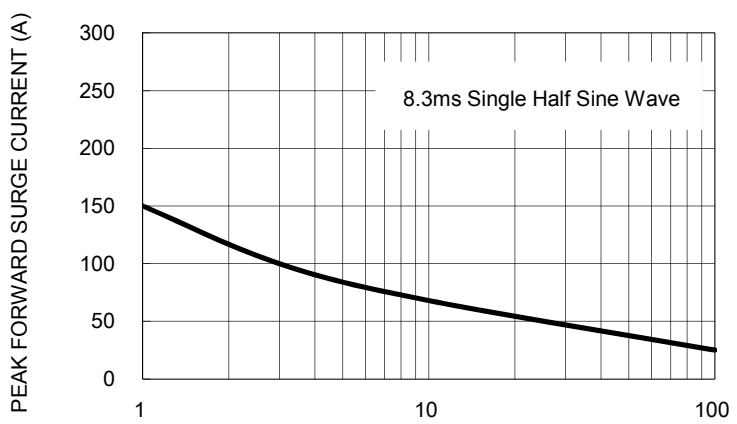


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

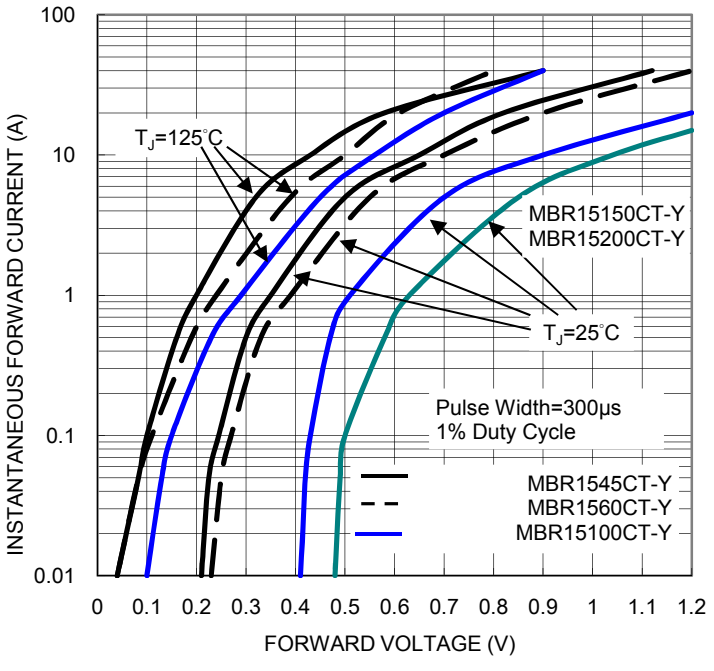


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

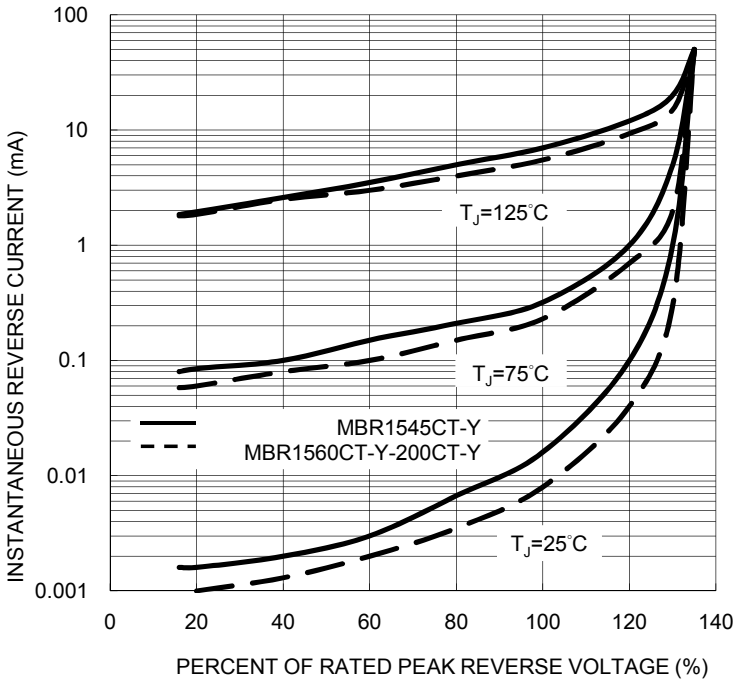


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

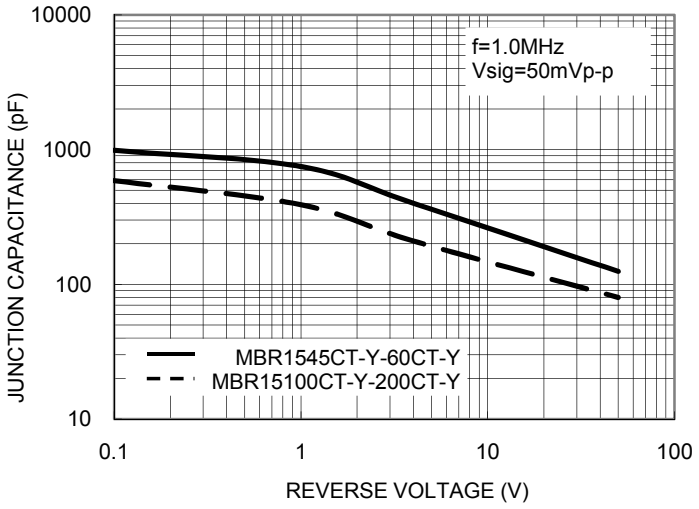
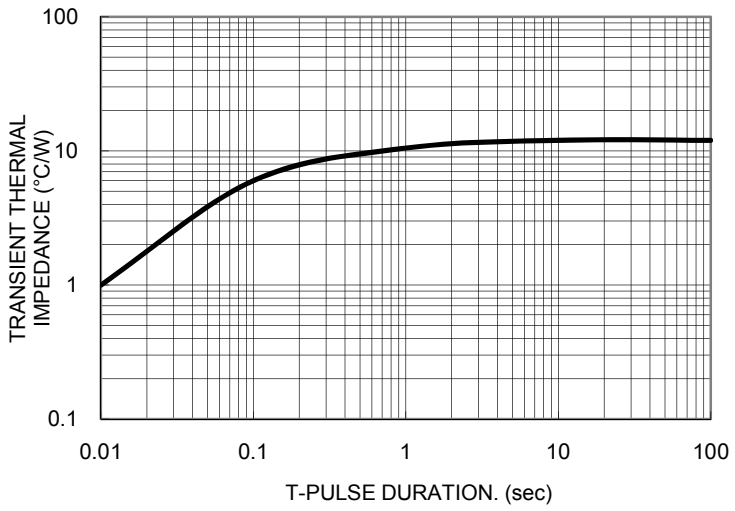
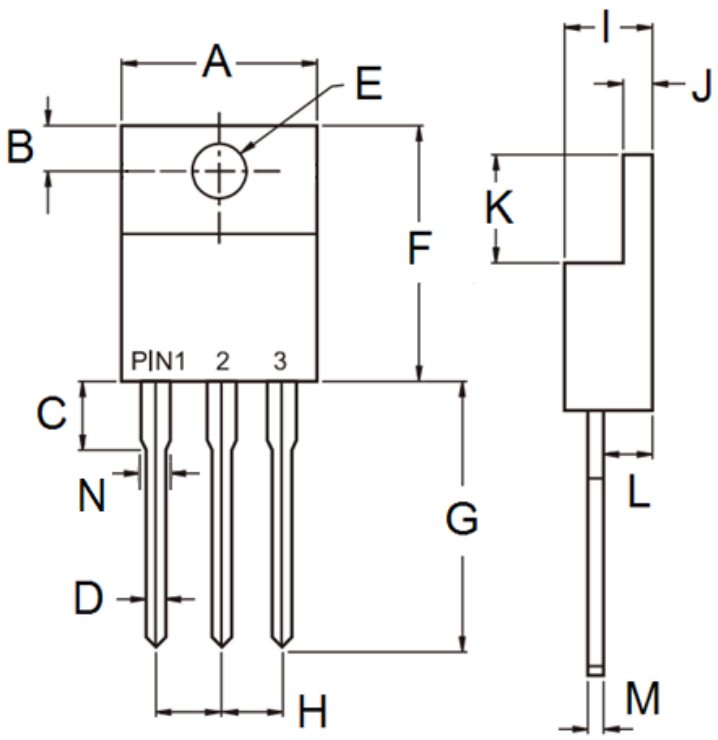


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG



PACKAGE OUTLINE DIMENSIONS

TO-220AB



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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