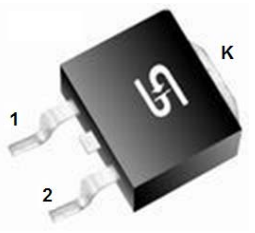
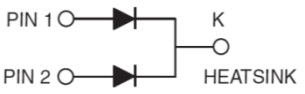
Dual Common Cathode Schottky Rectifier

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guardring for overvoltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- 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-263AB (D^2PAK)



Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: TO-263AB (D^2PAK)

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

Weight: 1.37 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)						
PARAMETER	SYMBOL	MBRS 1045 CT-Y	MBRS 1060 CT-Y	MBRS 10100 CT-Y	MBRS 10150 CT-Y	Unit
Marking code		MBRS 1045CT	MBRS 1060CT	MBRS 10100CT	MBRS 10150CT	
Maximum repetitive peak reverse voltage	V_{RRM}	45	60	100	150	V
Maximum RMS voltage	V_{RMS}	31	42	70	105	V
Maximum DC blocking voltage	V_{DC}	45	60	100	150	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				A
Maximum instantaneous forward voltage (Note 2)						
I_F= 5 A, T_J=25°C	V_F	0.70	0.80	0.85	0.88	V
I_F= 5 A, T_J=125°C		0.57	0.65	0.75	0.78	
I_F= 10 A, T_J=25°C		0.80	0.90	0.95	0.98	
I_F= 10 A, T_J=125°C		0.67	0.75	0.85	0.88	
Maximum reverse current @ rated VR T_J=25°C	I_R	0.1				mA
T_J=100°C		15	10	-		
T_J=125°C		-		5		
Voltage rate of change (Rated V_R)	dV/dt	10000				V/μs
Typical thermal resistance	$R_{\theta JC}$	2				°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
MBRS10xxCT-Y (Note 1)	RN	G	D^2PAK	800 / 13" Paper reel
	C0		D^2PAK	50 / Tube

Note 1: "xx" defines voltage from 45V (MBRS1045CT-Y) to 150V (MBRS10150CT-Y)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MBRS1060CT-Y RN	MBRS1060CT-Y	RN		
MBRS1060CT-Y RNG	MBRS1060CT-Y	RN	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

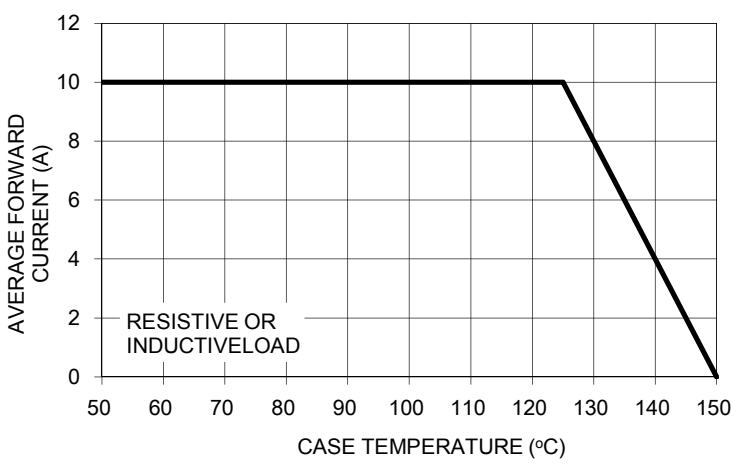


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

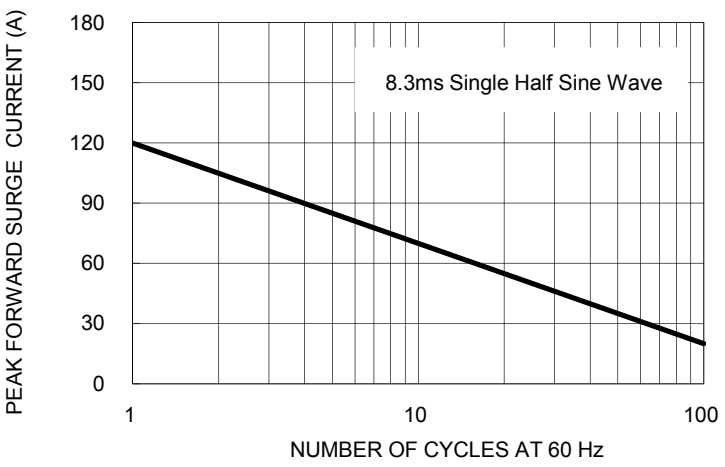


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

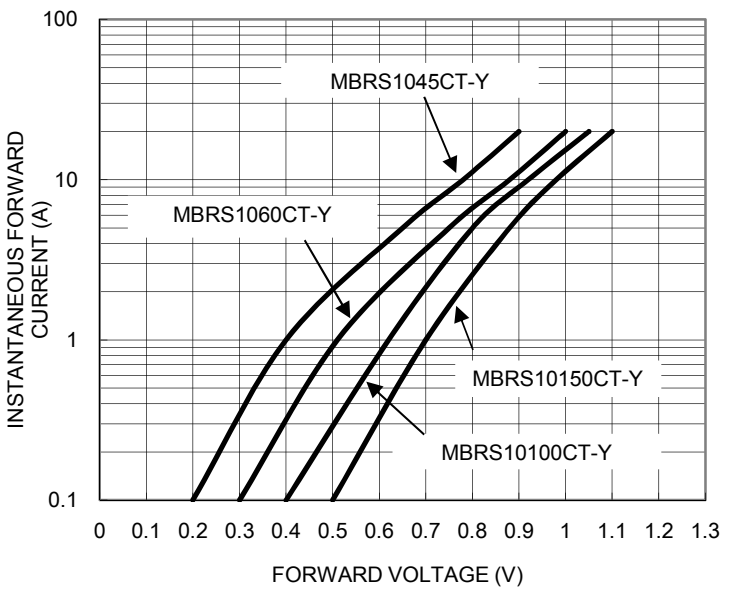


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

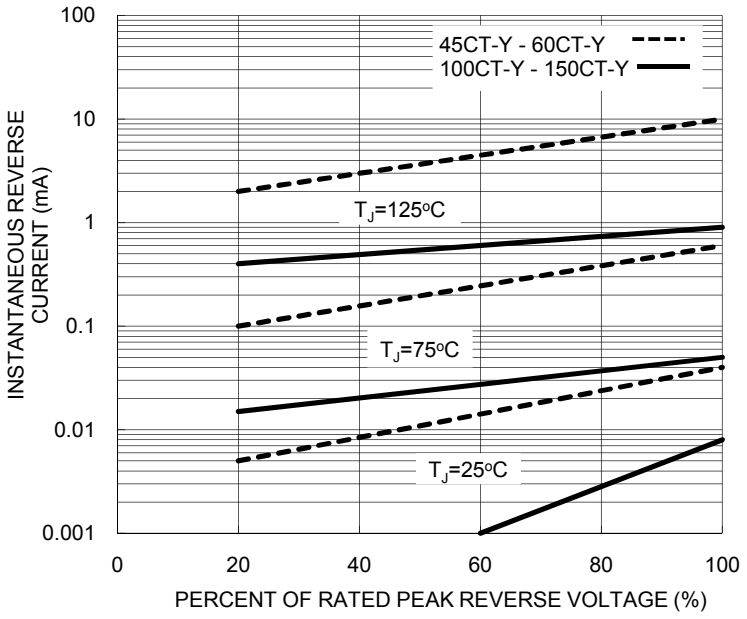


FIG. 5 TYPICAL JUNCTION CAPACITANCE

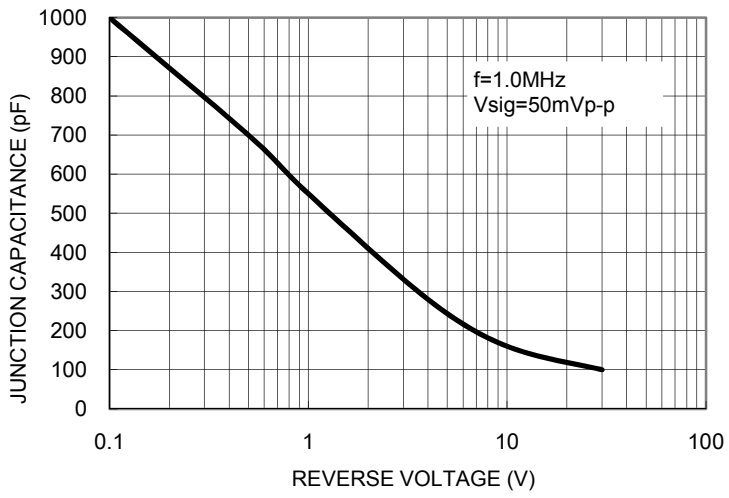
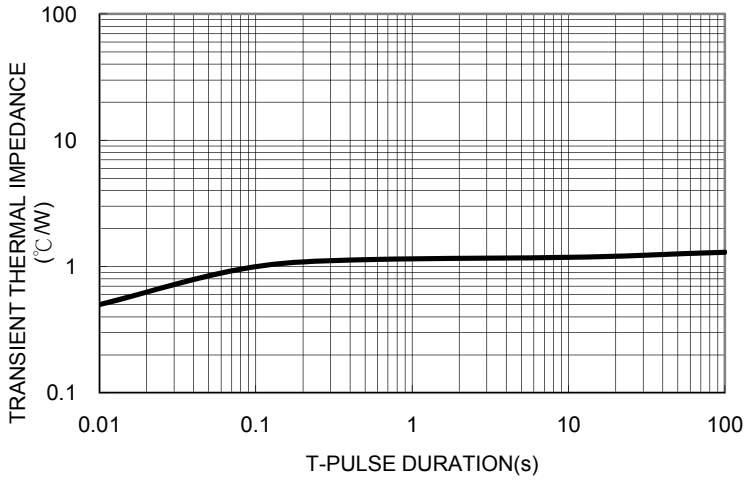
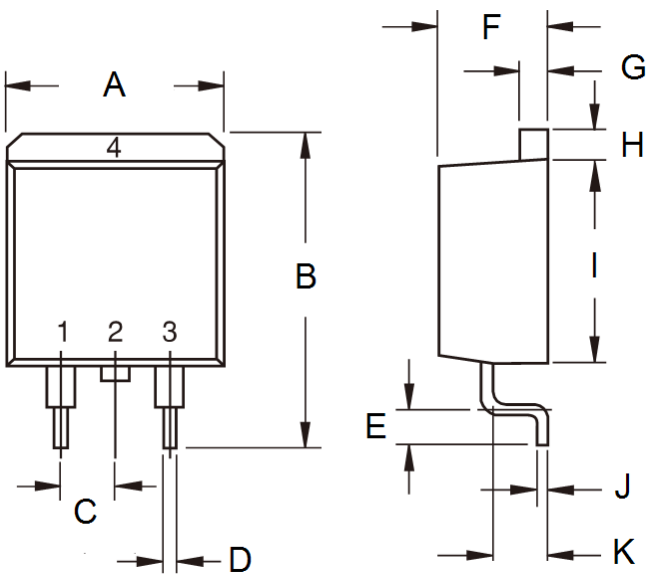


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



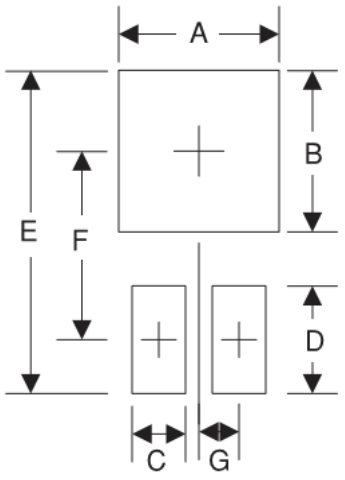
PACKAGE OUTLINE DIMENSIONS

TO-263AB (D^2PAK)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.5	-	0.413
B	14.60	15.88	0.575	0.625
C	2.41	2.67	0.095	0.105
D	0.68	0.94	0.027	0.037
E	2.29	2.79	0.090	0.110
F	4.44	4.70	0.175	0.185
G	1.14	1.40	0.045	0.055
H	1.14	1.40	0.045	0.055
I	8.25	9.25	0.325	0.364
J	0.36	0.53	0.014	0.021
K	2.03	2.79	0.080	0.110

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	10.8	0.425
B	8.3	0.327
C	1.1	0.043
D	3.5	0.138
E	16.9	0.665
F	9.5	0.374
G	2.5	0.098

MARKING DIAGRAM

P/N = Marking Code
G = Green Compound
YWW = Date Code
F = Factory Code

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