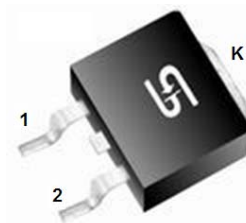
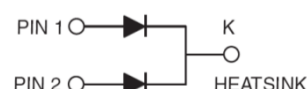


FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- 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-263AB (D²PAK)



Case: TO-263AB (D²PAK)

Molding compound, UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

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

Weight: 1.37 g (approximately)

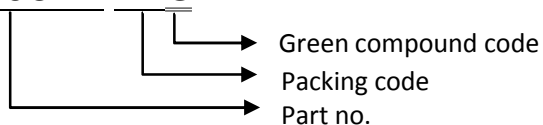
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)							
PARAMETER	SYMBOL	MBRS 2045 CT-Y	MBRS 2060 CT-Y	MBRS 20100 CT-Y	MBRS 20150 CT-Y	MBRS 20200 CT-Y	Unit
Marking code		MBRS 2045CT	MBRS 2060CT	MBRS 20100CT	MBRS 20150CT	MBRS 20200CT	
Maximum repetitive peak reverse voltage	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)}	20					A
Peak repetitive forward current (Rated VR, Square wave, 20KHz)	I _{FRM}	20					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 =10A, T _J =25°C I _F =10A, T _J =125°C	V _F	0.70 0.60	0.80 0.70	0.85 0.75	0.99 0.87		V
Maximum reverse current @ rated VR T _J =25°C T _J =125°C	I _R	0.1					mA
		15	10	5			
Voltage rate of change (Rated V _R)	dV/dt	10000					V/μs
Typical thermal resistance	R _{θJC}	1.5			2		°C/W
Operating junction temperature range	T _J	- 55 to +150					°C
Storage temperature range	T _{STG}	- 55 to +150					°C

Note 1: $t_p = 2.0 \mu s$, 1.0KHz

Note 2: Pulse test with $PW=300\mu s$, 1% duty cycle

ORDER INFORMATION (EXAMPLE)

MBRS20100CT-Y RNG



RATINGS AND CHARACTERISTICS CURVES

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

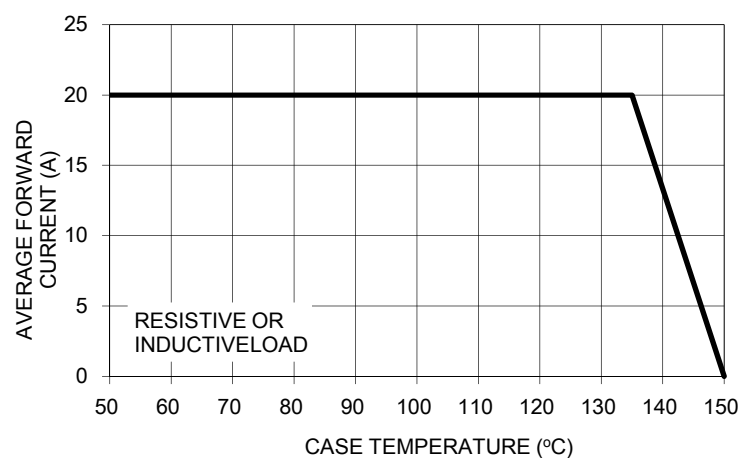


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

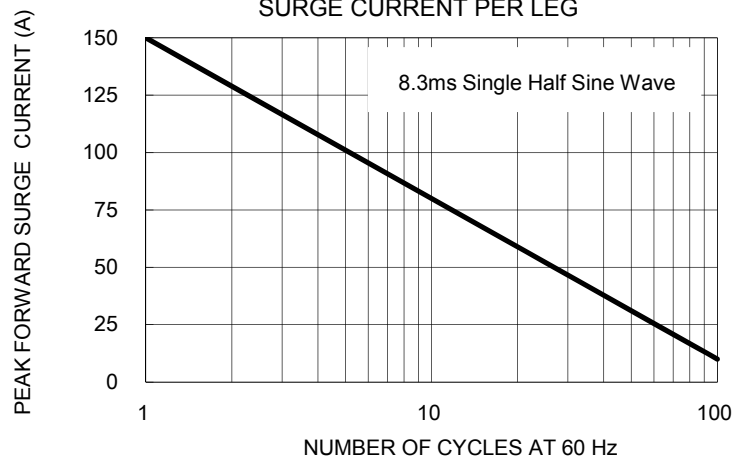


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

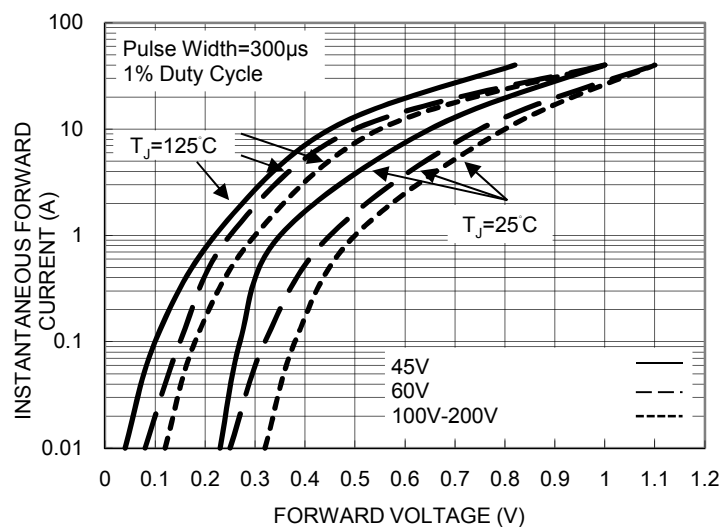


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

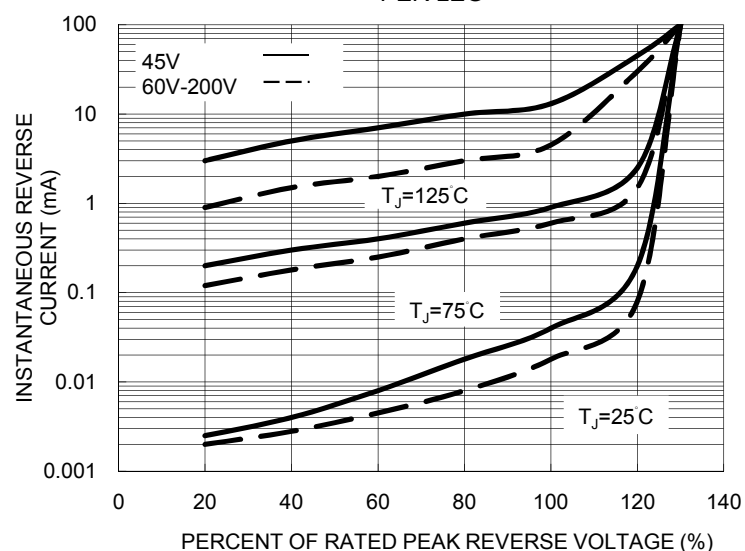


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

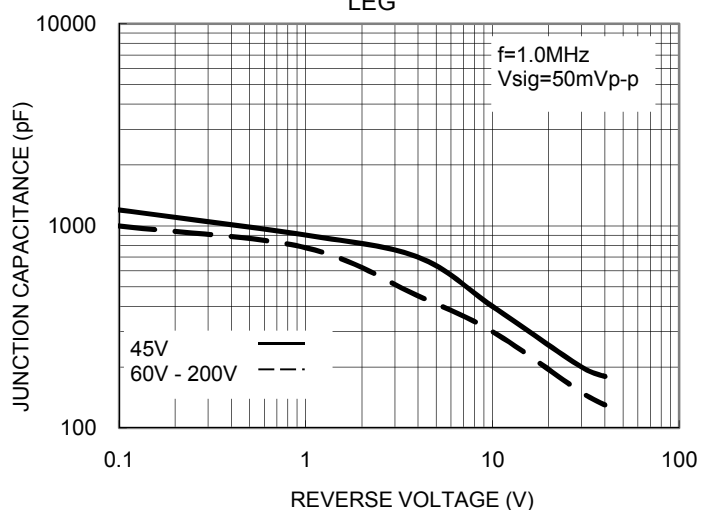
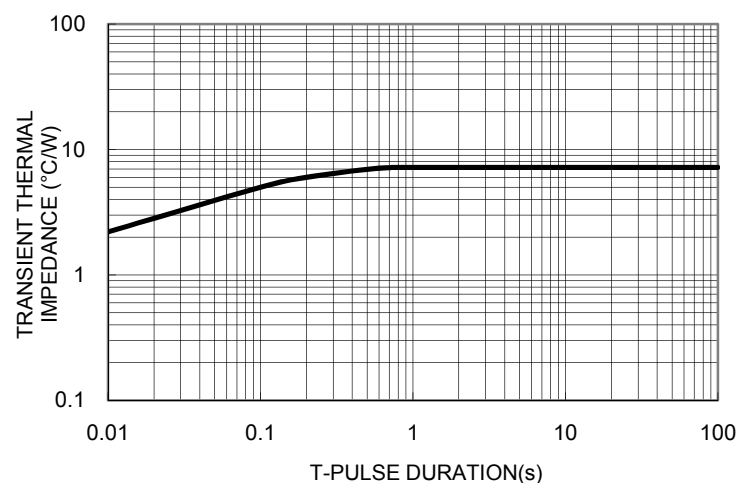
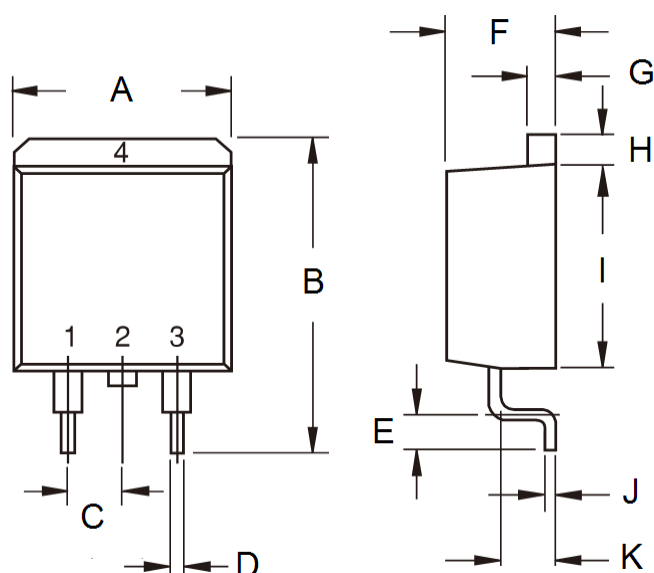


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



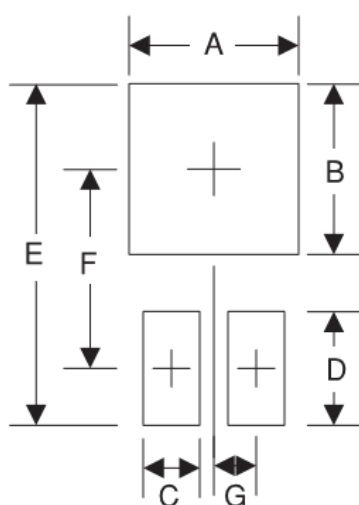
PACKAGE OUTLINE DIMENSIONS

TO-263AB (D²PAK)



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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