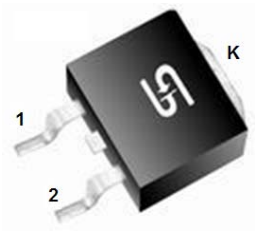
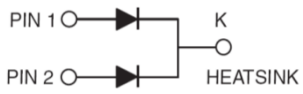
Dual Common Cathode Schottky Rectifier

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 - halogen-free
Base P/N with prefix "H" on packing code - AEC-Q101 qualified
Terminal: Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test
with prefix "H" on packing code meet JESD 201 class 2 whisker test
Polarity: As marked
Weight: 1.37 g (approximately)

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

PARAMETER	SYMBOL	MBRS 2035 CT	MBRS 2045 CT	MBRS 2050 CT	MBRS 2060 CT	MBRS 2090 CT	MBRS 20100 CT	MBRS 20150 CT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC blocking voltage	V_{DC}	35	45	50	60	90	100	150	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℃ I_F=10A, T_J=125℃ I_F=20A, T_J=25℃ I_F=20A, T_J=125℃	V_F	 0.65 0.57 0.84 0.72		 0.80 0.70 0.95 0.85		 0.85 0.75 0.95 0.85		 0.99 0.87 1.23 1.10	V
Maximum reverse current @ rated VR T_J=25 ℃	I_R	0.1							mA
T_J=125 ℃		15		10		5			
Voltage rate of change (Rated V_R)	dV/dt	10000							V/μs
Typical thermal resistance	$R_{\theta JC}$	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: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
MBRS20xxCT (Note 1)	Prefix "H"	RN	Suffix "G"	D^2PAK	800 / 13" Paper reel
		C0		D^2PAK	50 / Tube

Note 1: "xx" defines voltage from 35V (MBRS2035CT) to 150V (MBRS20150CT)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBRS2060CT RN	MBRS2060CT		RN		
MBRS2060CT RNG	MBRS2060CT		RN	G	Green compound
MBRS2060CTHRN	MBRS2060CT	H	RN		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

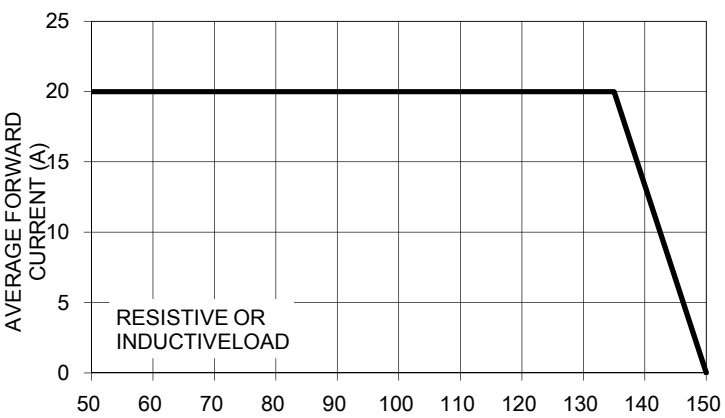


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

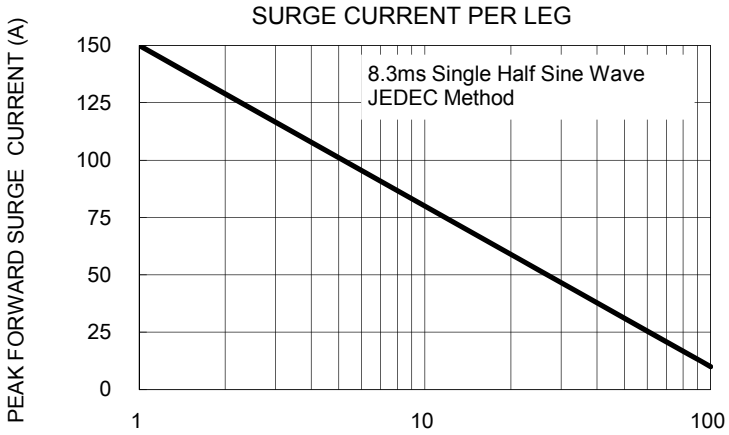


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

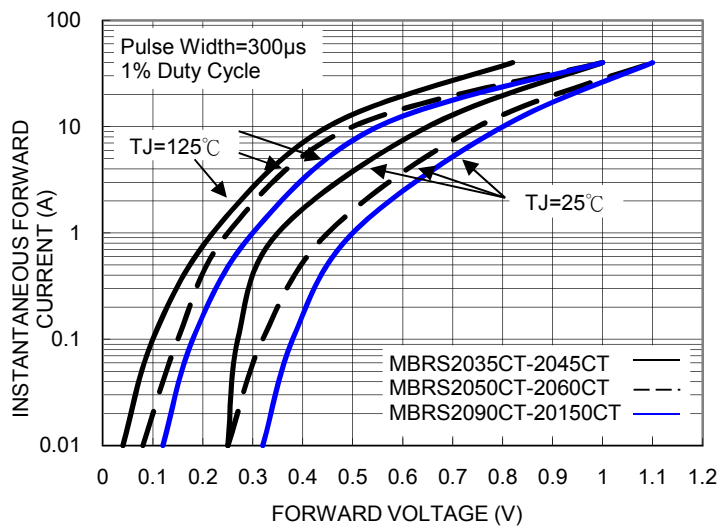


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

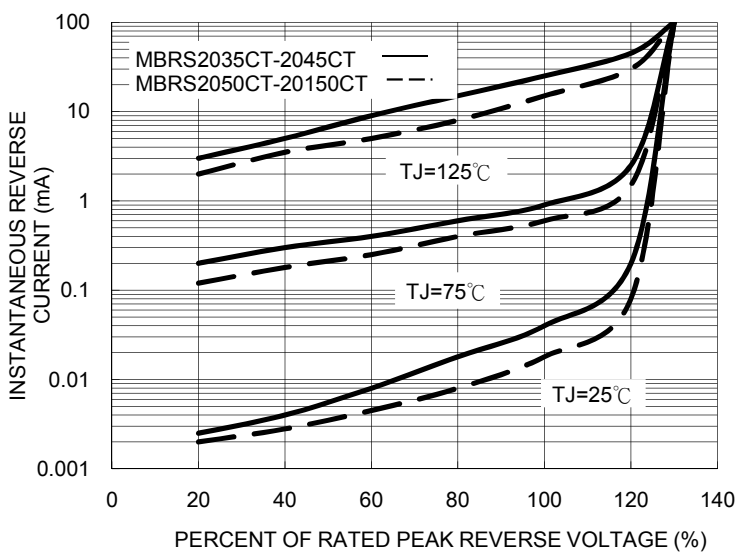


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

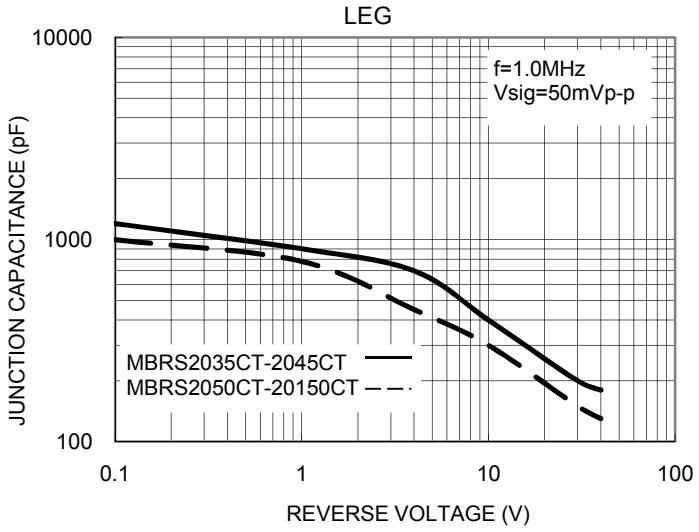
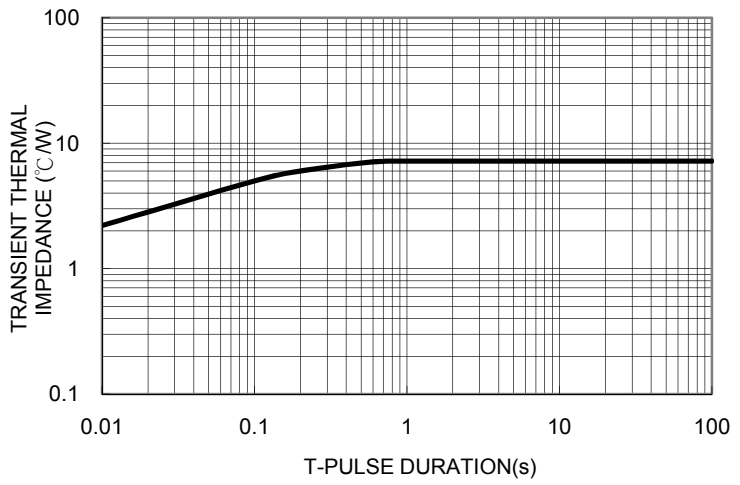
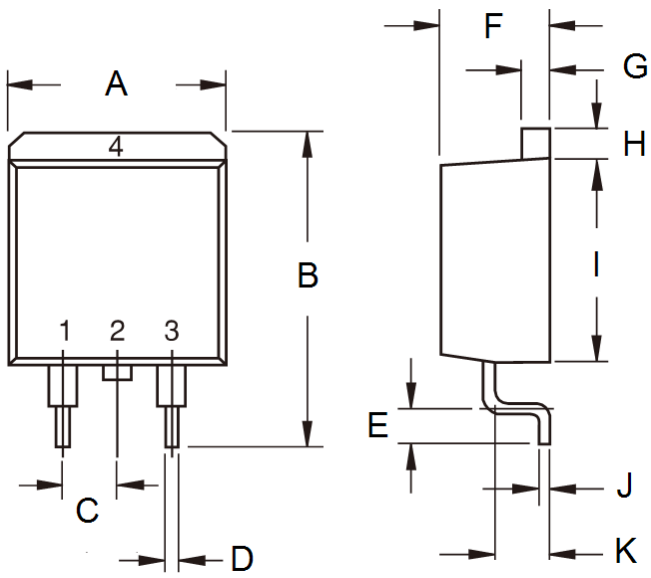


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

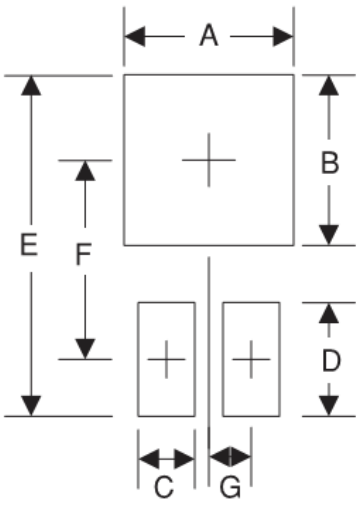


PACKAGE OUTLINE DIMENSIONS



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 = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

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