

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



MECHANICAL DATA

Case: TO-263AB (D²PAK)

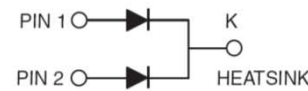
Molding compound, UL flammability classification rating 94V-0
Base P/N with suffix "G" on packing code - halogen-free
Base P/N with prefix "H" on packing code - AEC-Q101 qualified

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: 1.35 g (approximately)

TO-263AB (D²PAK)



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

PARAMETER	SYMBOL	MBRS15H45CT		Unit
Maximum repetitive peak reverse voltage	V _{RRM}	45		V
Maximum RMS voltage	V _{RMS}	31		V
Maximum DC blocking voltage	V _{DC}	45		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		A
Maximum instantaneous forward voltage (Note 2) I _F = 7.5 A, T _J =25°C I _F = 7.5 A, T _J =125°C I _F = 15 A, T _J =25°C I _F = 15 A, T _J =125°C	V _F	TYP	MAX	V
		0.64	0.68	
		0.55	0.6	
		0.76	0.8	
		0.67	0.7	
Maximum reverse current @ Rated V _R T _J =25 °C T _J =125 °C	I _R	TYP	MAX	μA mA
		0.3	30	
		0.62	10	
Voltage rate of change (Rated V _R)	dV/dt	10000		V/μs
Typical thermal resistance	R _{θJC}	2		°C/W
Operating junction temperature range	T _J	- 55 to +175		°C
Storage temperature range	T _{STG}	- 55 to +175		°C

Note 1: t_p = 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
MBRS15H45CT	Prefix "H"	RN	Suffix "G"	D ² PAK	800 / 13" Paper reel
		C0		D ² PAK	50 / Tube

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBRS15H45CT RN	MBRS15H45CT		RN		
MBRS15H45CT RNG	MBRS15H45CT		RN	G	Green compound
MBRS15H45CTHRN	MBRS15H45CT	H	RN		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

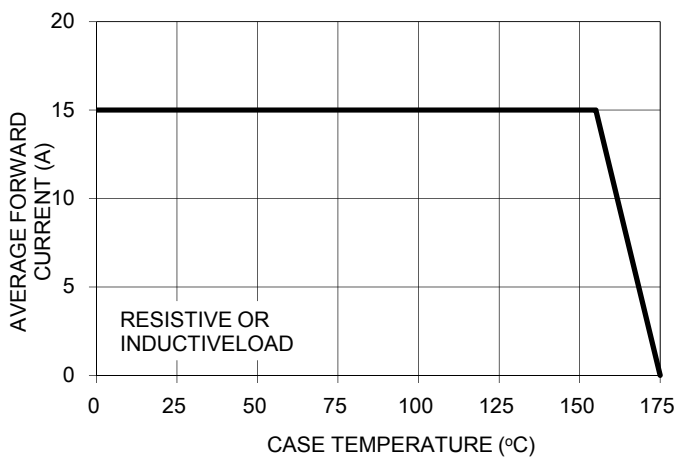


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

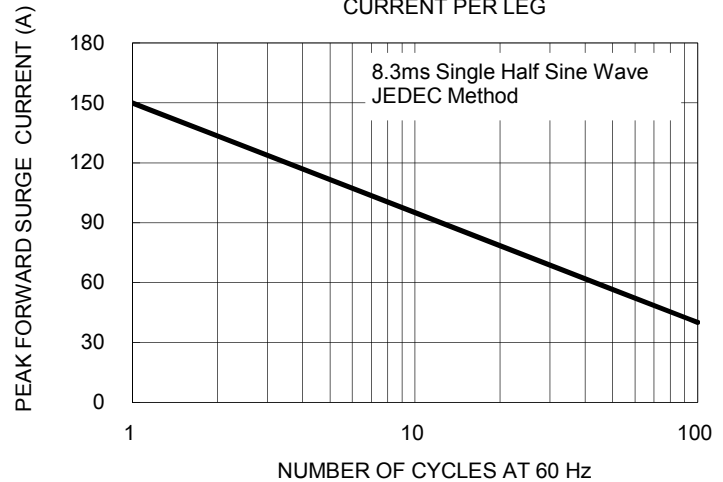


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

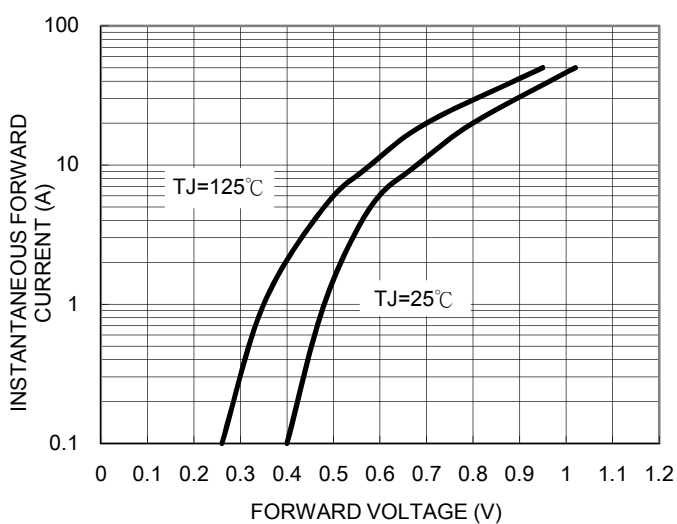


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

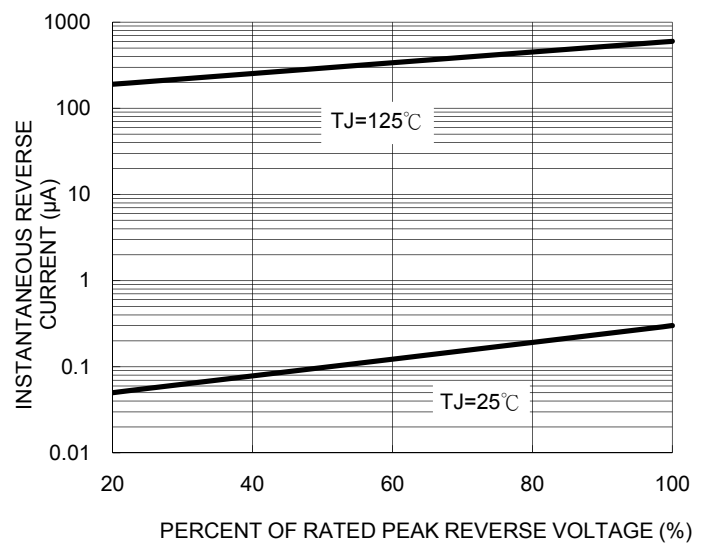


FIG. 5 TYPICAL JUNCTION CAPACITANCE

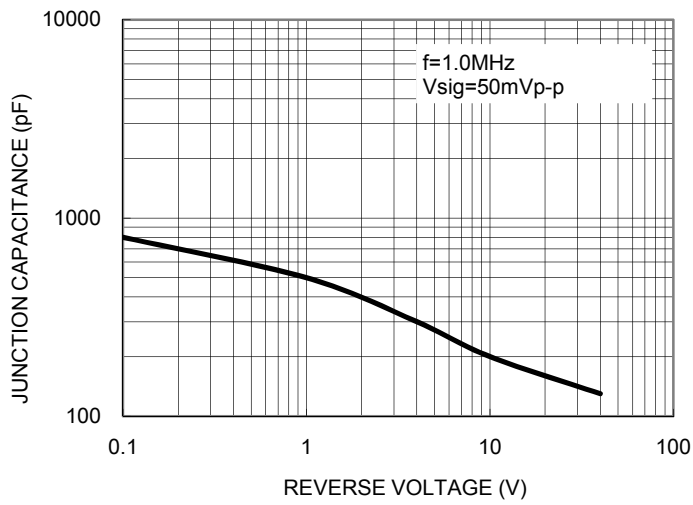
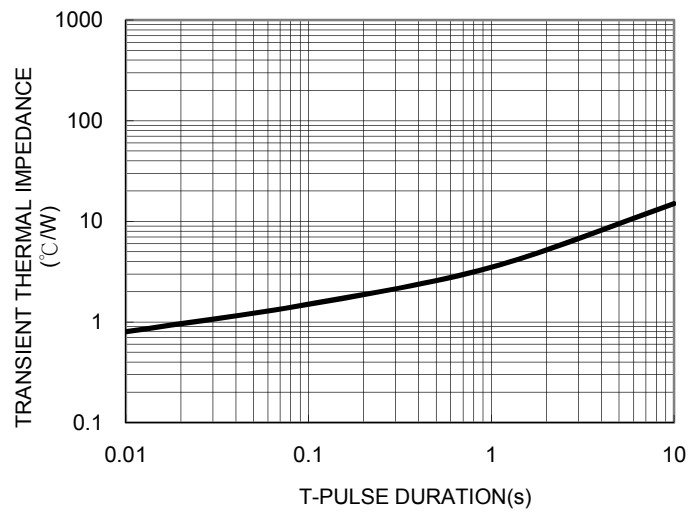
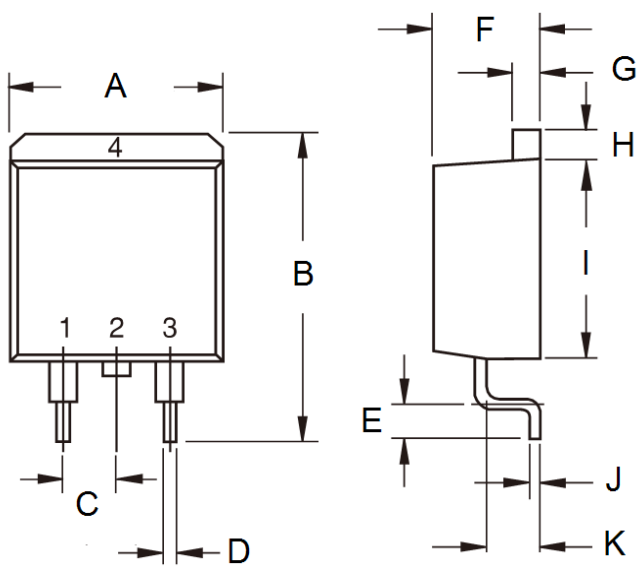


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

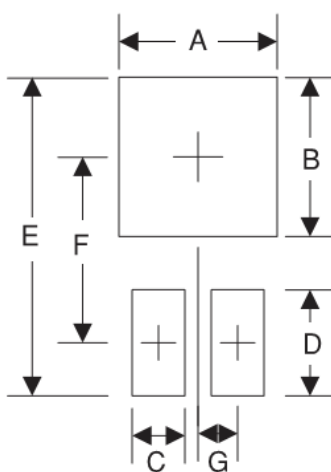


PACKAGE OUTLINE DIMENSIONS



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