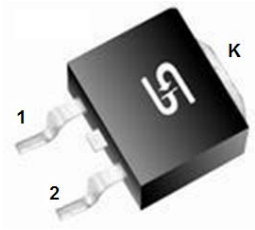
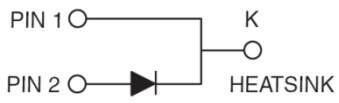
Surface Mount Schottky Barrier Rectifiers

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 1635	MBRS 1645	MBRS 1650	MBRS 1660	MBRS 1690	MBRS 16100	MBRS 16150	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	$I_{F(AV)}$	16							A
Peak repetitive forward current (Rated VR, Square wave, 20KHz)	I_{FRM}	32							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=16A, T_J=25℃ I_F=16A, T_J=125℃	V_F	0.63 0.57		0.75 0.65		0.85 0.82		0.95 0.92	V
Maximum reverse current @ rated VR T_J=25 ℃ T_J=125 ℃	I_R	0.5 15		10		0.3 7.5		0.1 5	mA
Typical thermal resistance	$R_{\theta JC}$	1.5							$^OC/W$
Operating junction temperature range	T_J	- 55 to +150							^OC
Storage temperature range	T_{STG}	- 55 to +175							^OC

Note 1: 2.0μs Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300μs Pulse Width, 1% Duty Cycle

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
MBRS16xx (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 (MBRS1635) to 150V (MBRS16150)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
MBRS1660 RN	MBRS1660		RN		
MBRS1660 RNG	MBRS1660		RN	G	Green compound
MBRS1660HRN	MBRS1660	H	RN		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

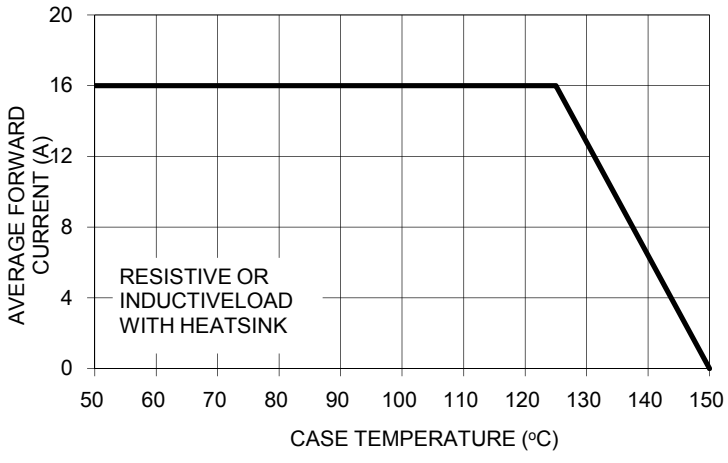


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

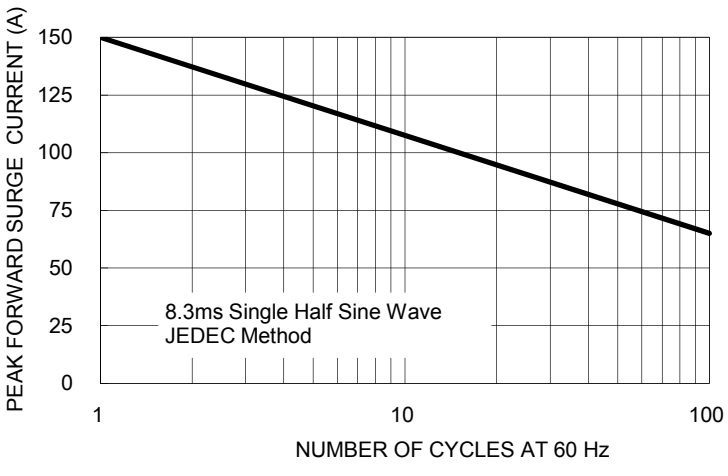


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

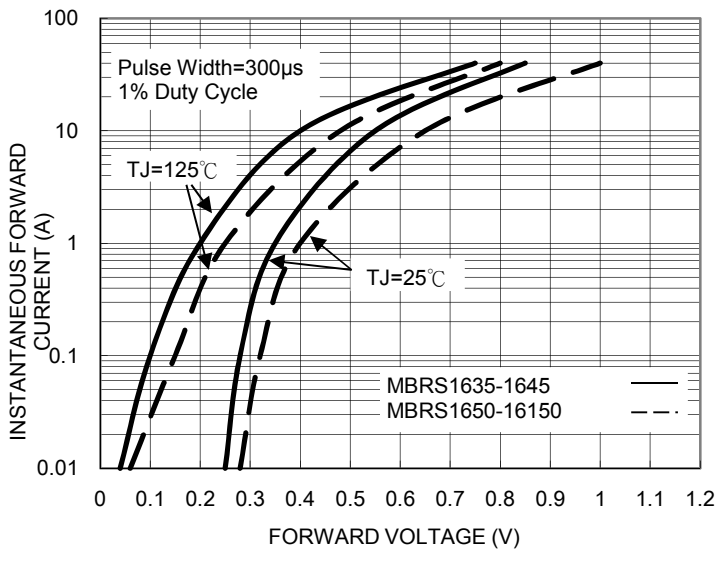


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

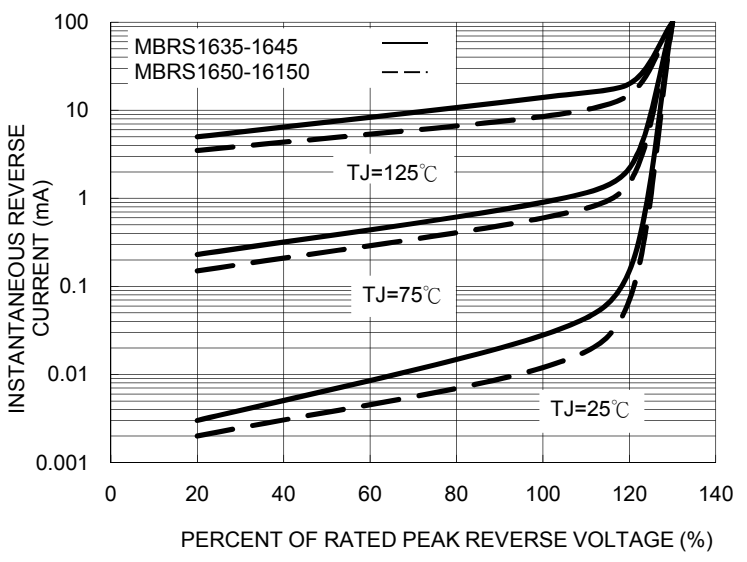


FIG. 5 TYPICAL JUNCTION CAPACITANCE

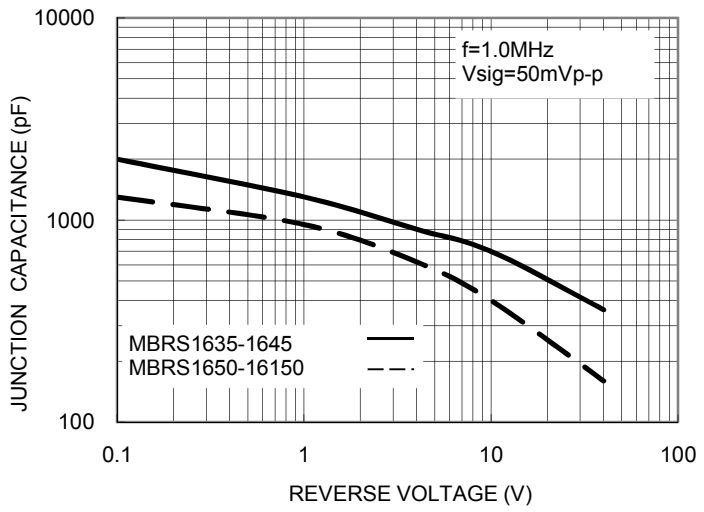
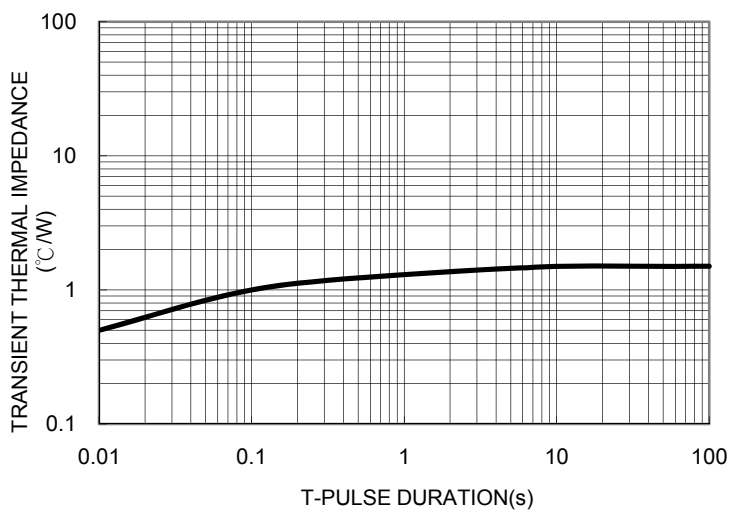
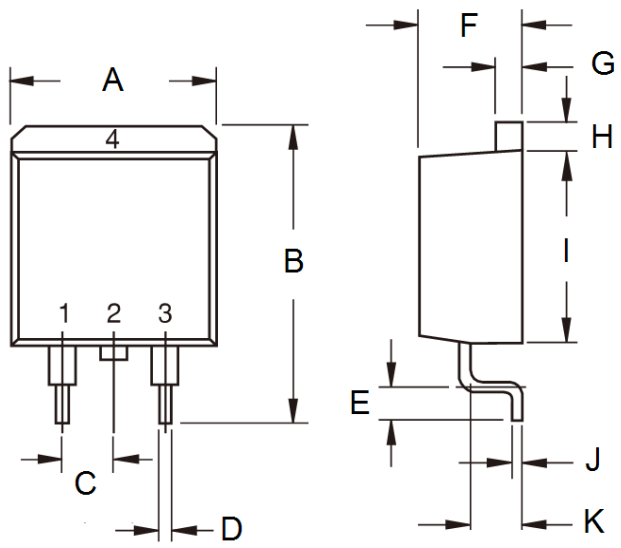


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

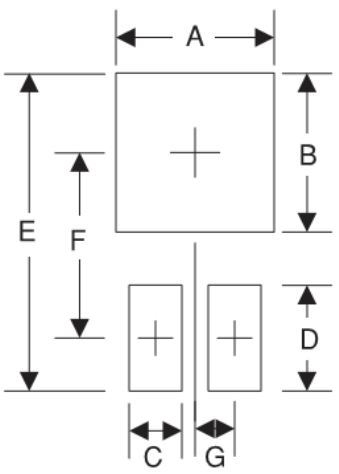


PACKAGE OUTLINE DIMENSIONS



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

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Document Number: DS_D1309064 Version: I13