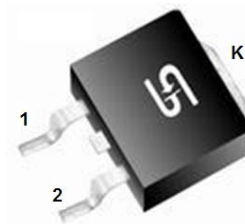


## Surface Mount Schottky Barrier Rectifiers

### 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<sup>2</sup>PAK)**



### MECHANICAL DATA

**Case:** TO-263AB (D<sup>2</sup>PAK)

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<sub>A</sub>=25°C 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 <sub>RRM</sub>	35	45	50	60	90	100	150	V
Maximum RMS voltage	V <sub>RMS</sub>	24	31	35	42	63	70	105	V
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	90	100	150	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	16							A
Peak repetitive forward current (Rated VR, Square wave, 20KHz)	I <sub>FRM</sub>	32							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150							A
Peak repetitive reverse surge Current (Note 1)	I <sub>RRM</sub>	1		0.5				A	
Maximum instantaneous forward voltage (Note 2) I <sub>F</sub> =16A, T <sub>J</sub> =25°C I <sub>F</sub> =16A, T <sub>J</sub> =125°C	V <sub>F</sub>	0.63 0.57		0.75 0.65		0.85 0.82		0.95 0.92	V
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	0.5			0.3		0.1		mA
		15		10		7.5		5	
Typical thermal resistance	R <sub>θJC</sub>	1.5							°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150							°C
Storage temperature range	T <sub>STG</sub>	- 55 to +175							°C

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 <sup>2</sup> PAK	800 / 13" Paper reel
		C0		D <sup>2</sup> PAK	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°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

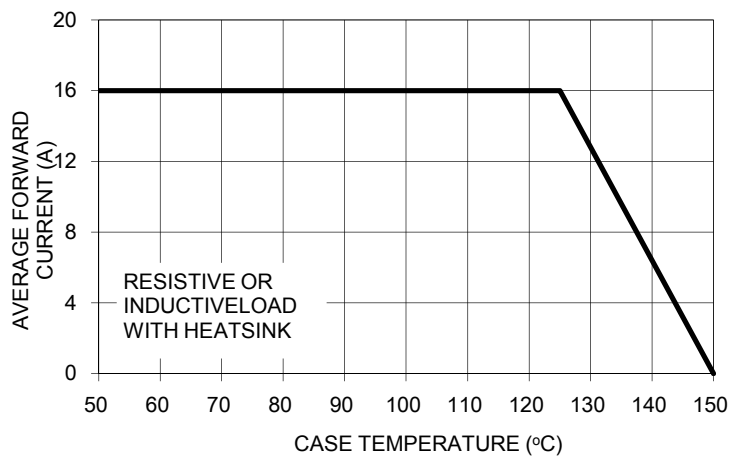


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

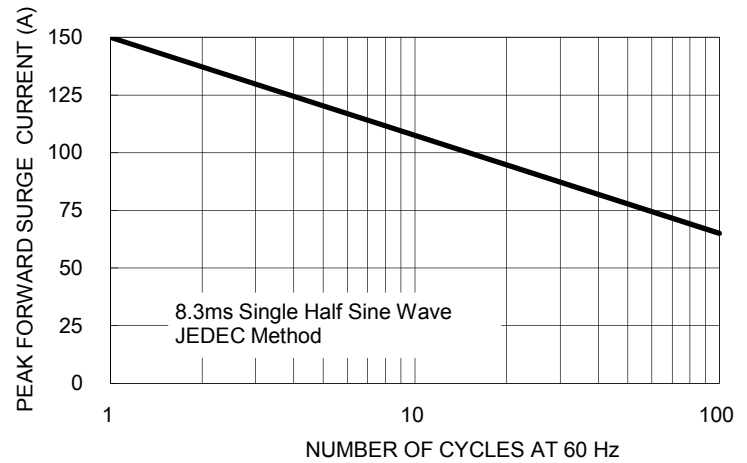


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

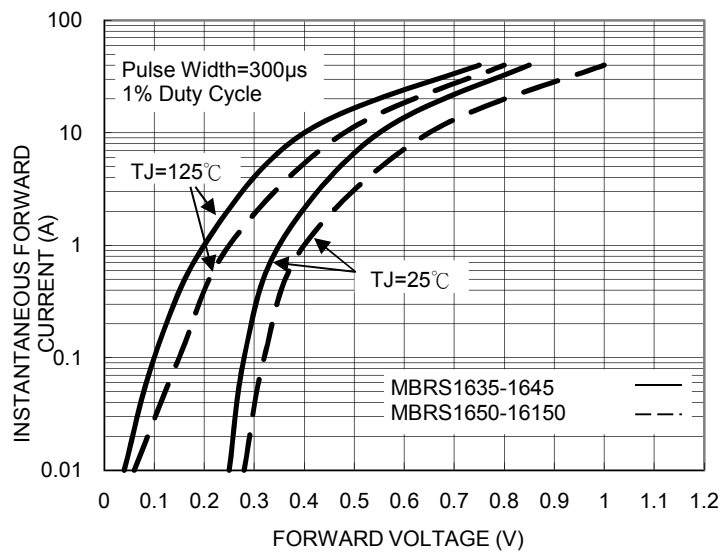


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

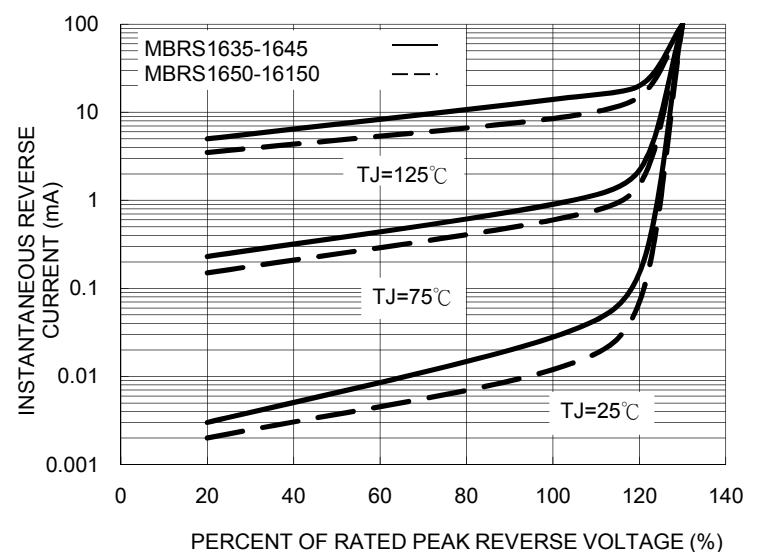


FIG. 5 TYPICAL JUNCTION CAPACITANCE

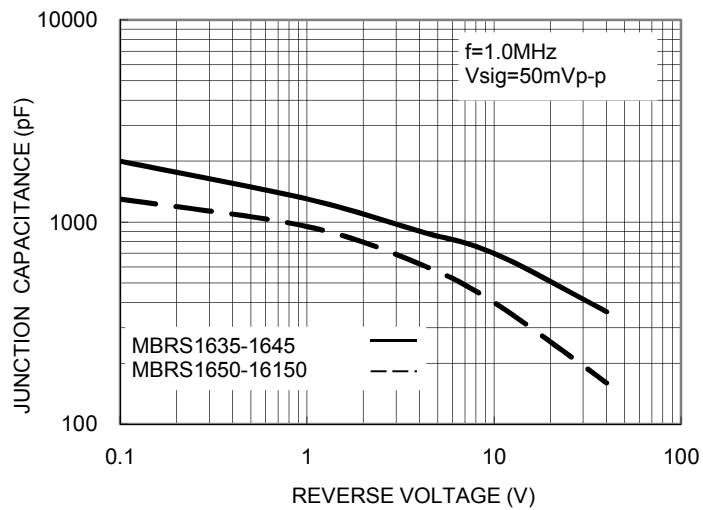
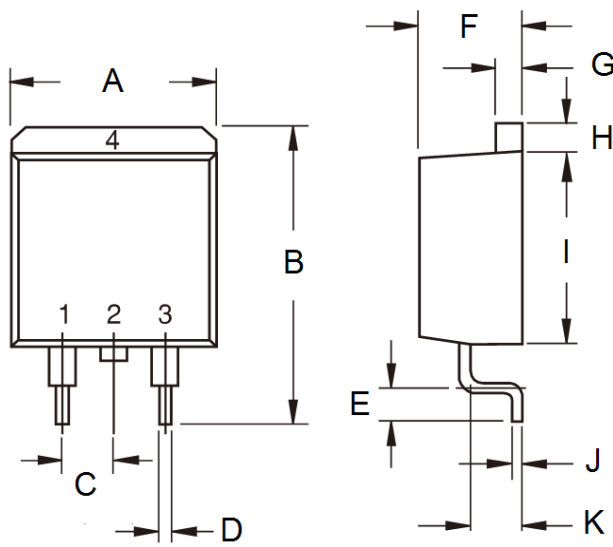


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

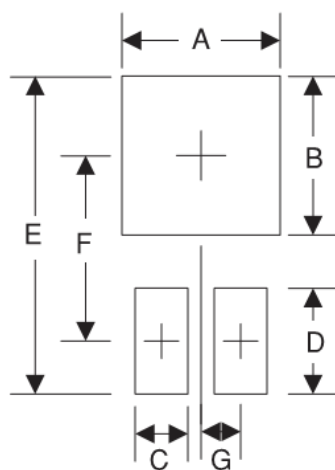


PACKAGE OUTLINE DIMENSIONS



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