

## 1A, 50V - 1000V Glass Passivated High Efficient Bridge Rectifiers

### FEATURES

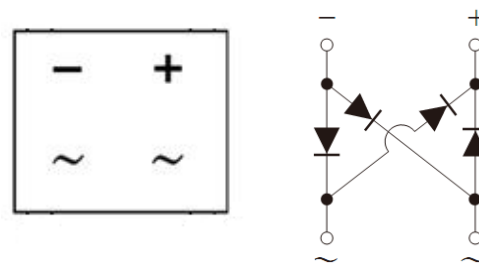
- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326854
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



DBLS

### MECHANICAL DATA

- Case:** Molded plastic body  
Molding compound, UL flammability classification rating 94V-0  
Moisture sensitivity level: level 1, per J-STD-020  
Part no. with suffix "H" means AEC-Q101 qualified  
Packing code with suffix "G" means green compound (halogen-free)  
**Terminal:** Matte tin plated leads, solderable per JESD22-B102  
Meet JESD 201 class 2 whisker test  
**Polarity:** Polarity as marked on the body  
**Weight:** 0.36 g (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)									
PARAMETER	SYMBOL	HDBLS 101G	HDBLS 102G	HDBLS 103G	HDBLS 104G	HDBLS 105G	HDBLS 106G	HDBLS 107G	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	50							A
Rating for fusing (t<8.3ms)	I <sup>2</sup> t	10.3							A <sup>2</sup> s
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> = 1 A	V <sub>F</sub>	1.0		1.3		1.7		V	
Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =25°C T <sub>J</sub> =125°C	I <sub>R</sub>	5 500							μA
Maximum reverse recovery time (Note 2)	t <sub>rr</sub>	50				75			ns
Typical thermal resistance	R <sub>θJL</sub> R <sub>θJA</sub>	15 40							°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150							°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150							°C

Note 1: Pulse Test with PW=300μs, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

**ORDERING INFORMATION**

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
HDBLS10xG (Note 1)	H	C1	G	DBLS	50 / TUBE
		RD			1,500 / 13" Paper reel

Note 1: "x" defines voltage from 50V (HDBLS101G) to 1000V (HDBLS107G)

\*: Optional available

**EXAMPLE**

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HDBLS107GHRDG	HDBLS107G	H	RD	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

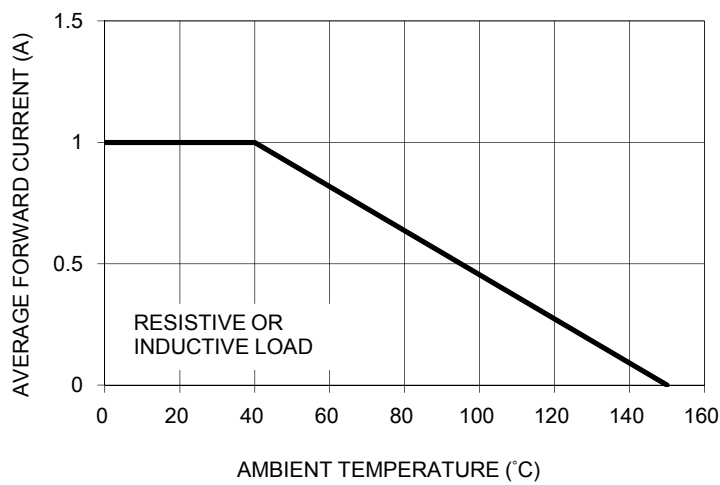


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

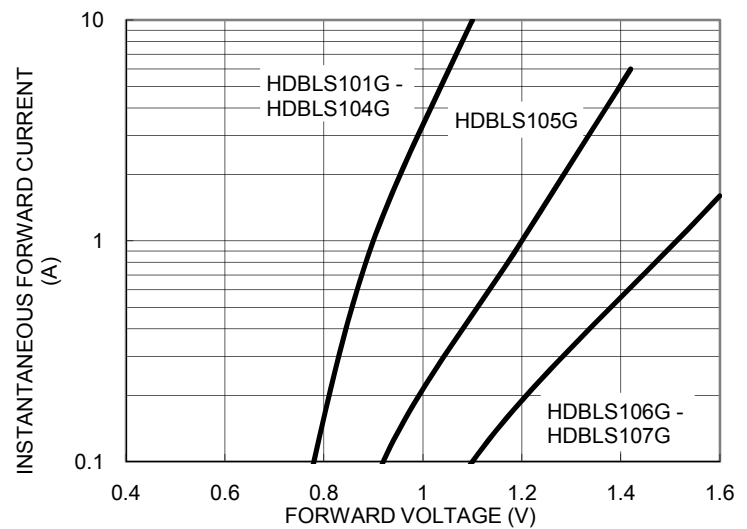


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

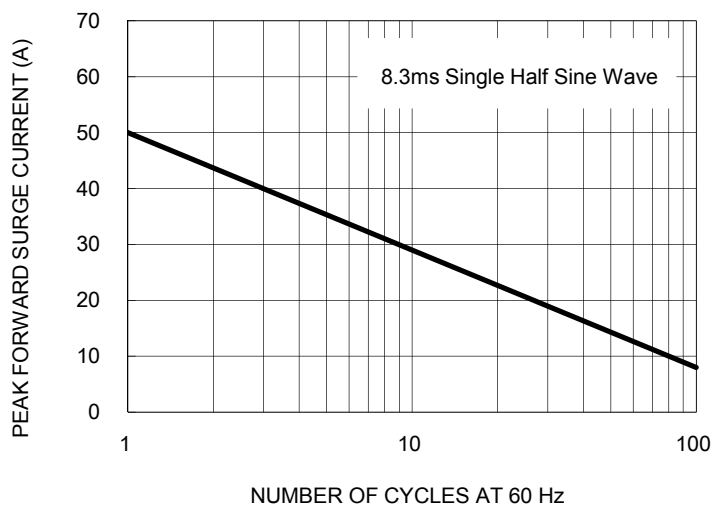


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

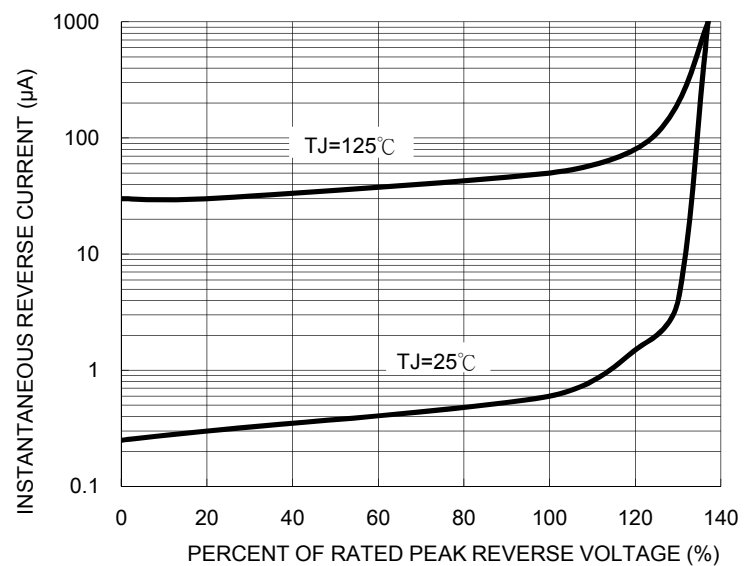


FIG. 5 TYPICAL JUNCTION CAPACITANCE

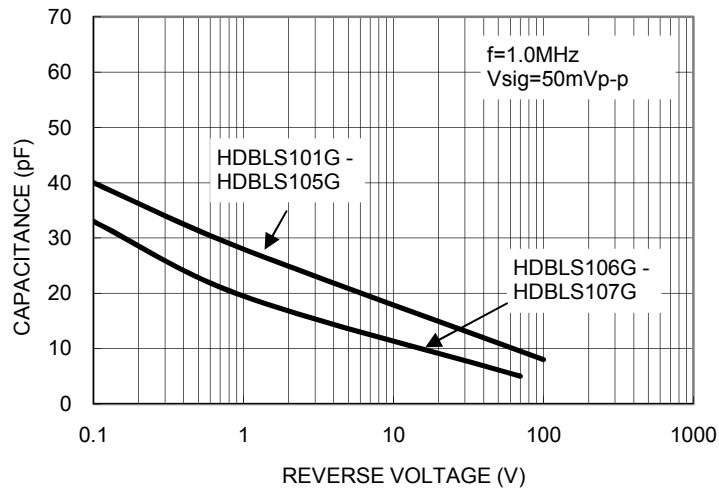
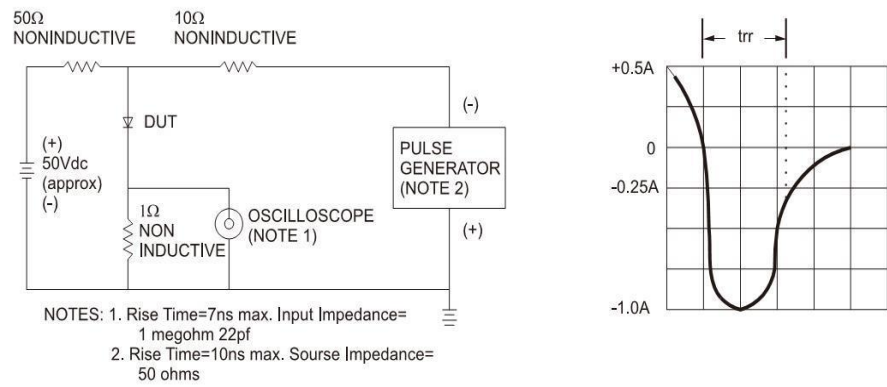
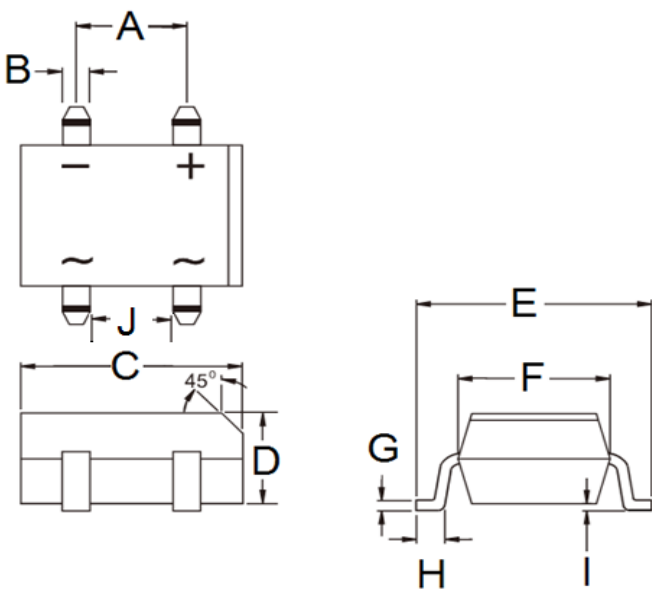


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



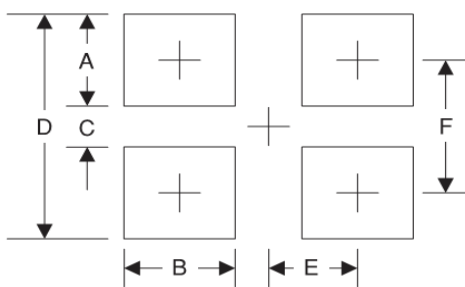
PACKAGE OUTLINE DIMENSIONS

DBLS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.00	5.20	0.197	0.205
B	1.02	1.20	0.040	0.047
C	8.13	8.51	0.320	0.335
D	2.40	2.60	0.094	0.102
E	9.80	10.30	0.386	0.406
F	6.20	6.50	0.244	0.256
G	0.22	0.33	0.009	0.013
H	1.02	1.53	0.040	0.060
I	0.076	0.33	0.003	0.013
J	3.90	4.10	0.154	0.161

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	2.3	0.091
B	1.3	0.051
C	6.9	0.272
D	11.5	0.453
E	2.6	0.102
F	9.2	0.362

MARKING DIAGRAM



- P/N = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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