

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

### FEATURES

- Glass passivated junction
- Ideal for printed circuit board
- 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


**DBL**


### MECHANICAL DATA

**Case:** Molded plastic body

Molding compound, UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

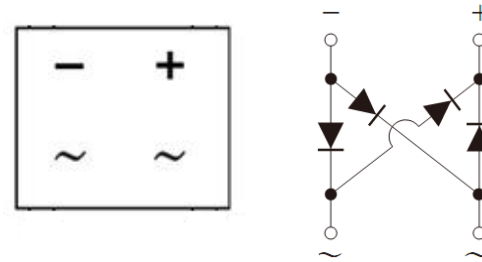
Packing code with suffix "G" means green compound (halogen-free)

**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	HDBL 101G	HDBL 102G	HDBL 103G	HDBL 104G	HDBL 105G	HDBL 106G	HDBL 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

Notes 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.	PACKING CODE	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
HDBL10xG (Note 1)	H	C1	G	DBL	50 / TUBE

Note 1: "x" defines voltage from 50V (HDBL101G) to 1000V (HDBL107G)

\*: Optional available

**EXAMPLE**

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HDBL107GHC1G	HDBL107G	H	C1	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

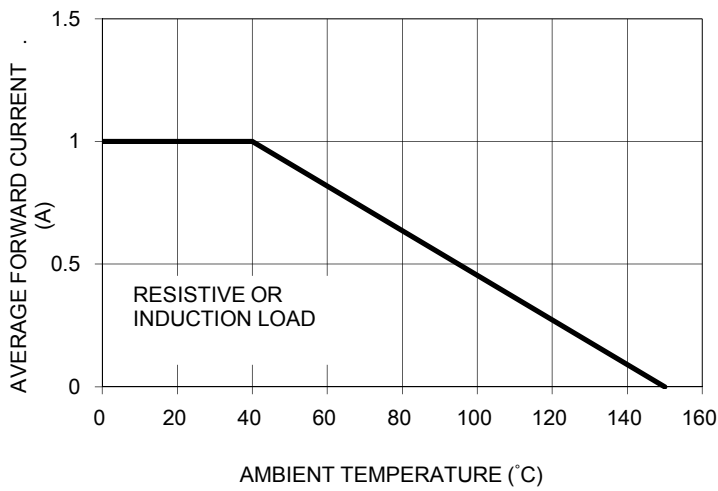


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

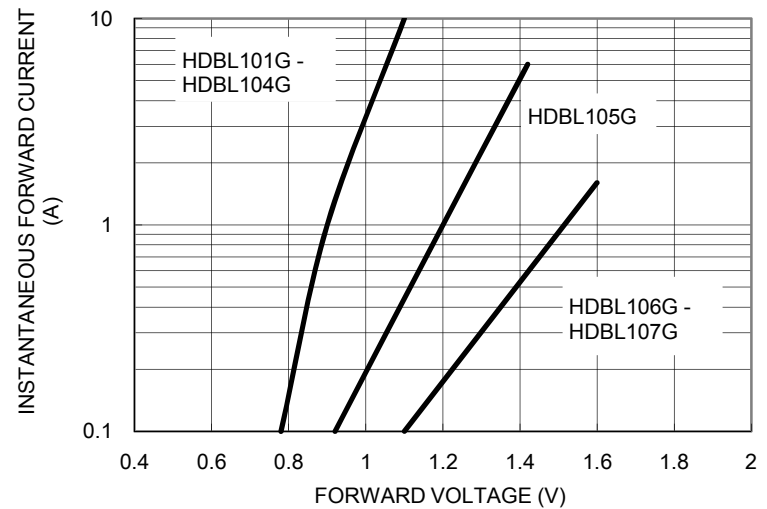


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

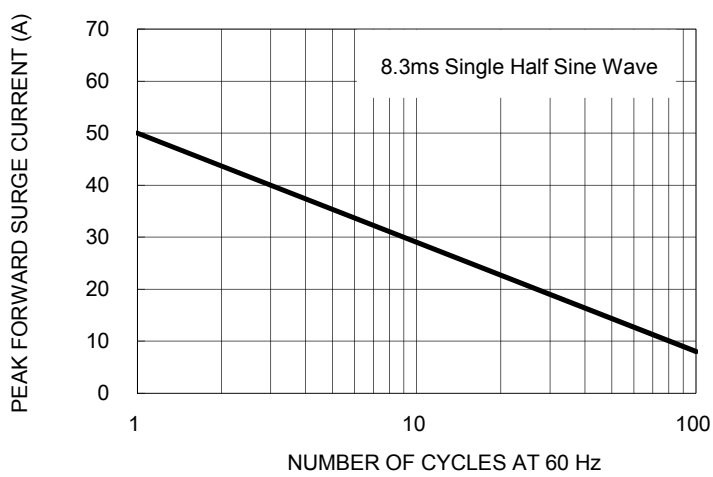


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

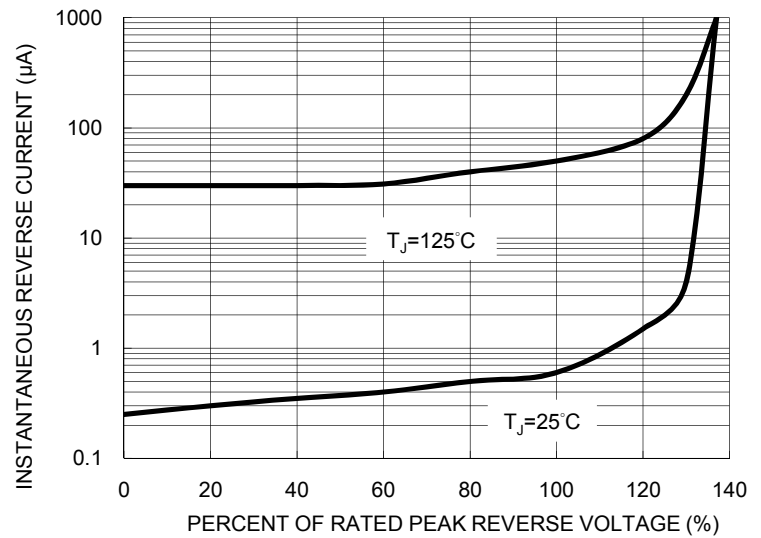


FIG. 5 TYPICAL JUNCTION CAPACITANCE

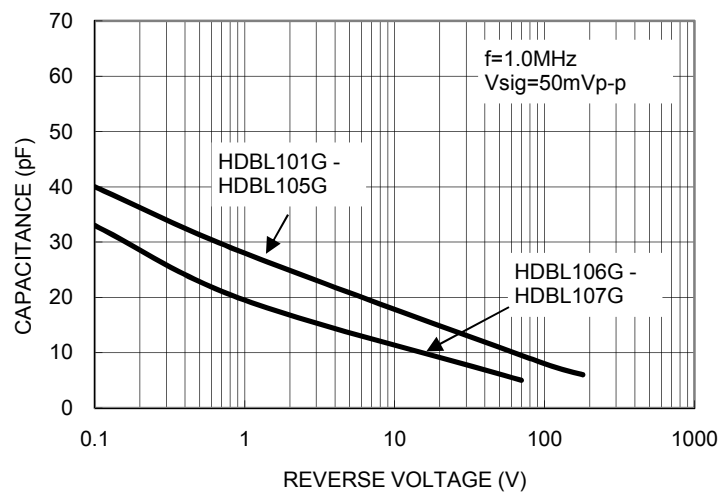
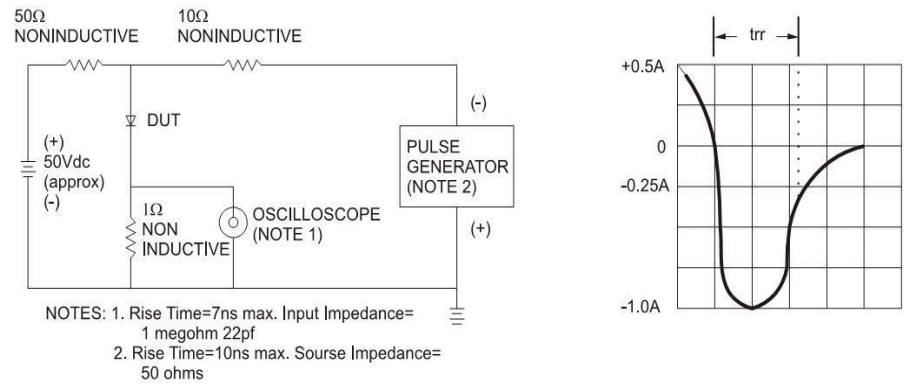
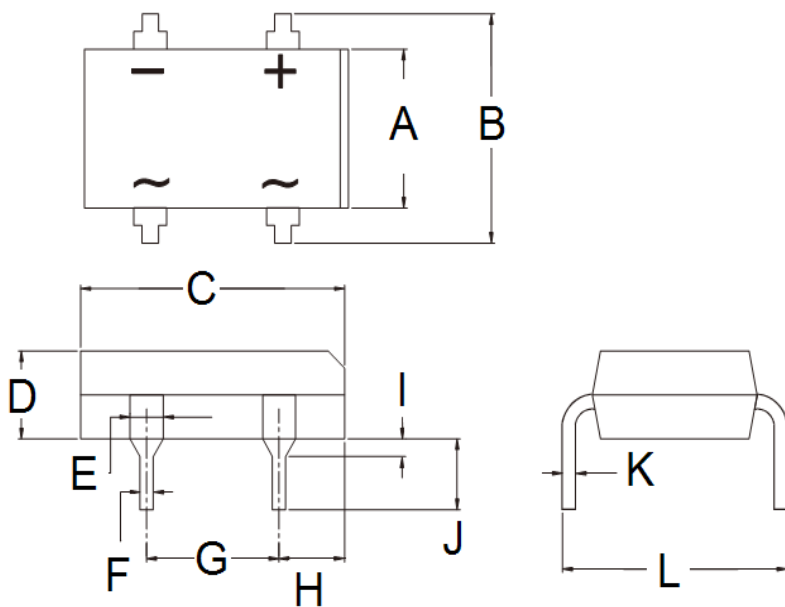


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS

DBL



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	6.20	6.50	0.244	0.256
B	7.24	8.00	0.285	0.315
C	8.12	8.51	0.320	0.335
D	2.40	2.60	0.094	0.102
E	0.89	1.14	0.035	0.045
F	0.46	0.58	0.018	0.023
G	5.00	5.20	0.197	0.205
H	1.39	1.90	0.055	0.075
I	1.27	2.03	0.050	0.080
J	3.81	4.69	0.150	0.185
K	0.22	0.33	0.009	0.013
L	7.600	8.90	0.299	0.350

MARKING DIAGRAM



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

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