

## 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

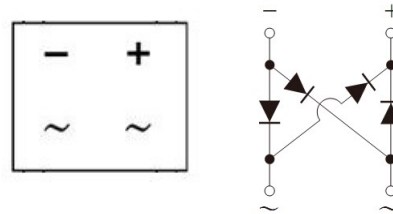
Packing code with suffix "G" means green compound (halogen-free)

**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 ( $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	HDBL	HDBL	HDBL	HDBL	HDBL	HDBL	HDBL	UNIT
		101G	102G	103G	104G	105G	106G	107G	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	50							A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	10.3							$\text{A}^2\text{s}$
Maximum instantaneous forward voltage (Note 1) $I_F = 1\text{ A}$	$V_F$	1.0		1.3		1.7			V
Maximum reverse current @ rated $V_R$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_R$	5 500							$\mu\text{A}$
Maximum reverse recovery time (Note 2)	$t_{rr}$	50				75			ns
Typical thermal resistance	$R_{\theta JL}$	15							$^\circ\text{C/W}$
	$R_{\theta JA}$	40							
Operating junction temperature range	$T_J$	- 55 to + 150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 to + 150							$^\circ\text{C}$

Note 1: Pulse Test with  $PW=300\mu\text{s}$ , 1% Duty Cycle

Notes 2: Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

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**

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

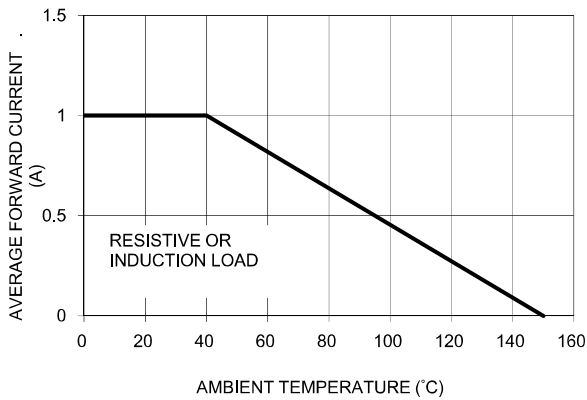


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

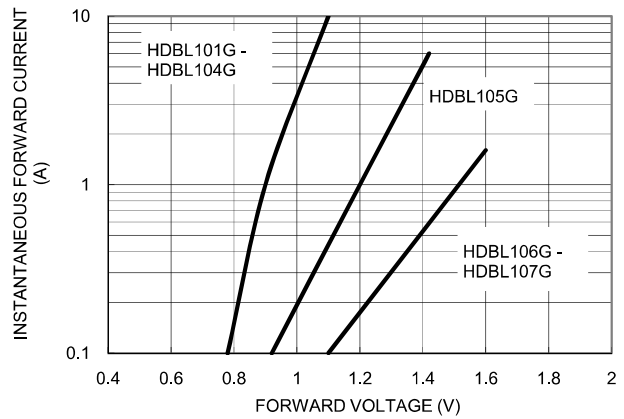


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

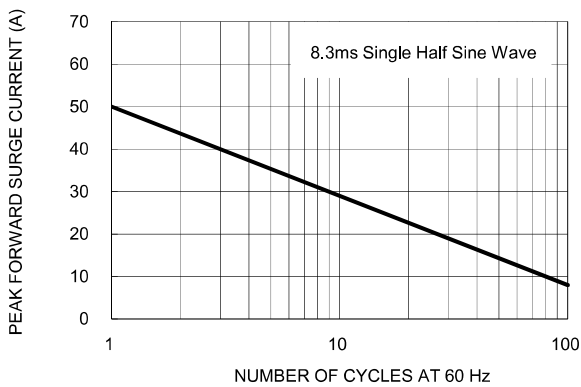


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

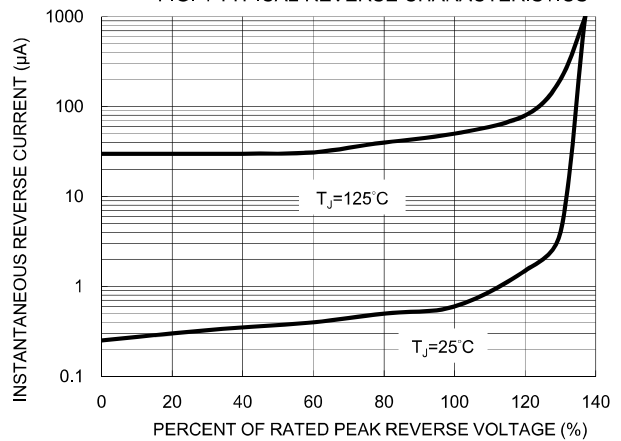


FIG. 5 TYPICAL JUNCTION CAPACITANCE

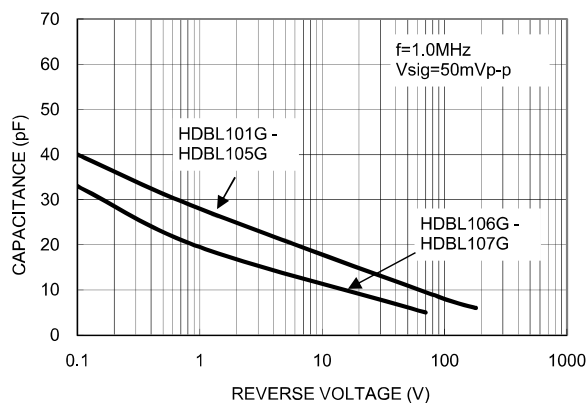
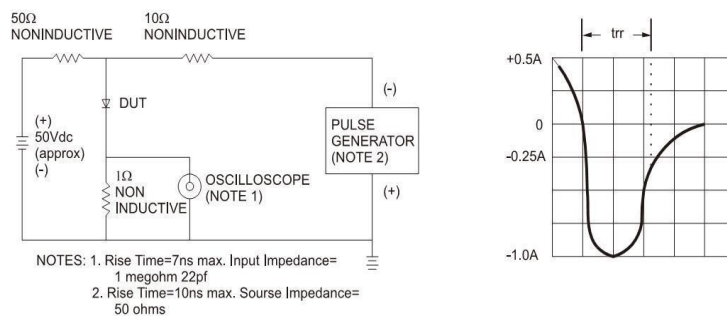
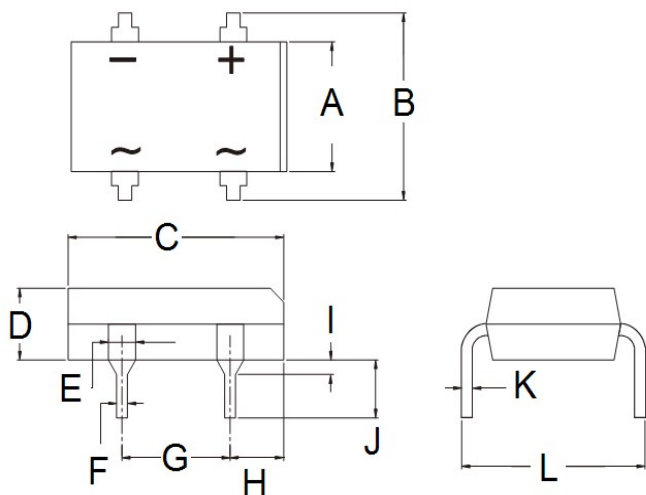


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



**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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