

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

### FEATURES

- 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



### 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                               | DBL 101G     | DBL 102G | DBL 103G | DBL 104G | DBL 105G | DBL 106G | DBL 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>                     | 40           |          |          |          |          | 30       |          | A                |
| Rating for fusing (t<8.3ms)   | I <sup>2</sup> t                     | 6.64         |          |          |          |          | 3.73     |          | A <sup>2</sup> s |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 1 A                          | V <sub>F</sub>                       | 1.1          |          |          |          |          |          |          | V                |
| Maximum reverse current @ rated V <sub>R</sub><br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C | I <sub>R</sub>                       | 2            |          |          |          |          | 500      |          | μA               |
| Typical junction capacitance Per Leg (Note 2)   | C <sub>J</sub>                       | 25           |          |          |          |          |          |          | pF               |
| Typical thermal resistance  | R <sub>θJL</sub><br>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: Measure at 1.0MHz and Applied Reverse Voltage of 4.0 Volts D.C.

**ORDERING INFORMATION**

| PART NO.         | PACKING CODE | PACKING CODE | PACKING CODE SUFFIX (*) | PACKAGE | PACKING   |
|------------------|--------------|--------------|-------------------------|---------|-----------|
| DBL10xG (Note 1) | H            | C1           | G                       | DBL     | 50 / TUBE |

Note 1: "x" defines voltage from 50V (DBL101G) to 1000V (DBL107G)

\*: Optional available

**EXAMPLE**

| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                       |
|---------------|----------|-----------------|--------------|---------------------|-----------------------------------|
| DBL107GHC1G   | DBL107G  | 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 REVERSE CHARACTERISTICS



FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG. 4 TYPICAL FORWARD CHARACTERISTICS



FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS



| 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    | 7.60      | 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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