

## 1.5A, 600V - 1000V Glass Passivated Bridge Rectifiers

### FEATURES

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



ABS

### 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

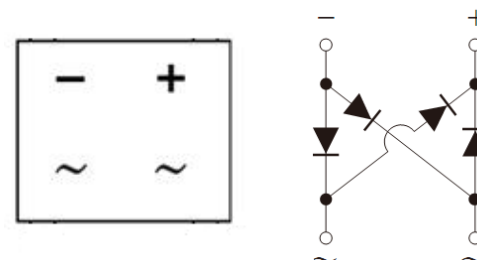
Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

**Polarity:** Polarity as marked on the body

**Weight:** 0.096 g (approximately)



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)       |                                      |                     |                  |                     |                  |                  |
|----------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|------------------|---------------------|------------------|------------------|
| PARAMETER                                                                                          | SYMBOL                               | ABS15J              |                  | ABS15M              |                  | Unit             |
| Maximum repetitive peak reverse voltage                                                            | V <sub>RRM</sub>                     | 600                 |                  | 1000                |                  | V                |
| Maximum RMS voltage                                                                                | V <sub>RMS</sub>                     | 420                 |                  | 700                 |                  | V                |
| Maximum DC blocking voltage                                                                        | V <sub>DC</sub>                      | 600                 |                  | 1000                |                  | V                |
| Maximum average forward rectified current<br>On glass-epoxy<br>On aluminum substrate               | I <sub>F(AV)</sub>                   | 1.5<br>2.0          |                  |                     |                  | A                |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load                | I <sub>FSM</sub>                     | 40                  |                  |                     |                  | A                |
| Peak forward surge current, 1 ms single half sine-wave superimposed on rated load                  | I <sub>FSM</sub>                     | 100                 |                  |                     |                  | A                |
| Rating for fusing (t<8.3ms)                                                                        | I <sup>2</sup> t                     | 6.64                |                  |                     |                  | A <sup>2</sup> s |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 0.5 A<br>I <sub>F</sub> = 1.5 A | V <sub>F</sub>                       | TYP<br>0.88<br>0.97 | MAX<br>-<br>1.00 | TYP<br>0.88<br>0.97 | MAX<br>-<br>1.00 | 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>                       | 5<br>150            |                  |                     |                  | μA               |
| Typical thermal resistance                                                                         | R <sub>θJL</sub><br>R <sub>θJA</sub> | 25<br>80            |                  |                     |                  | °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

| ORDERING INFORMATION |                 |              |                     |         |                         |
|----------------------|-----------------|--------------|---------------------|---------|-------------------------|
| PART NO.             | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING                 |
| ABS15x<br>(Note 1)   | H               | RE           | G                   | ABS     | 1,000 / 7" Plastic reel |
|                      |                 | RG           |                     | ABS     | 5,000 / 13" Paper reel  |

Note 1: "x" defines voltage from 600V (ABS15J) to 1000V (ABS15M)

Note 2: Whole series with green compound

| EXAMPLE       |          |                 |              |                     |                                      |
|---------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
| ABS15JHREG    | ABS15J   | H               | RE           | G                   | AEC-Q101 qualified<br>Green compound |

### RATINGS AND CHARACTERISTICS CURVES

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

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

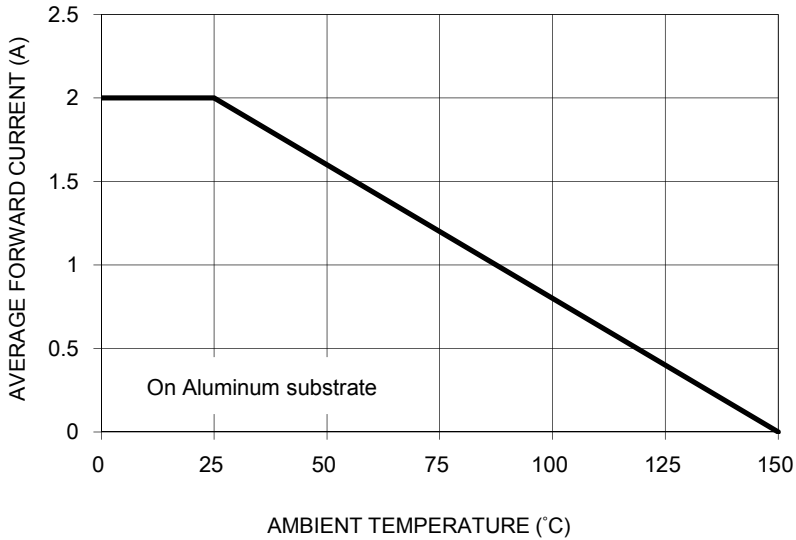


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

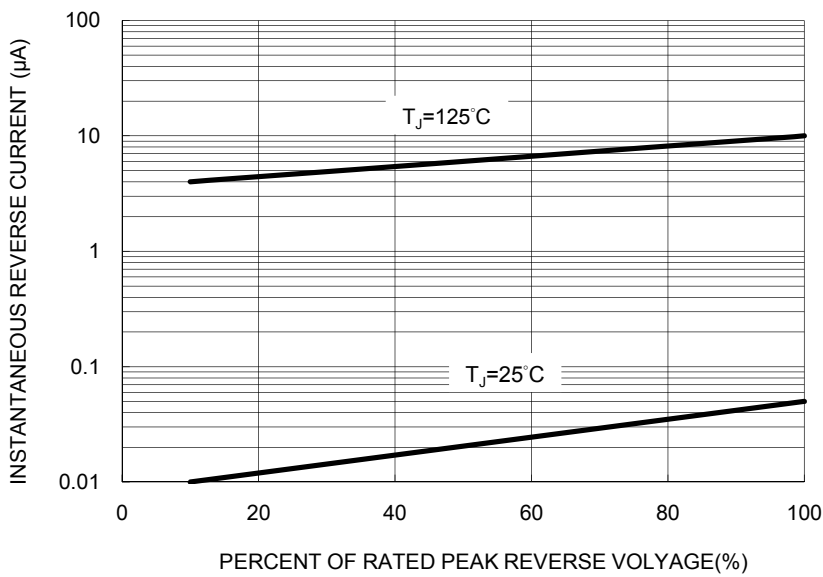


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

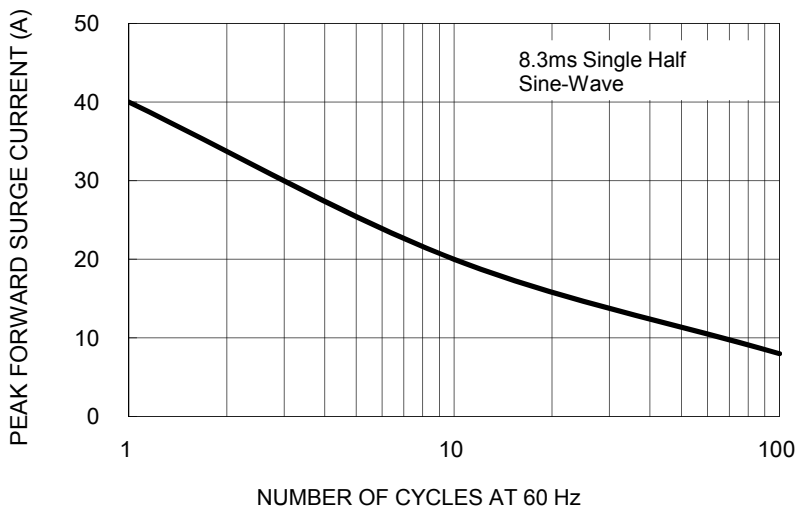


FIG. 4 TYPICAL JUNCTION CAPACITANCE

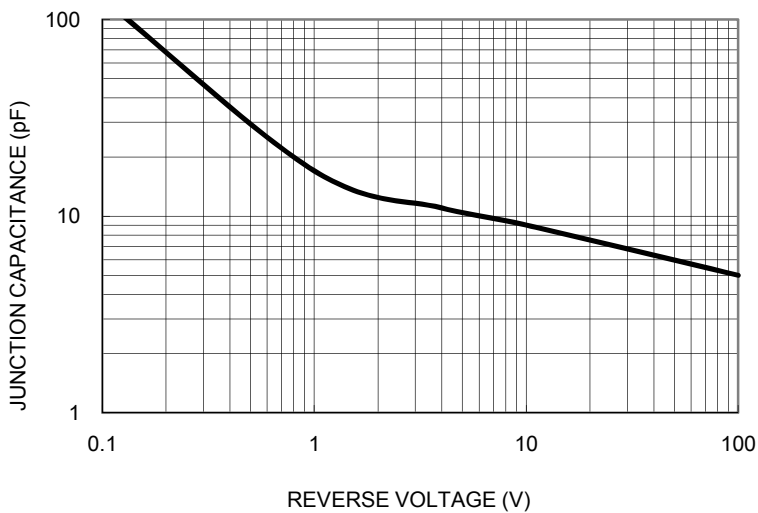
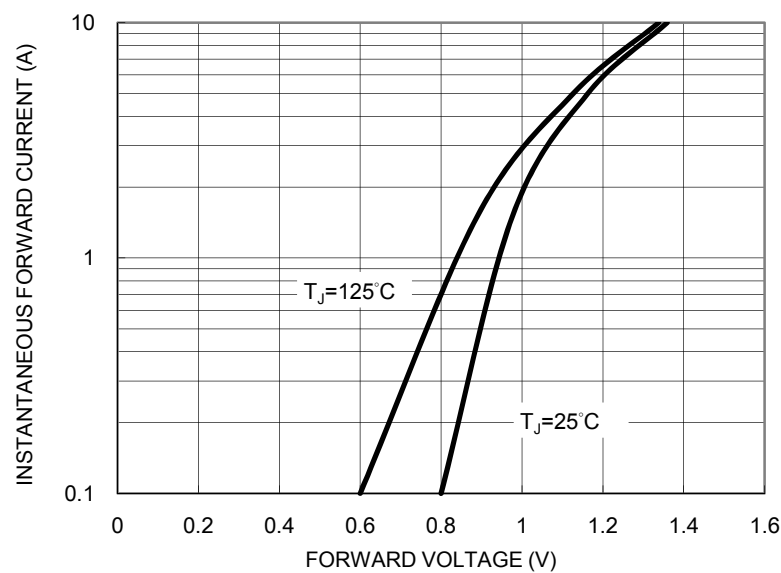
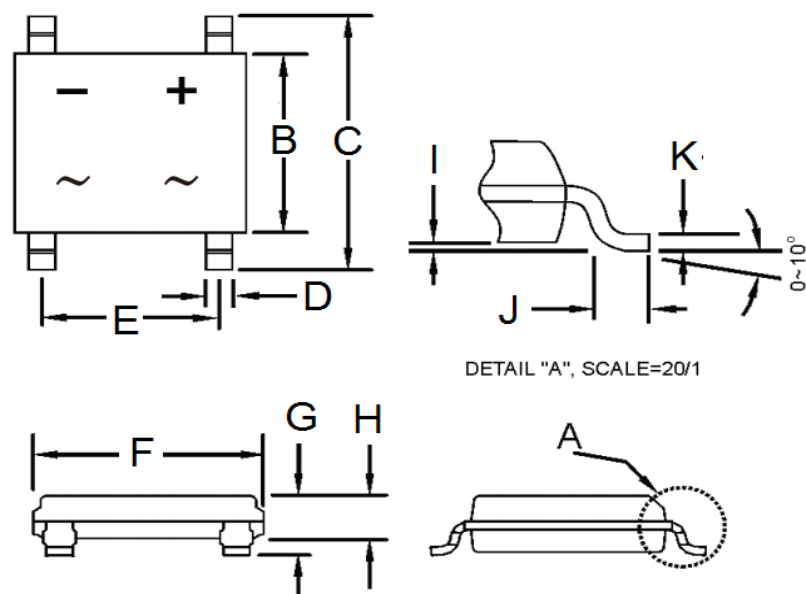


FIG. 5 TYPICAL FORWARD CHARACTERISTICS



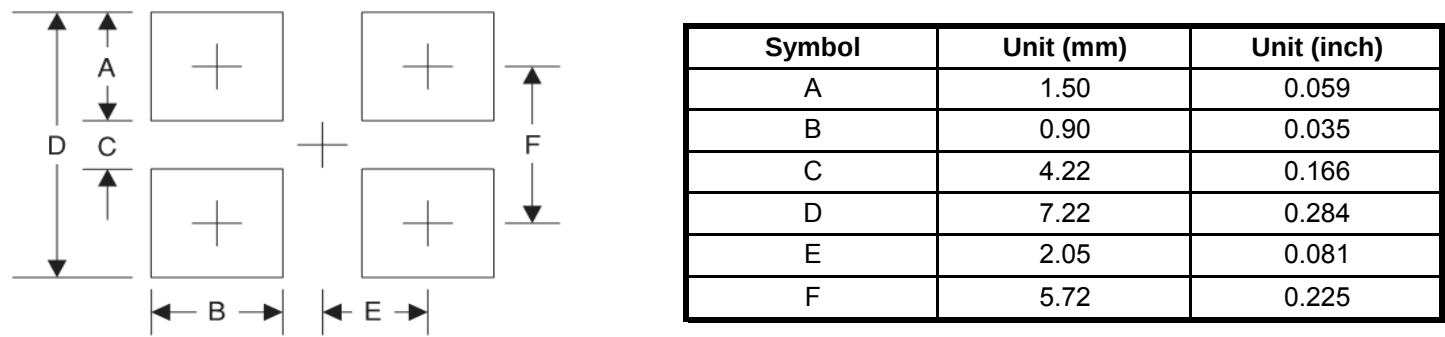
PACKAGE OUTLINE DIMENSIONS

ABS

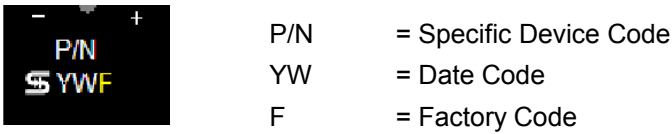


| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| B    | 4.30      | 4.50 | 0.169       | 0.177 |
| C    | 6.25      | 6.65 | 0.246       | 0.262 |
| D    | 0.60      | 0.70 | 0.024       | 0.028 |
| E    | 3.90      | 4.10 | 0.154       | 0.161 |
| F    | 4.90      | 5.10 | 0.193       | 0.200 |
| G    | 1.40      | 1.60 | 0.055       | 0.063 |
| H    | 1.35      | 1.45 | 0.053       | 0.057 |
| I    | 0.05      | 0.15 | 0.002       | 0.006 |
| J    | 0.30      | 0.70 | 0.012       | 0.028 |
| K    | 0.15      | 0.25 | 0.006       | 0.010 |

SUGGESTED PAD LAYOUT



MARKING DIAGRAM



### **Notice**

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.