

## 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

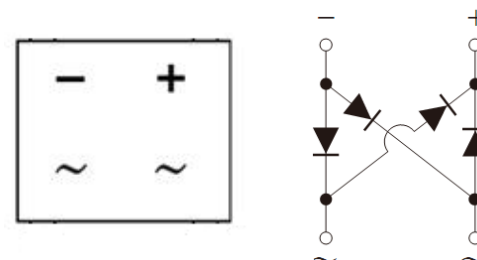
Packing code with suffix "G" means green compound (halogen-free)

**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

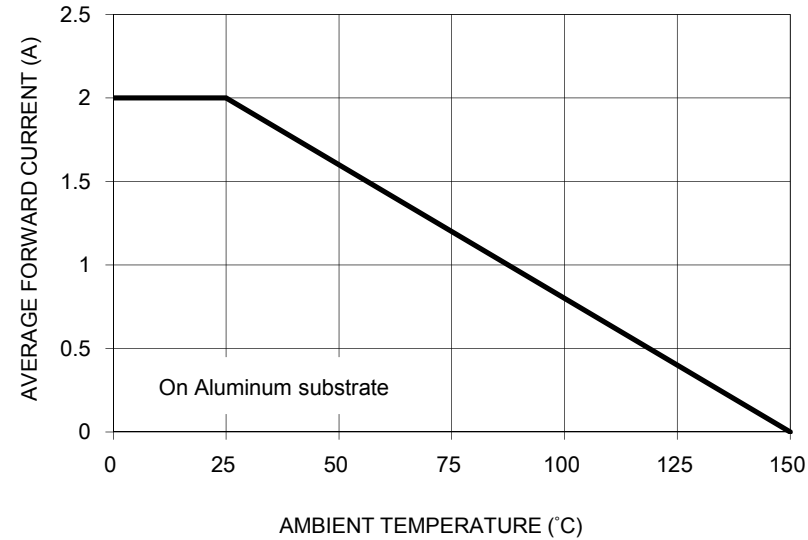


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

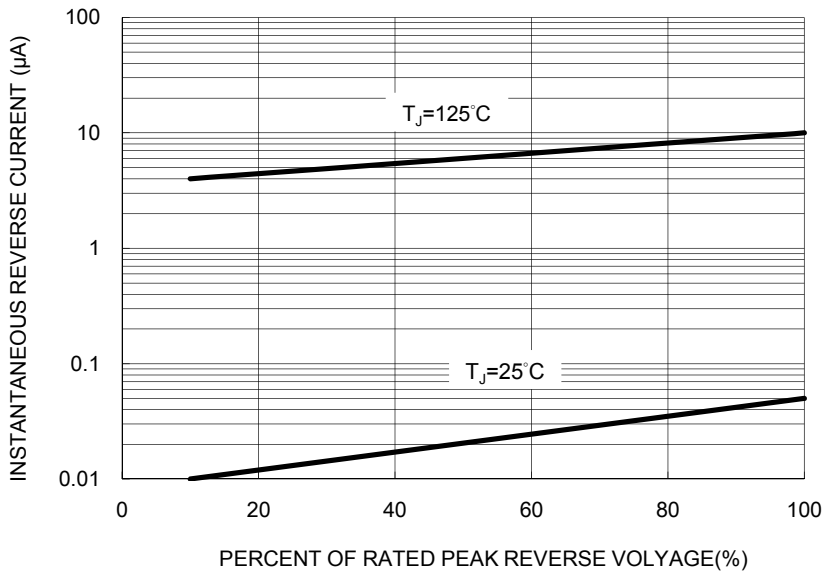


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

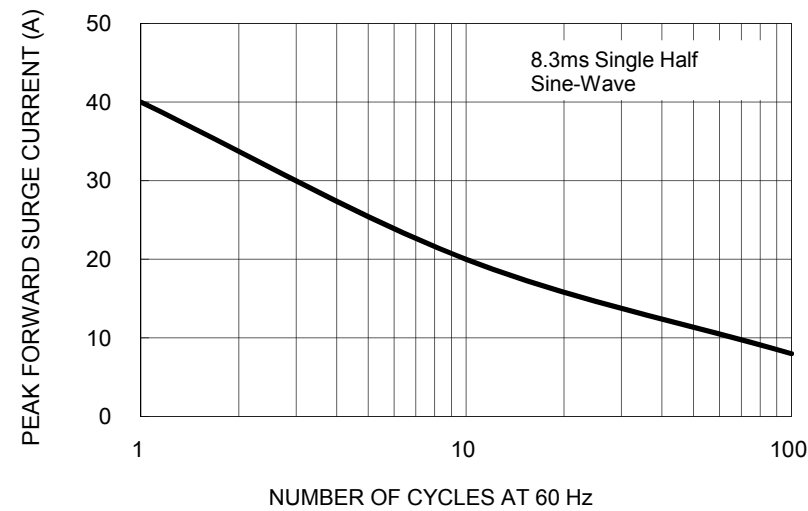


FIG. 4 TYPICAL JUNCTION CAPACITANCE

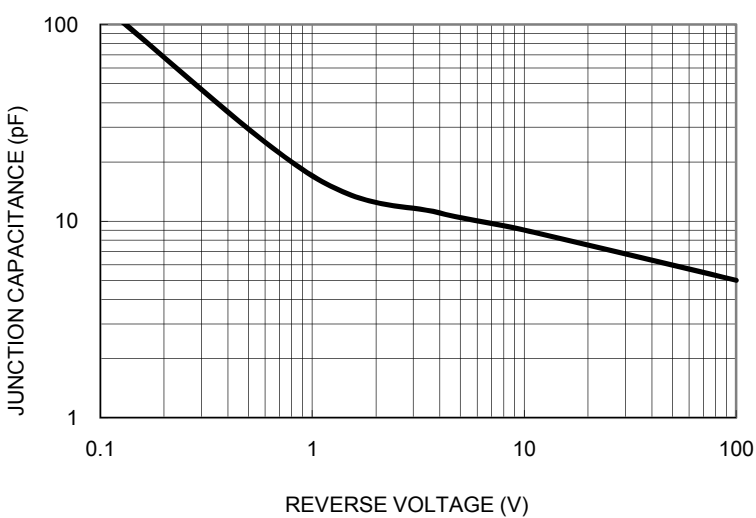
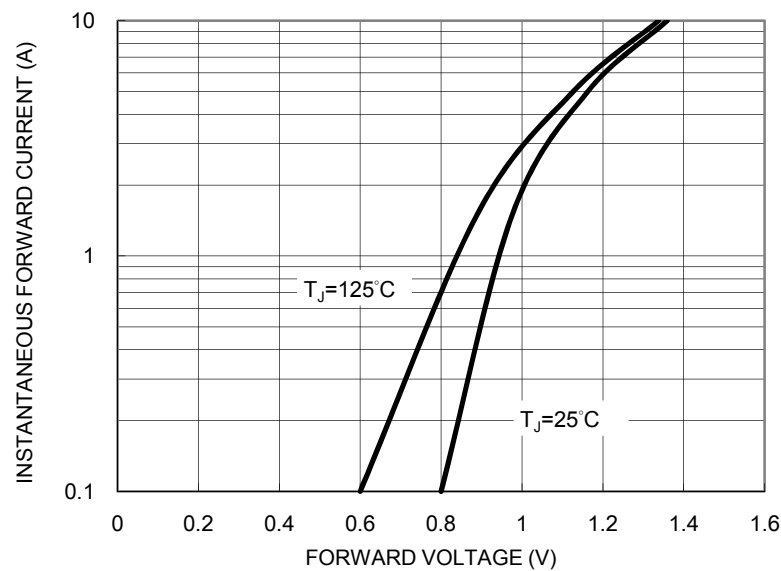
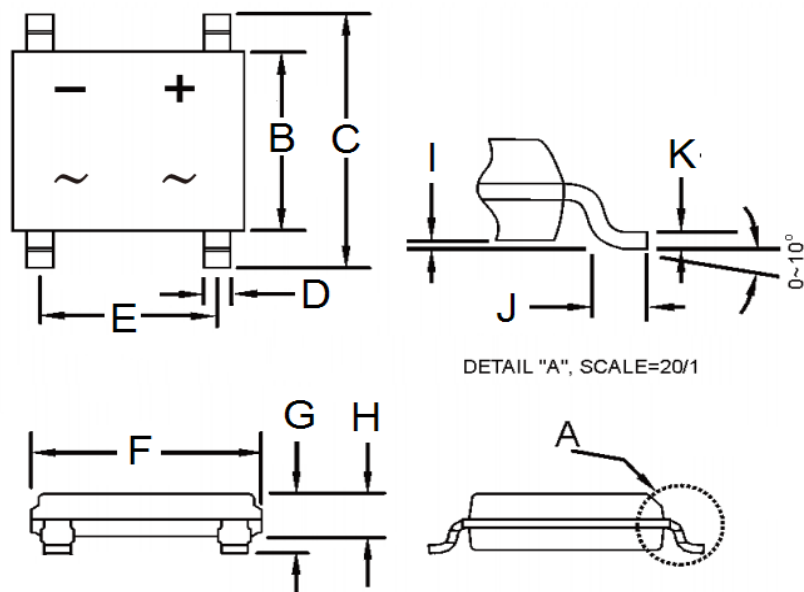


FIG. 5 TYPICAL FORWARD CHARACTERISTICS



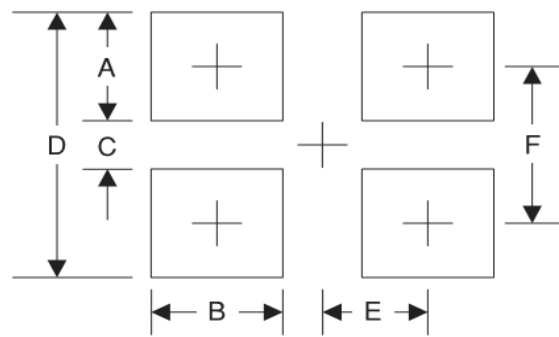
PACKAGE OUTLINE DIMENSIONS

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



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.50      | 0.059       |
| B      | 0.90      | 0.035       |
| C      | 4.22      | 0.166       |
| D      | 7.22      | 0.284       |
| E      | 2.05      | 0.081       |
| F      | 5.72      | 0.225       |

MARKING DIAGRAM



P/N = Specific Device Code  
YW = Date Code  
F = Factory Code

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