

## 6A, 600V - 1000V Glass Passivated Single-Phase Bridge Rectifiers

### FEATURES

- Thin Single in-line low profile package ideal for compact required circuit
- Glass passivated junction
- 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

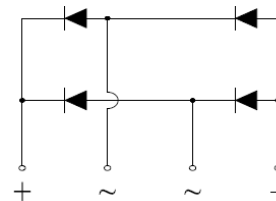


KBJL



### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification.  
Especially space-saving constrain SMPS for adopters, telecom, home appliance and all other applications.



### MECHANICAL DATA

**Case:** KBJL

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:** As marked

**Mounting torque:** 0.5N.m is recommended

**Weight:** 2.6 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>J</sub> =25°C unless otherwise noted)      |                    |              |         |          |                  |
|---------------------------------------------------------------------------------------------------|--------------------|--------------|---------|----------|------------------|
| PARAMETER                                                                                         | SYMBOL             | TS6KL60      | TS6KL80 | TS6KL100 | UNIT             |
| Maximum repetitive peak reverse voltage                                                           | V <sub>RRM</sub>   | 600          | 800     | 1000     | V                |
| Maximum RMS voltage                                                                               | V <sub>RMS</sub>   | 420          | 560     | 700      | V                |
| Maximum DC blocking voltage                                                                       | V <sub>DC</sub>    | 600          | 800     | 1000     | V                |
| Maximum average forward rectified current                                                         | I <sub>F(AV)</sub> | 6            |         |          | A                |
| Non-repetitive peak forward surge current<br>8.3ms single sine-wave                               | I <sub>FSM</sub>   | 150          |         |          | A                |
| Non-repetitive peak forward surge current<br>1ms single sine-wave                                 | I <sub>FSM</sub>   | 280          |         |          | A                |
| Rating of fusing ( t<8.3ms)                                                                       | I <sup>2</sup> t   | 93           |         |          | A <sup>2</sup> s |
| Maximum instantaneous forward voltage (Note 1)<br>I <sub>F</sub> = 3A                             | V <sub>F</sub>     | 1.05         |         |          | 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 (Note 2)                                                               | R <sub>θJC</sub>   | 2            |         |          | °C/W             |
|                                                                                                   | R <sub>θJA</sub>   | 7            |         |          | °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: Mount on Heatsink size of 4" x 6" x 0.25" Al-Plate

# ORDERING INFORMATION

| PART NO.            | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING   |
|---------------------|-----------------|--------------|---------------------|---------|-----------|
| TS6KLXX<br>(Note 1) | H               | D3           | G                   | KBJL    | 20 / TUBE |

Note 1: "xx" defines voltage from 600V (TS6KL60) to 1000V (TS6KL100)

\*: Optional available

# EXAMPLE

| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION                          |
|---------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| TS6KL80HD3G   | TS6KL80  | H               | D3           | G                   | AEC-Q101 qualified<br>Green compound |

# RATINGS AND CHARACTERISTICS CURVES

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

FIG.1 FORWARD CURRENT DERATING CURVE

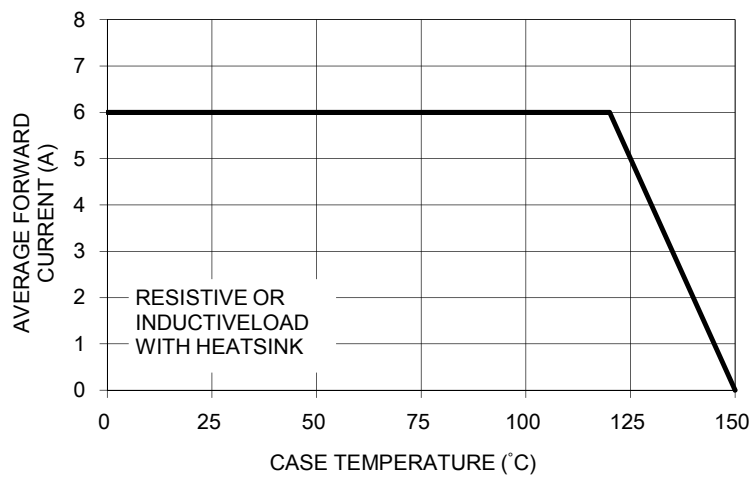


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

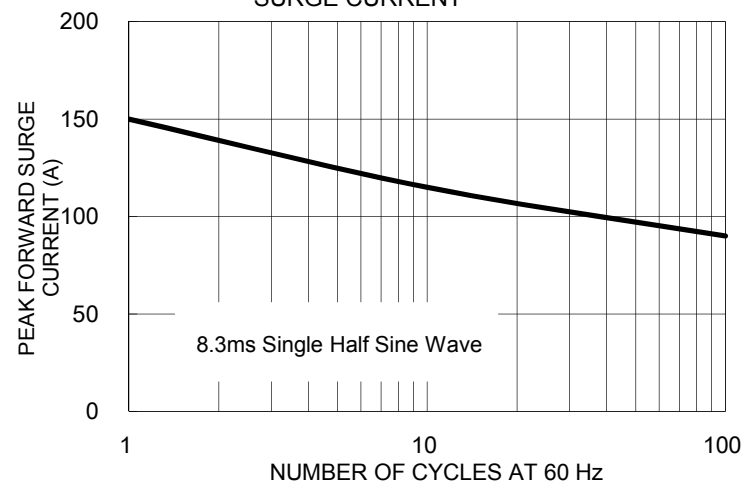


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

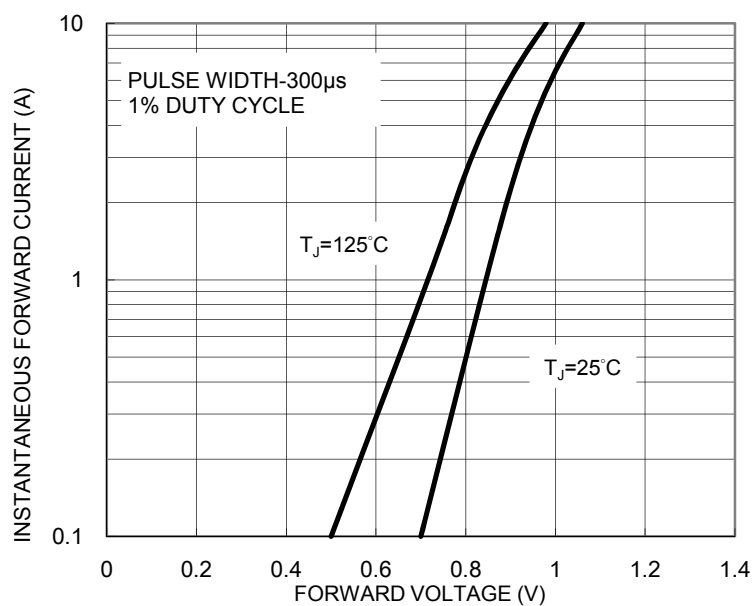


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

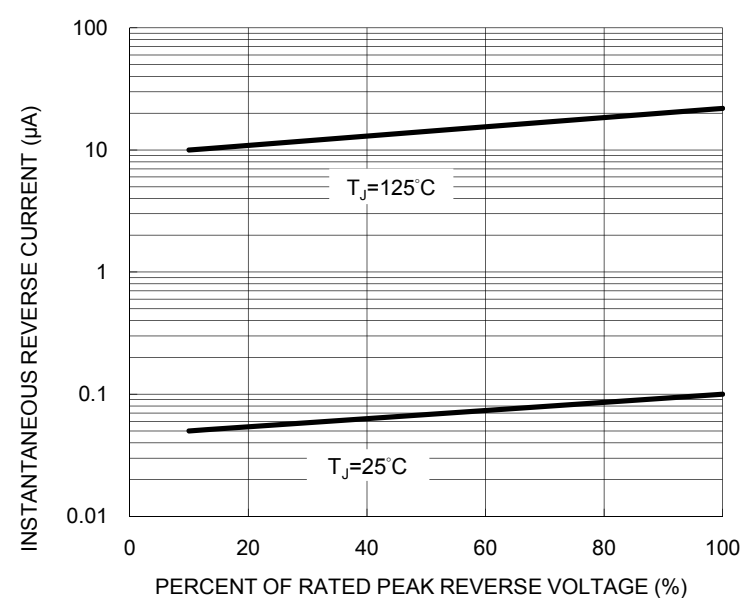
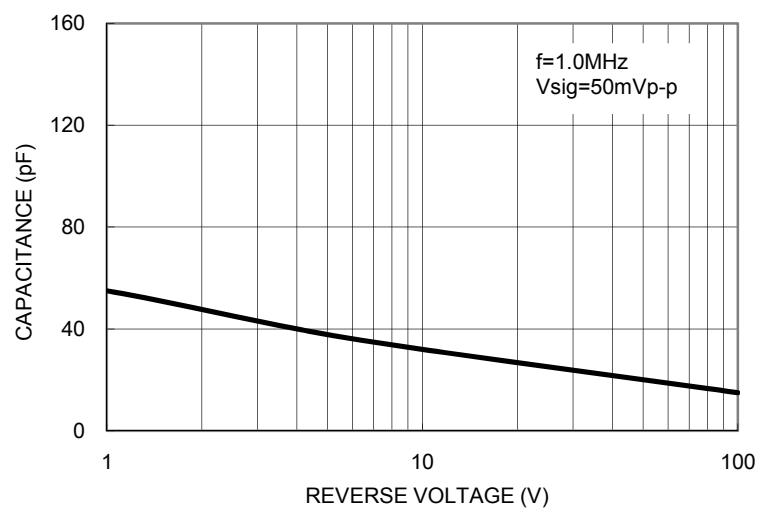
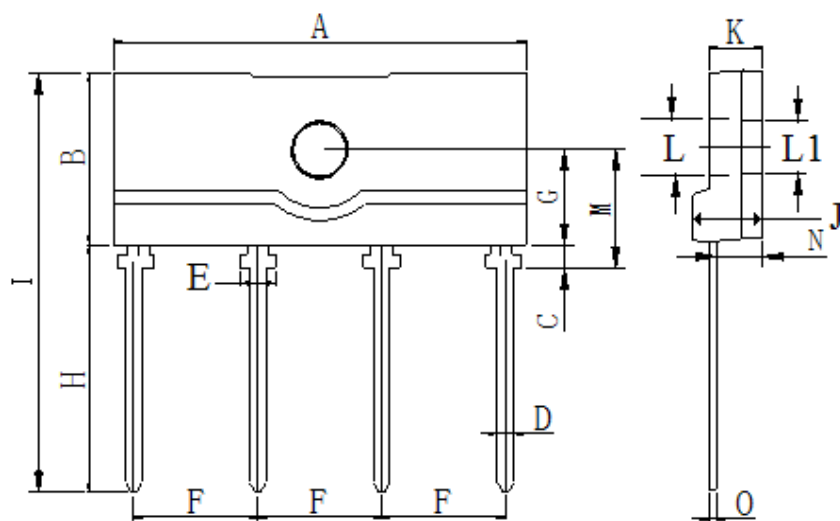


FIG. 5 TYPICAL JUNCTION CAPACITANCE



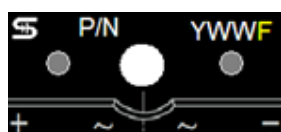
## PACKAGE OUTLINE DIMENSIONS

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| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 24.70     | 25.30 | 0.972       | 0.996 |
| B    | 10.00     | 10.60 | 0.394       | 0.417 |
| C    | 1.20      | 1.60  | 0.047       | 0.063 |
| D    | 0.90      | 1.10  | 0.035       | 0.043 |
| E    | 2.10      | 2.30  | 0.083       | 0.091 |
| F    | 7.30      | 7.70  | 0.287       | 0.303 |
| G    | 5.50      | 5.90  | 0.217       | 0.232 |
| H    | 14.40     | 15.40 | 0.567       | 0.606 |
| I    | 24.90     | 25.50 | 0.980       | 1.004 |
| J    | 4.00      | 4.40  | 0.157       | 0.173 |
| K    | 3.00      | 3.40  | 0.118       | 0.134 |
| L    | 3.30      | 3.50  | 0.130       | 0.138 |
| L1   | 3.10      | 3.30  | 0.122       | 0.130 |
| M    | 6.90      | 7.30  | 0.272       | 0.287 |
| N    | 2.50      | 2.90  | 0.098       | 0.114 |
| O    | 0.30      | 0.70  | 0.012       | 0.028 |

## MARKING DIAGRAM



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

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