

**SINGLE-PHASE GLASS PASSIVATED BRIDGE RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts    CURRENT 8.0 Ampere**

**FEATURES**

- \* High surge current capability
- \* Ideal for printed circuit board
- \* High case dielectric strength
- \* Glass passivated device
- \* RoHS product for packing code suffix "G"
- Halogen free product for packing code suffix "H"

**MECHANICAL DATA**

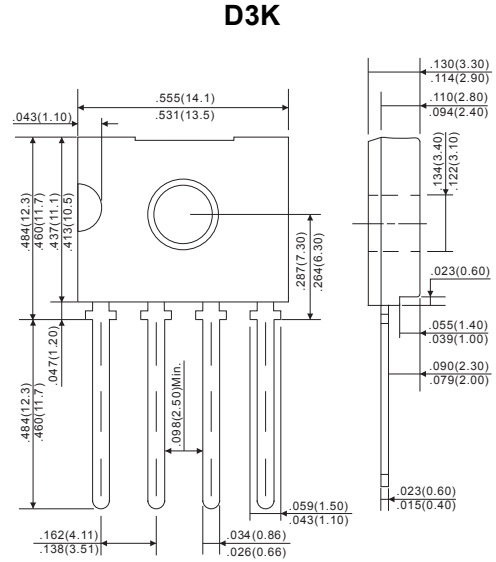
Case: Molded plastic, D3K

Terminal: Plated lead solderable per MIL-STD202E,  
Method 208C

Case: UL-94 Class V-0 recognized Flame Retardant Epoxy

Polarity: Polarity symbol marked on body

Mounting position: Any



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| RATINGS  | SYMBOL                               | UG8KB05     | UG8KB10 | UG8KB20 | UG8KB40 | UG8KB60 | UG8KB80 | UG8KB100 | UNIT               |
|--|--------------------------------------|-------------|---------|---------|---------|---------|---------|----------|--------------------|
| Marking Code   |                                      | UG8KB05     | UG8KB10 | UG8KB20 | UG8KB40 | UG8KB60 | UG8KB80 | UG8KB100 |                    |
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                     | 50          | 100     | 200     | 400     | 600     | 800     | 1000     | Volts              |
| Maximum RMS Voltage  | V <sub>RMS</sub>                     | 35          | 70      | 140     | 280     | 420     | 560     | 700      | Volts              |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                      | 50          | 100     | 200     | 400     | 600     | 800     | 1000     | Volts              |
| Maximum Average Forward Rectified Current<br>T <sub>c</sub> 138 °C with heatsink                     | I <sub>O</sub>                       | 8           |         |         |         |         |         |          | Amps               |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                     | 160         |         |         |         |         |         |          | Amps               |
| Typical Thermal Resistance (Note 2)  | without heatsink<br>R <sub>θJA</sub> | 55          |         |         |         |         |         |          | °C/W               |
|  | with heatsink<br>R <sub>θJC</sub>    | 1.5         |         |         |         |         |         |          |                    |
|  | without heatsink<br>R <sub>θJL</sub> | 15          |         |         |         |         |         |          |                    |
| Typical Junction Capacitance (Note 1)  | C <sub>J</sub>                       | 25          |         |         |         |         |         |          | PF                 |
| Rating for fusing (3ms ≤ t < 8.3ms)  | I <sup>2</sup> t                     | 41          |         |         |         |         |         |          | A <sup>2</sup> Sec |
| Operating Temperature Range  | T <sub>J</sub>                       | -55 to +150 |         |         |         |         |         |          | °C                 |
| Storage Temperature Range  | T <sub>STG</sub>                     | -55 to +150 |         |         |         |         |         |          | °C                 |

| CHARACTERISTICS   | SYMBOL                 | UG8KB05 | UG8KB10 | UG8KB20 | UG8KB40 | UG8KB60 | UG8KB80 | UG8KB100 | UNIT  |
|---|------------------------|---------|---------|---------|---------|---------|---------|----------|-------|
| Maximum Forward Voltage at 2.0A DC                              | V <sub>F</sub>         | 1.00    |         |         |         |         |         |          | Volts |
| Maximum Average Reverse Current at<br>Rated DC Blocking Voltage | @T <sub>A</sub> =25°C  | 10      |         |         |         |         |         |          | uAmps |
|   | @T <sub>A</sub> =125°C | 500     |         |         |         |         |         |          | uAmps |

**NOTES:**

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- R<sub>θJA</sub>: Thermal Resistance From Junction to Ambient;

R<sub>θJC</sub>: Thermal Resistance From Junction to Case;

R<sub>θJL</sub>: Thermal Resistance From Junction to Lead;

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**RATING AND CHARACTERISTIC CURVES**

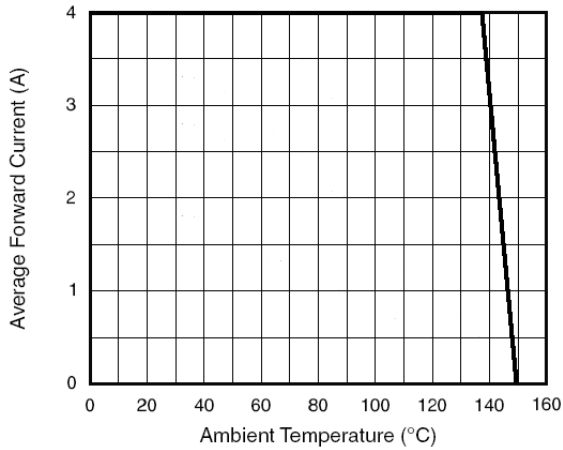


Figure 1. Forward Current Derating Curve

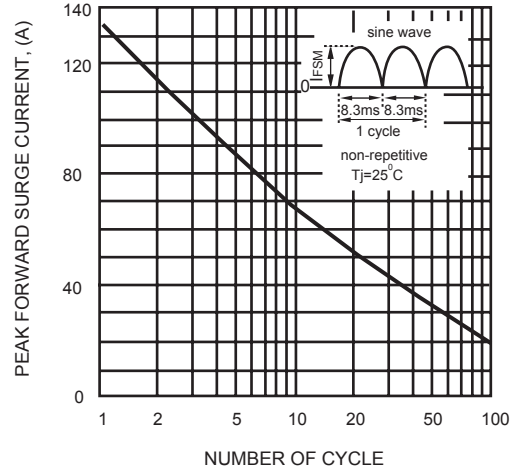


Figure 2: SURGE FORWARD CURRENT CAPABILITY

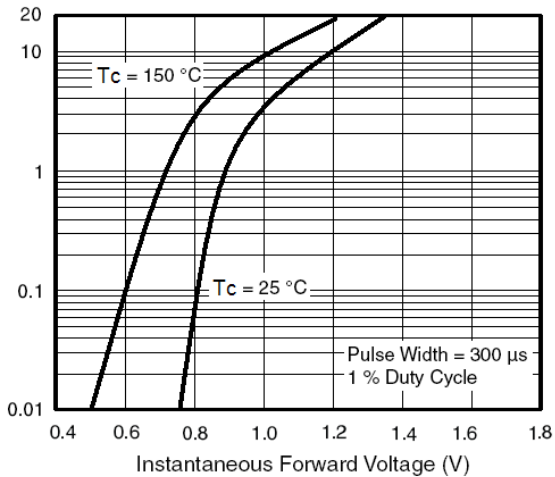


Figure 3. Typical Forward Characteristics Per Diode

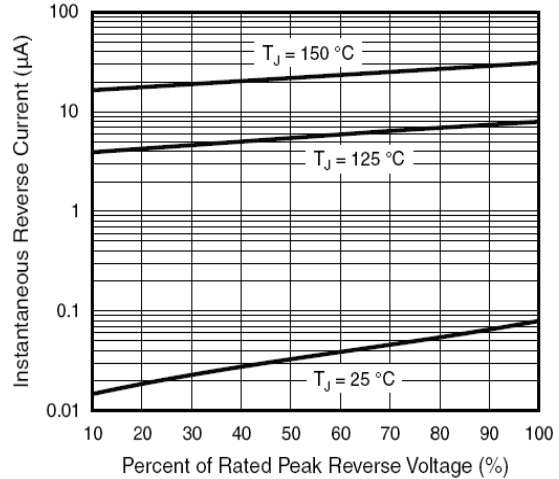


Figure 4. Typical Reverse Leakage Characteristics Per Diode

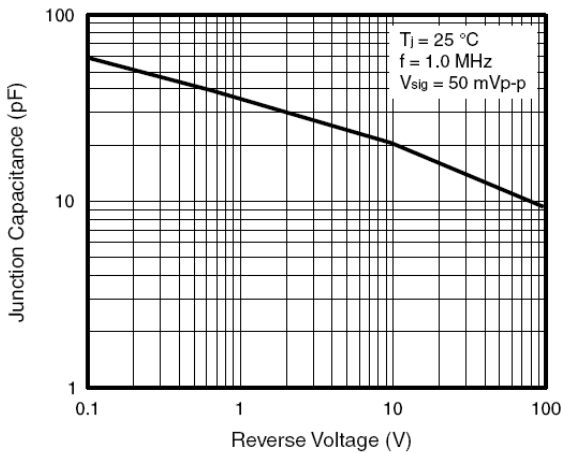


Figure 5. Typical Junction Capacitance Per Diode