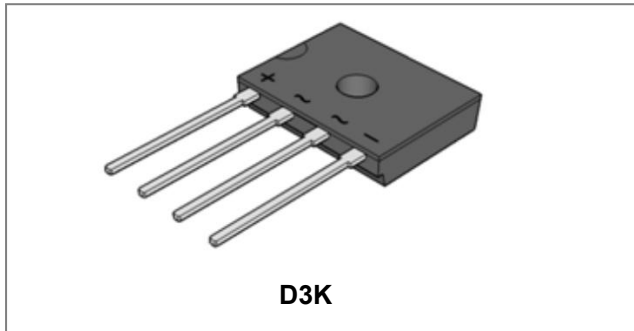


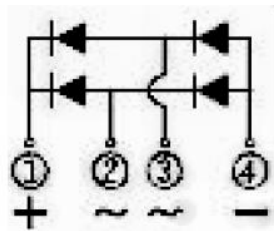
**UG4KB05 THRU UG4KB100**  
**Single-Phase 4.0A Glass Passivated Bridge Rectifier**



**Features**

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Designed for surface mount application
- Plastic material-UL flammability 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

**Circuit Diagram**



**Mechanical Data**

- Case: D3K, Molded plastic
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Polarity: as marked on case
- Mounting Position: Any
- Lead Free: For RoHS / Lead Free Version

**Maximum Ratings: @T<sub>A</sub>=25°C unless otherwise specified**

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Type Number  | Symbol                             | UG4K B05   | UG4K B10 | UG4K B20 | UG4K B40 | UG4K B60 | UG4K B80 | UG4K B100 | Units |
|--|------------------------------------|------------|----------|----------|----------|----------|----------|-----------|-------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                 | $V_{RRM}$<br>$V_{RWM}$<br>$V_{DC}$ | 50         | 100      | 200      | 400      | 600      | 800      | 1000      | V     |
| RMS Reverse Voltage  | $V_{RMS}$                          | 35         | 70       | 140      | 280      | 420      | 560      | 700       | V     |
| Average Rectified Output Current<br>Without heat sink @T <sub>A</sub> = 30°C<br>With heat sink @T <sub>A</sub> = 140°C | $I_O$                              | 2.0<br>4.0 |          |          |          |          |          |           | A     |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)     | $I_{FSM}$                          | 120        |          |          |          |          |          |           | A     |

**Electrical Characteristics:**

| Type Number   | Symbol | UG4K B05 | UG4K B10 | UG4K B20 | UG4K B40 | UG4K B60   | UG4K B80 | UG4K B100 | Units |         |
|---|--------|----------|----------|----------|----------|------------|----------|-----------|-------|---------|
| Forward Voltage (per element) * @ $I_F = 4.0A$  | $V_F$  |          |          |          |          | 1.1        |          |           |       | V       |
| Peak Reverse Current * @ $T_A = 25^\circ C$<br>At Rated DC Blocking Voltage * @ $T_A = 125^\circ C$ | $I_R$  |          |          |          |          | 5.0<br>500 |          |           |       | $\mu A$ |
| Typical Junction Capacitance(per leg) (Note 1)  | $C_J$  |          |          |          |          | 21         |          |           |       | pF      |

\* Pulse width < 300  $\mu s$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

| Type Number                                  | Symbol                             | UG4K B05 | UG4K B10 | UG4K B20 | UG4K B40 | UG4K B60    | UG4K B80 | UG4K B100 | Units |              |
|--|------------------------------------|----------|----------|----------|----------|-------------|----------|-----------|-------|--------------|
| Typical Thermal Resistance (per leg)(Note 2) | $R_{\theta JA}$<br>$R_{\theta JL}$ |          |          |          |          | 55<br>15    |          |           |       | $^\circ C/W$ |
| Operating and Storage Temperature Range      | $T_J, T_{STG}$                     |          |          |          |          | -55 to +150 |          |           |       | $^\circ C$   |

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
2. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.

**Ratings and Characteristics Curves**

Fig. 1 Output Current Derating Curve

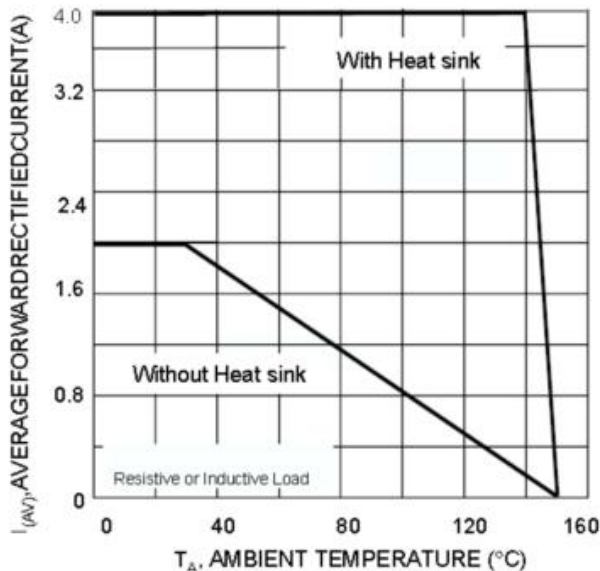
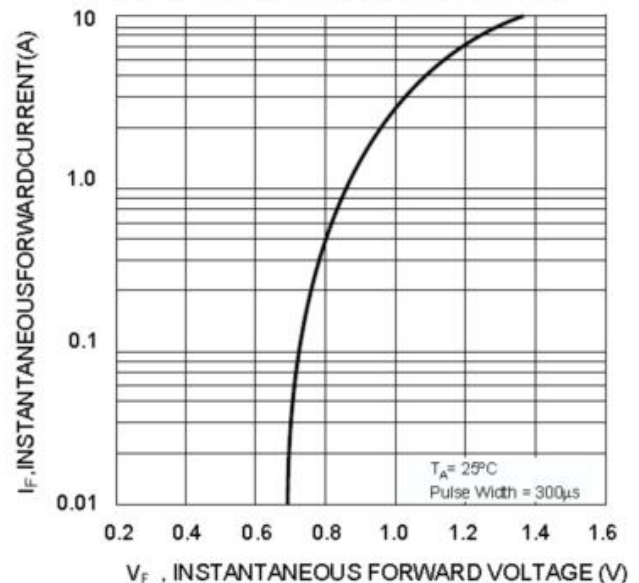
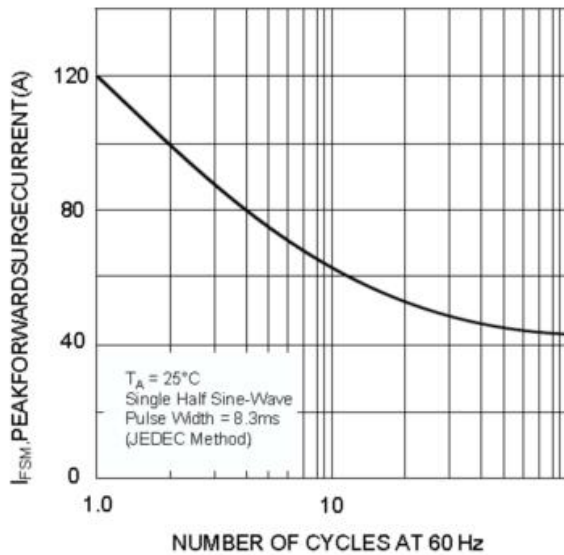


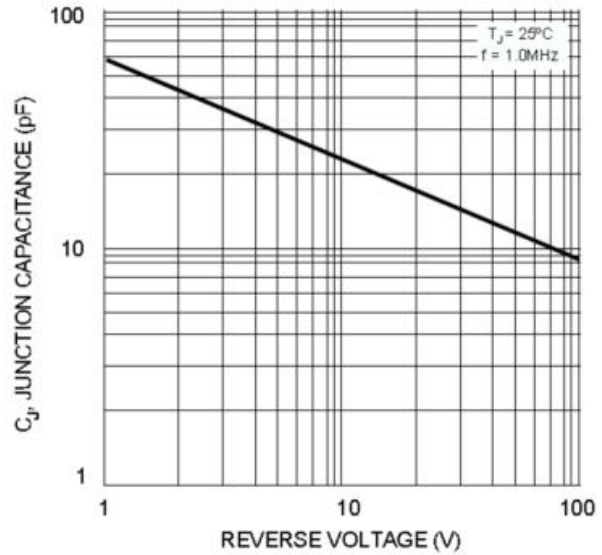
Fig. 2 Typical I Forward Characteristics (per leg)



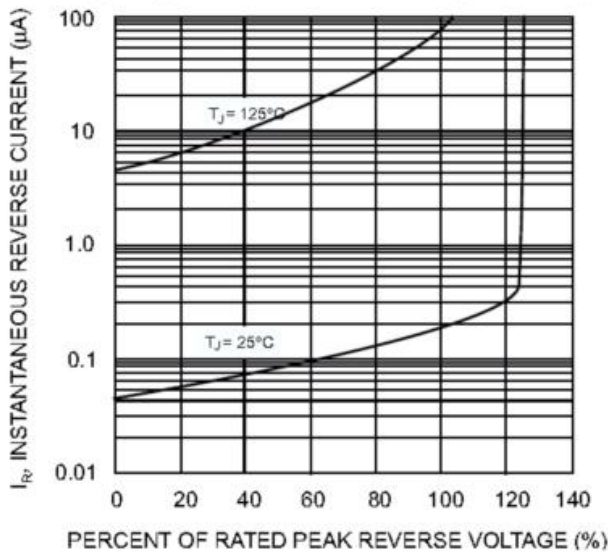
**Fig. 3 Maximum Peak Forward Surge Current (per leg)**



**Fig.4 Typical Junction Capacitance Per Diode**



**Fig. 5 Typical Reverse Characteristics (per element)**

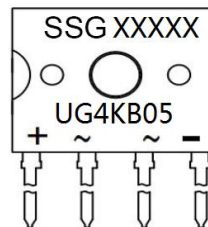


**Ordering Information**

| Device                      | Package      | Plating | Shipping     |
|-----------------------------|--------------|---------|--------------|
| UG4KB05<br>THRU<br>UG4KB100 | D3K(Pb-Free) | Pure Sn | 37pcs / tube |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**

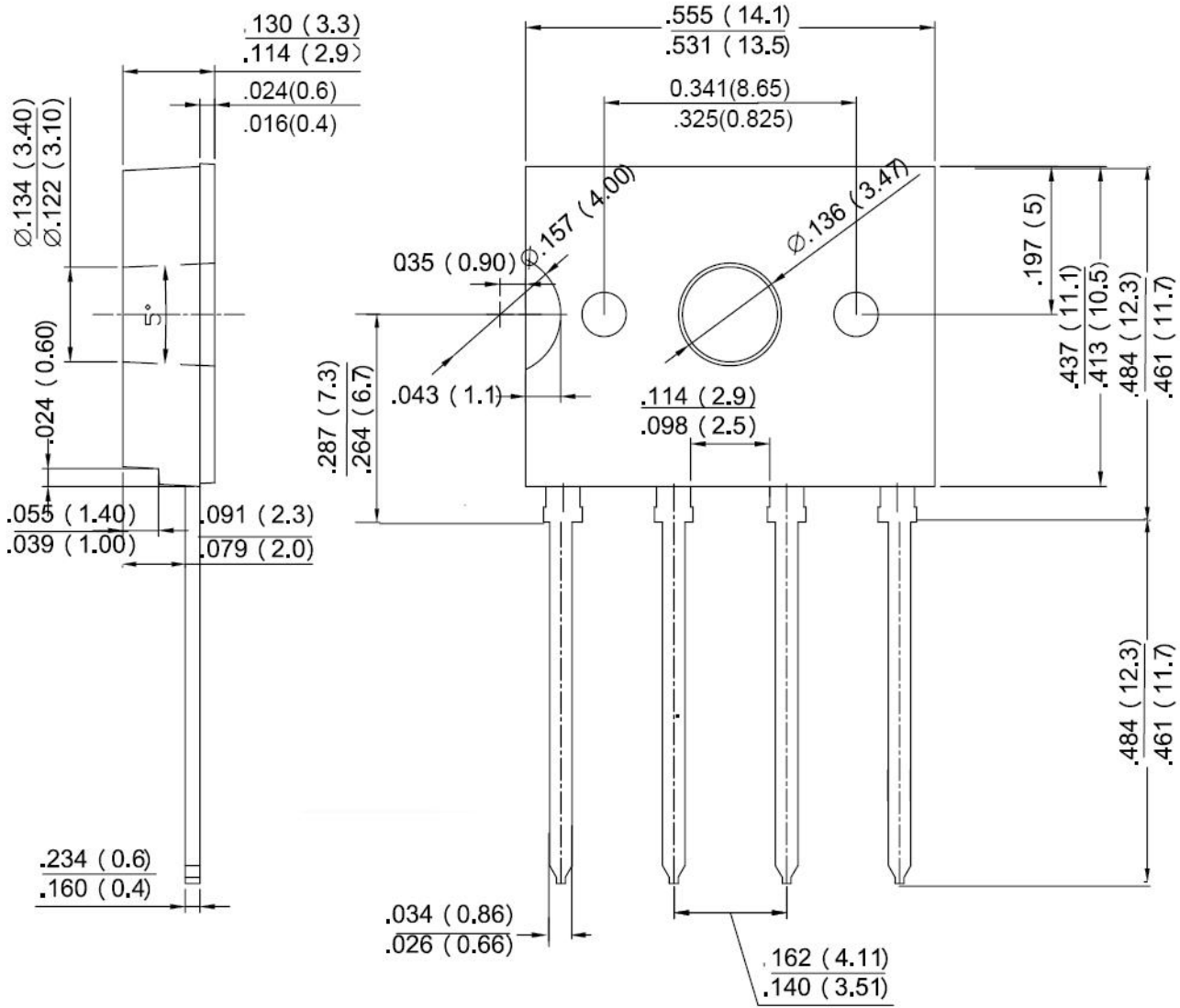


Where XXXXX is YYWWL

SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number  
UG4KB05 = Type Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Mechanical Dimensions D3K (Inches/Millimeters)**



**DISCLAIMER:**

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