



## RKBL4005 thru RKBL410

### 4.0A, Fast Recovery Glass Passivated Bridge Rectifier

Rectifier Reverse Voltage 50 to 1000V

#### Features

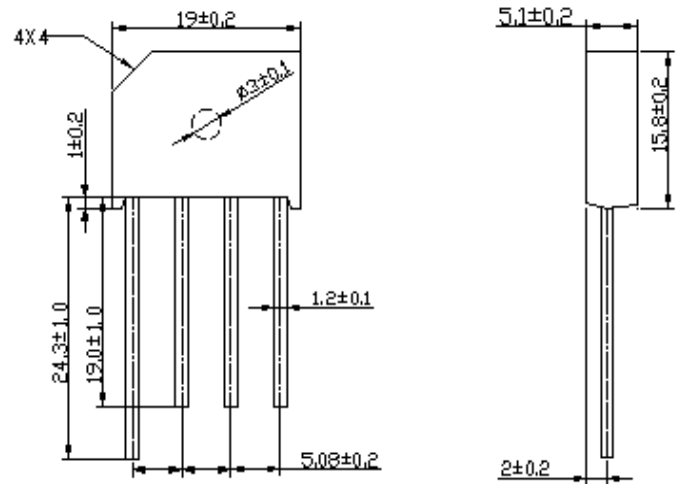
- Ideal for printed circuit board mounting
- This series is UL listed under the Recognized Component Index, file number E484648
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Built-in printed circuit board stand-offs
- High case dielectric strength
- High temperature soldering guaranteed 260°C / 5 seconds at 5 lbs (2.3kg) tension

#### Mechanical Data

Case: Reliable low cost construction utilizing molded plastic technique

Terminals: Plated leads solderable per MIL-STD-202, Method 208

Mounting Position: Any



Dimensions in inches and (millimeters)

#### Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
For Capacitive load derate current by 20%.

| Parameter                                                                             | Symbol           | RKBL<br>4005 | RKBL<br>401 | RKBL<br>402 | RKBL<br>404 | RKBL<br>406 | RKBL<br>408 | RKBL<br>410 | unit               |
|---------------------------------------------------------------------------------------|------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|
| Maximum repetitive peak reverse voltage                                               | VRRM             | 50           | 100         | 200         | 400         | 600         | 800         | 1000        | V                  |
| Maximum RMS bridge input voltage                                                      | VRMS             | 35           | 70          | 140         | 280         | 420         | 560         | 700         | V                  |
| Maximum DC blocking voltage                                                           | VDC              | 50           | 100         | 200         | 400         | 600         | 800         | 1000        | V                  |
| Maximum average forward rectified output current at TC=100°C (with heatsink)          | IF(AV)           | 4.0          |             |             |             |             |             |             | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | IFSM             | 90           |             |             |             |             |             |             | A                  |
| Rating for fusing ( t<8.3ms)                                                          | I <sup>2</sup> t | 33.6         |             |             |             |             |             |             | A <sup>2</sup> sec |
| Maximum reverse recovery time (Note 2)                                                | t <sub>rr</sub>  | 150          |             |             |             | 250         | 500         |             | ns                 |
| Operating junction and storage temperature range                                      | TJ, TSTG         | -55 to + 150 |             |             |             |             |             |             | °C                 |

#### Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
For Capacitive load derate by 20 %.

| Parameter                                                                                 | Symbol         | RKBL 4005 | RKBL 401 | RKBL 402 | RKBL 404 | RKBL 406 | RKBL 408 | RKBL 410 | Unit |
|-------------------------------------------------------------------------------------------|----------------|-----------|----------|----------|----------|----------|----------|----------|------|
| Maximum instantaneous forward voltage drop per leg at 4.0A                                | V <sub>F</sub> | 1.3       |          |          |          |          |          |          | V    |
| Maximum DC reverse current at rated TA =25°C<br>DC blocking voltage per element TA =125°C | I <sub>R</sub> | 10<br>500 |          |          |          |          |          |          | μA   |

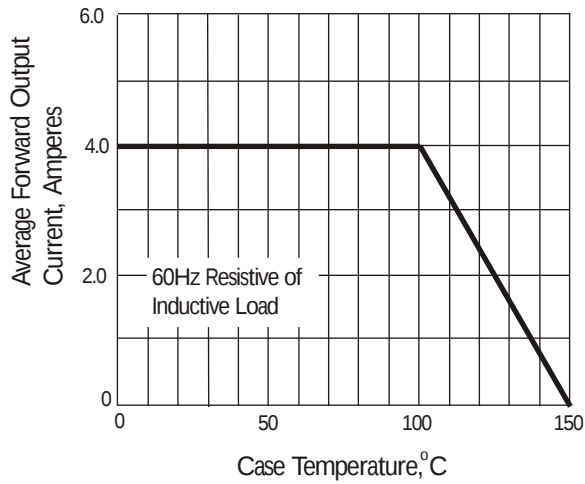
Notes: (1) Thermal resistance from Junction to Ambient on P.C. board mounting.

(2): Reverse recovery time test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

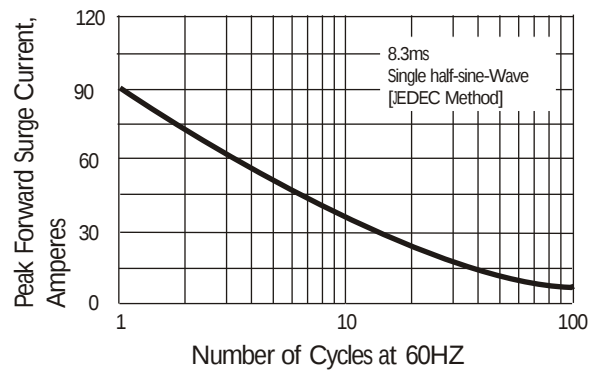
## Rating and Characteristic Curves ( $T_A = 25^{\circ}\text{C}$ Unless otherwise noted )

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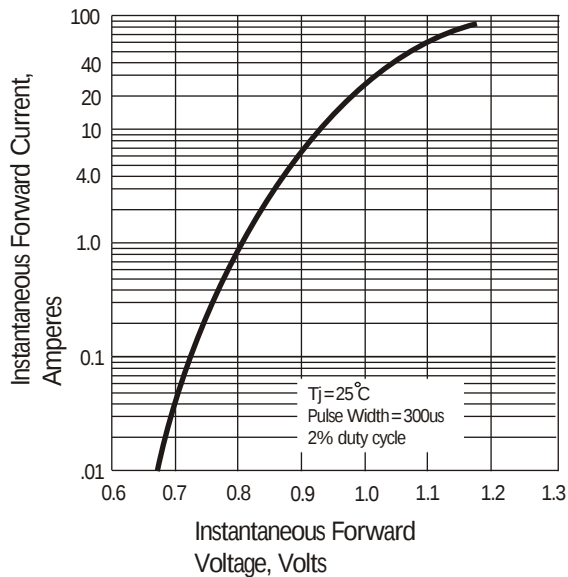
**Fig. 1 Derating Curve for Output Rectified Current**



**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics**

