



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

KBL / RS  
005 / 401  
THRU  
KBL / RS  
10 / 407

**TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER**  
**VOLTAGE RANGE - 50 to 1000 Volts**      **CURRENT - 4.0 Amperes**

**FEATURES**

- \* Ideal for printed circuit board
- \* Surge overload rating: 200 Amperes peak
- \* Molded structure

**MECHANICAL DATA**

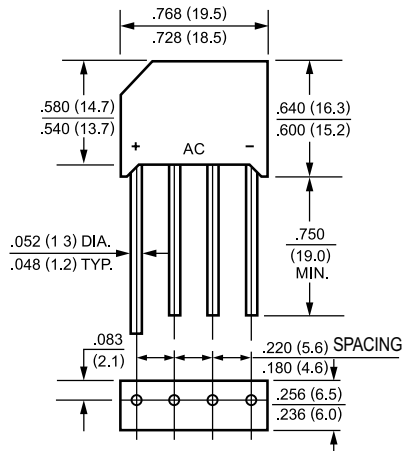
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Symbols molded or marked on body
- \* Mounting position: Any
- \* Weight: 4.8 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.



KBL



Dimensions in inches and (millimeters)

|   |             | SYMBOL           | KBL005 | KBL01 | KBL02 | KBL04 | KBL06        | KBL08 | KBL10 | UNITS              |
|---|-------------|------------------|--------|-------|-------|-------|--------------|-------|-------|--------------------|
|   |             |                  | RS401  | RS402 | RS403 | RS404 | RS405        | RS406 | RS407 |                    |
| Maximum Recurrent Peak Reverse Voltage  |             | VRRM             | 50     | 100   | 200   | 400   | 600          | 800   | 1000  | Volts              |
| Maximum RMS Bridge Input Voltage  |             | VRMS             | 35     | 70    | 140   | 280   | 420          | 560   | 700   | Volts              |
| Maximum DC Blocking Voltage   |             | VDC              | 50     | 100   | 200   | 400   | 600          | 800   | 1000  | Volts              |
| Maximum Average Forward Output Current TA = 75°C  |             | IO               |        |       |       |       | 4.0          |       |       | Amps               |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) |             | IFSM             |        |       |       |       | 200          |       |       | Amps               |
| Maximum Forward Voltage Drop per element at 3.0A DC   |             | VF               |        |       |       |       | 1.0          |       |       | Volts              |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per element                               | @TA = 25°C  | IR               |        |       |       |       | 10           |       |       | uAmps              |
|   | @TA = 100°C |                  |        |       |       |       | 500          |       |       |                    |
| I <sup>2</sup> t Rating for Fusing (t<8.3ms)  |             | I <sup>2</sup> t |        |       |       |       | 93           |       |       | A <sup>2</sup> Sec |
| Typical Junction Capacitance ( Note1)   |             | Cj               |        |       |       |       | 40           |       |       | pF                 |
| Typical Thermal Resistance (Note 2)   |             | RθJA             |        |       |       |       | 19           |       |       | °C/W               |
| Operating Temperature Range   |             | TJ               |        |       |       |       | -55 to + 150 |       |       | °C                 |
| Storage Temperature Range   |             | TSTG             |        |       |       |       | -55 to + 150 |       |       | °C                 |

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts  
 2. Thermal Resistance from Junction to Ambient with units mounted on 3.0x3.0x0.11" (7.5x7.5x0.3cm) AL plate.

# RATING AND CHARACTERISTIC CURVES

( KBL005 THRU KBL10  
RS401 THRU RS407 )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

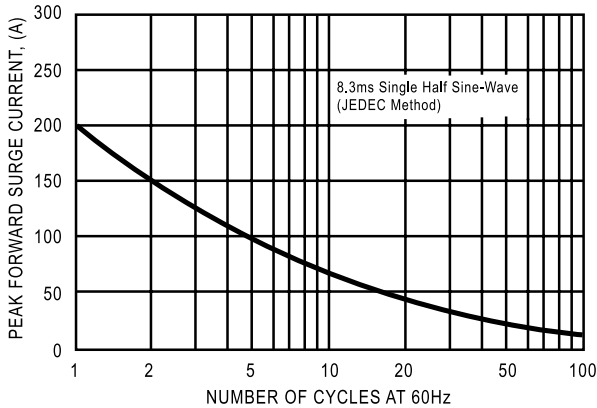


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

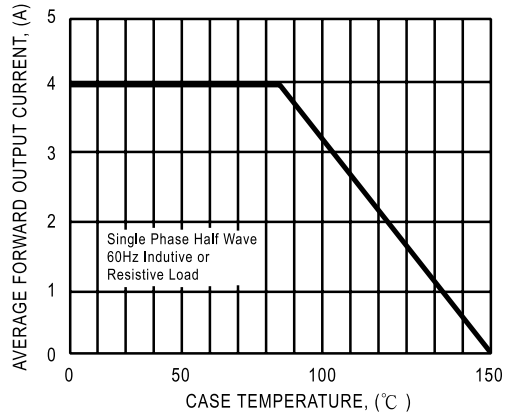


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

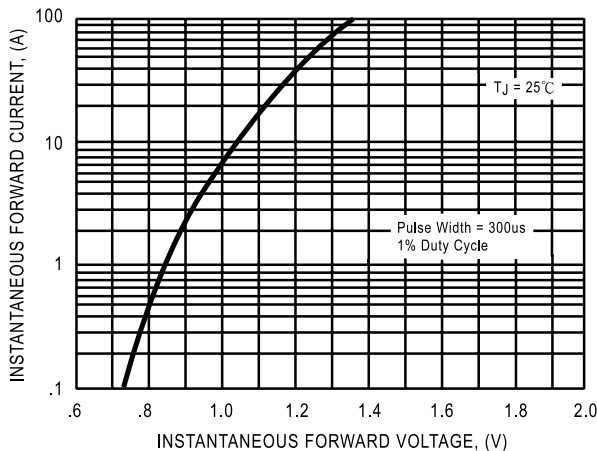
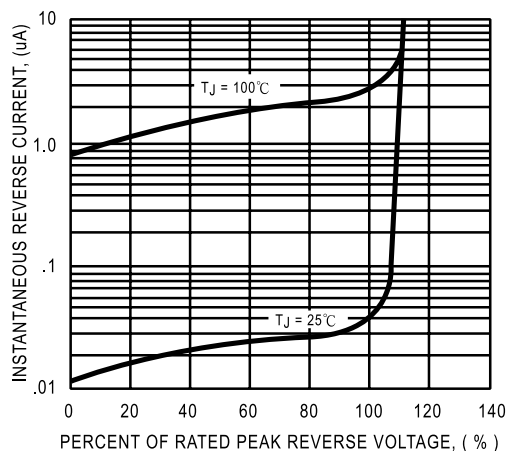


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS



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