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|  | <b>E502650</b> |
|---|----------------|

**Features**

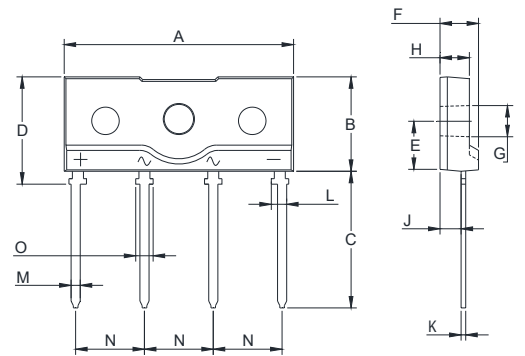
- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

**Maximum Ratings @ 25°C (Unless Otherwise Specified)**

| Parameter  | Symbol      | Value      |           |           |           |           |           |           | Unit             |
|--|-------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|
|  |             | KBJA 10005 | KBJA 1001 | KBJA 1002 | KBJA 1004 | KBJA 1006 | KBJA 1008 | KBJA 1010 |                  |
| Peak Repetitive Reverse Voltage                          | $V_{RRM}$   |            |           |           |           |           |           |           | V                |
| Working Peak Reverse Voltage                             | $V_{RWM}$   | 50         | 100       | 200       | 400       | 600       | 800       | 1000      |                  |
| DC Blocking Voltage                                      | $V_R$       |            |           |           |           |           |           |           |                  |
| RMS Reverse Voltage                                      | $V_{RMS}$   | 35         | 70        | 140       | 280       | 420       | 560       | 700       | V                |
| Average Rectified Forward Current @ $T_C=95^\circ C$     | $I_{F(AV)}$ | 10         |           |           |           |           |           |           | A                |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | $I_{FSM}$   | 150        |           |           |           |           |           |           | A                |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave      |             | 300        |           |           |           |           |           |           |                  |
| $I^2t$ Rating for Fusing @ 1ms to 8.3ms                  | $I^2t$      | 93         |           |           |           |           |           |           | A <sup>2</sup> s |
| Dielectric strength @ Terminals to Case, AC 1 Minute     | $V_{dis}$   | 2          |           |           |           |           |           |           | KV               |

**10 Amp  
Bridge Rectifier  
50 to 1000 Volts**

**JB**

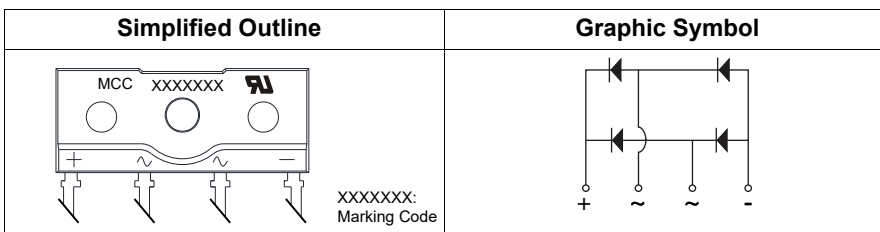


**Marking Code**

| Part Number | Marking Code |
|-------------|--------------|
| KBJA10005   | KBJA10005    |
| KBJA1001    | KBJA1001     |
| KBJA1002    | KBJA1002     |
| KBJA1004    | KBJA1004     |
| KBJA1006    | KBJA1006     |
| KBJA1008    | KBJA1008     |
| KBJA1010    | KBJA1010     |

| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.972  | 0.996 | 24.70 | 25.30 |      |
| B   | 0.394  | 0.417 | 10.00 | 10.60 |      |
| C   | 0.575  | 0.598 | 14.60 | 15.20 |      |
| D   | 0.449  | 0.472 | 11.40 | 12.00 |      |
| E   | 0.213  | 0.236 | 5.40  | 6.00  |      |
| F   | 0.154  | 0.177 | 3.90  | 4.50  |      |
| G   | 0.122  | 0.134 | 3.10  | 3.40  |      |
| H   | 0.114  | 0.138 | 2.90  | 3.90  |      |
| J   | 0.079  | 0.102 | 2.00  | 2.60  |      |
| K   | 0.012  | 0.024 | 0.40  | 0.60  |      |
| L   | -      | 0.069 | -     | 1.75  |      |
| M   | 0.035  | 0.043 | 0.90  | 1.10  |      |
| N   | 0.287  | 0.303 | 7.30  | 7.70  |      |
| O   | 0.083  | 0.091 | 2.10  | 2.30  |      |

**Internal Structure**



- Note:
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  2. High temperature solder exemption applied, see EU directive annex 7a.

### Thermal characteristics

| Symbol        | Parameter                                   | Conditions       | Min | Typ | Max | Unit |
|---------------|---|------------------|-----|-----|-----|------|
| $T_J$         | Operating Junction Temperature Range        |                  | -55 |     | 150 | °C   |
| $T_{stg}$     | Storage Temperature Range                   |                  | -55 |     | 150 | °C   |
| $R_{th(J-C)}$ | Thermal Resistance from Junction to Case    | Note 1           |     | 2.8 |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Without Heatsink |     | 28  |     | °C/W |

Note:

1. Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

### Mechanical Data

Recommended Mounting Torque: 0.5 N•m

### Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

| Parameter            | Symbol | Test Conditions   | Min | Typ | Max      | Unit    |
|----------------------|--------|---|-----|-----|----------|---------|
| Forward Voltage      | $V_F$  | $I_F=5A; T_J=25^\circ C$  |     |     | 1.0      | V       |
| Reverse Current      | $I_R$  | at Rated $V_R; T_J=25^\circ C$<br>at Rated $V_R; T_J=125^\circ C$ |     |     | 5<br>100 | $\mu A$ |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^\circ C$                                  |     | 50  |          | pF      |

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

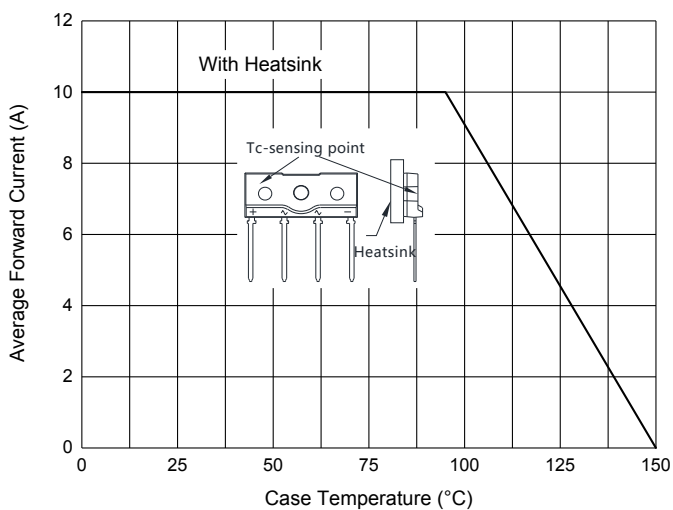


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

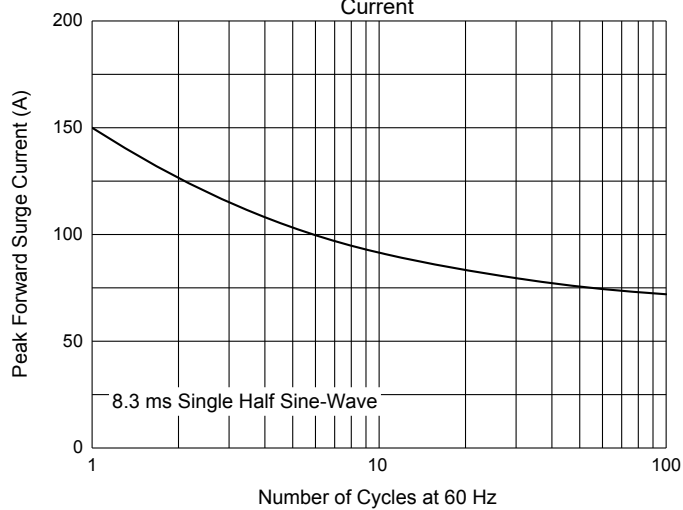


Fig. 3 - Typical Forward Characteristics

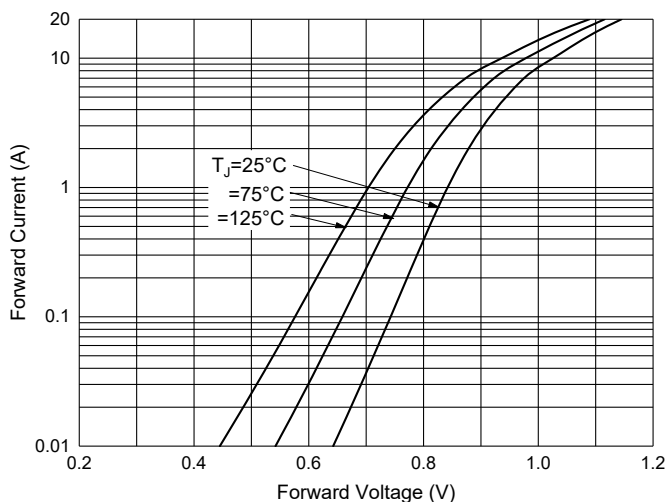


Fig. 4 - Typical Reverse Leakage Characteristics

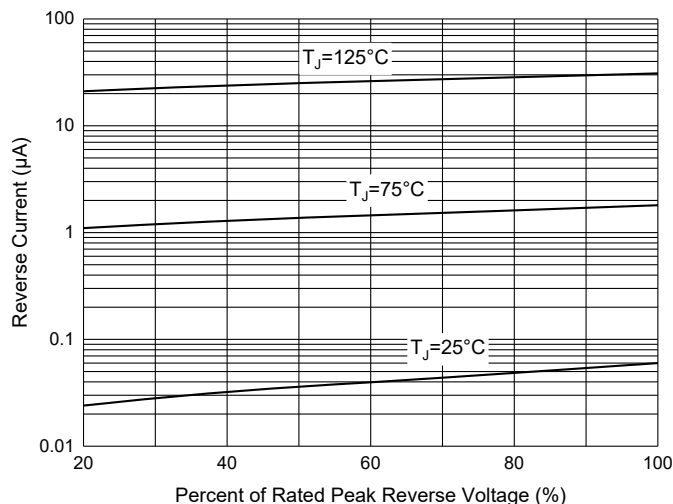
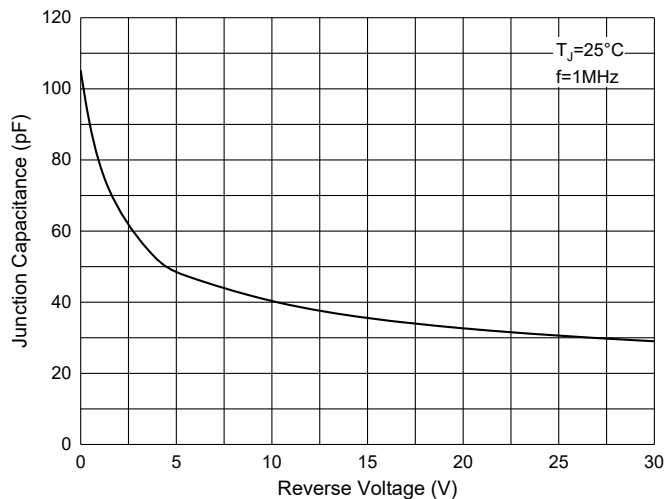


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

| Device         | Packing                                   |
|----------------|---|
| Part Number-BP | Bulk:20pcs/Tube,900pcs/Box,1800pcs/Carton |

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