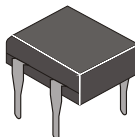
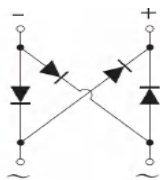


## FEATURES

- \* Ideal for printed circuit board
- \* Reliable low cost construction utilizing molded plastic technique
- \* High surge current capability
- \* Polarity: marked on body
- \* Mounting position: Any
- \* Weight: 1.0 grams



Top View



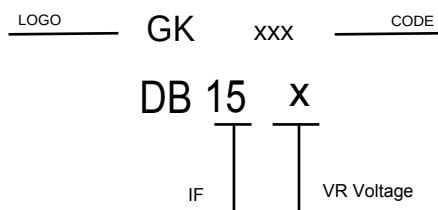
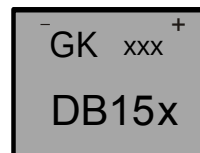
Internal Schematic

## VOLTAGE RANGE

50 to 1000 Volts

## CURRENT

1.5 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| TYPE NUMBER                                                                                        | DB151      | DB152 | DB153 | DB154 | DB155 | DB156 | DB157 | UNITS            |
|----------------------------------------------------------------------------------------------------|------------|-------|-------|-------|-------|-------|-------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                             | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V                |
| Maximum RMS Voltage                                                                                | 35         | 70    | 140   | 280   | 420   | 560   | 700   | V                |
| Maximum DC Blocking Voltage                                                                        | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V                |
| Maximum Average Forward Rectified Current                                                          | 1.5        |       |       |       |       |       |       | A                |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 60         |       |       |       |       |       |       | A                |
| I <sup>2</sup> t Rating for Fusing (1ms < t < 8.3ms)                                               | 15         |       |       |       |       |       |       | A <sup>2</sup> S |
| Maximum Forward Voltage Drop per Bridge Element at 1.5A D.C.                                       | 1.0        |       |       |       |       |       |       | V                |
| Maximum DC Reverse Current Ta=25°C                                                                 | 10         |       |       |       |       |       |       | μA               |
| at Rated DC Blocking Voltage Ta=125°C                                                              | 500        |       |       |       |       |       |       | μA               |
| Operating Temperature Range, Tj                                                                    | -65 — +150 |       |       |       |       |       |       | °C               |
| Storage Temperature Range, Tstg                                                                    | -65 — +150 |       |       |       |       |       |       | °C               |

## RATING AND CHARACTERISTIC CURVES

Fig. 1 Output Current Derating Curve

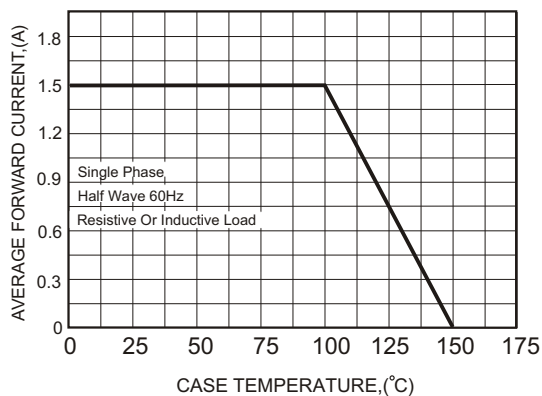


FIG.2-TYPICAL FORWARD CHARACTERISTICS

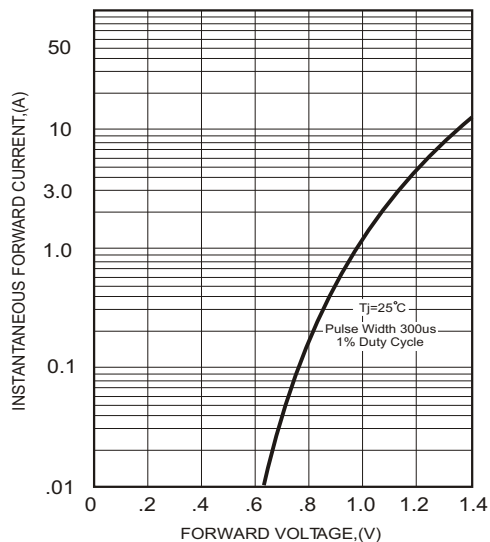


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

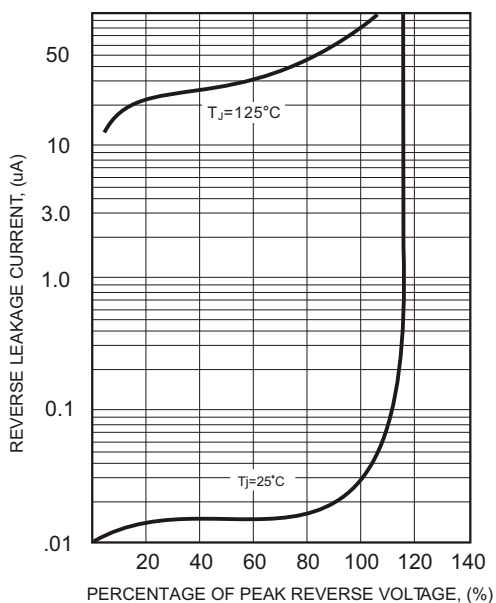
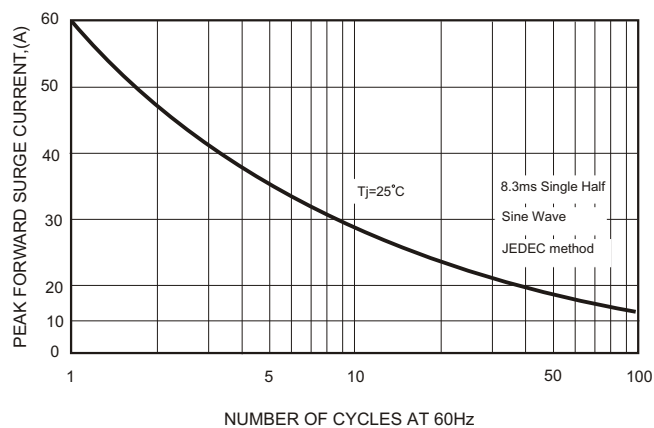
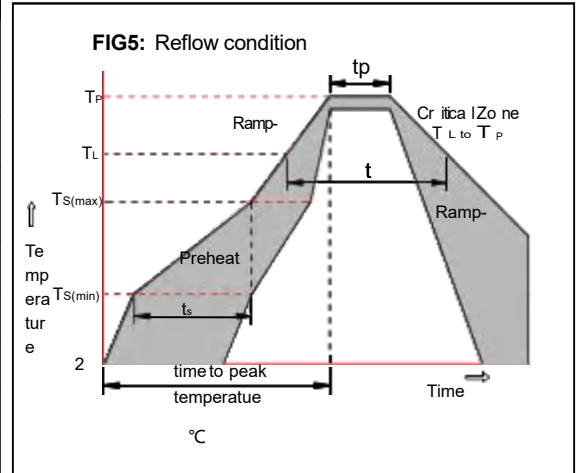


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



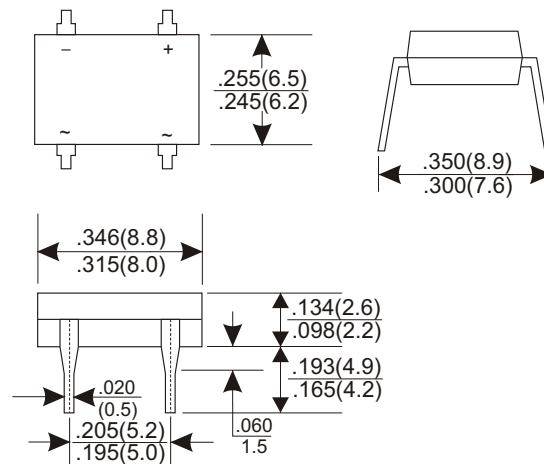
## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature( $T_L$ )(Liquid us)  | +217 °C                            |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_P$ )          |                                   | 30 secs. Max                       |
| Ramp-down Rate                                          |                                   | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                         |
| Do not exceed                                           |                                   | +260 °C                            |



## Package Dimensions & Suggested Pad Layout

### DB-1



Dimensions in inches and (millimeters)