

# FBR800 - FBR810

**PRV : 50 - 1000 Volts**  
**Io : 8.0 Amperes**

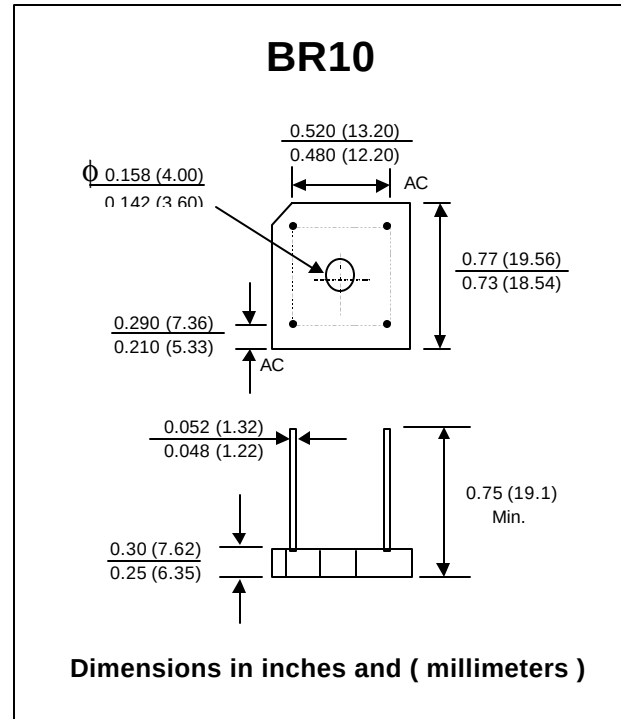
## FEATURES :

- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* Ideal for printed circuit board

## MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL - STD 202 , Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 6.1 grams

## FAST RECOVERY BRIDGE RECTIFIERS



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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%.

| RATING                                                                                            | SYMBOL             | FBR<br>800    | FBR<br>801 | FBR<br>802 | FBR<br>804 | FBR<br>806 | FBR<br>808 | FBR<br>810 | UNITS            |
|---------------------------------------------------------------------------------------------------|--------------------|---------------|------------|------------|------------|------------|------------|------------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | V <sub>RRM</sub>   | 50            | 100        | 200        | 400        | 600        | 800        | 1000       | Volts            |
| Maximum RMS Voltage                                                                               | V <sub>RMS</sub>   | 35            | 70         | 140        | 280        | 420        | 560        | 700        | Volts            |
| Maximum DC Blocking Voltage                                                                       | V <sub>DC</sub>    | 50            | 100        | 200        | 400        | 600        | 800        | 1000       | Volts            |
| Maximum Average Forward Current Tc = 50 °C                                                        | I <sub>F(AV)</sub> | 8.0           |            |            |            |            |            |            | Amps.            |
| Peak Forward Surge Current Single half sine wave<br>Superimposed on rated load (JEDEC Method)     | I <sub>FSM</sub>   | 200           |            |            |            |            |            |            | Amps.            |
| Current Squared Time at t < 8.3 ms.                                                               | I <sup>2</sup> t   | 160           |            |            |            |            |            |            | A <sup>2</sup> S |
| Maximum Forward Voltage drop per Diode at I <sub>F</sub> = 4.0 Amps.                              | V <sub>F</sub>     | 1.3           |            |            |            |            |            |            | Volts            |
| Maximum DC Reverse Current           Ta = 25 °C<br>at Rated DC Blocking Voltage       Ta = 100 °C | I <sub>R</sub>     | 10            |            |            |            |            |            |            | µA               |
|                                                                                                   | I <sub>R(H)</sub>  | 200           |            |            |            |            |            |            | µA               |
| Maximum Reverse Recovery Time (Note 1)                                                            | T <sub>rr</sub>    | 150           |            |            |            | 250        | 500        |            | ns               |
| Typical Thermal Resistance per diode (Note 2)                                                     | R <sub>θJC</sub>   | 2.5           |            |            |            |            |            |            | °C/W             |
| Operating Junction Temperature Range                                                              | T <sub>J</sub>     | - 50 to + 150 |            |            |            |            |            |            | °C               |
| Storage Temperature Range                                                                         | T <sub>STG</sub>   | - 50 to + 150 |            |            |            |            |            |            | °C               |

## Notes :

1 ) Measured with  $I_F = 0.5\text{ Amp.}$ ,  $I_R = 1\text{ Amp.}$ ,  $I_{rr} = 0.25\text{ Amp.}$

2 ) Thermal Resistance from junction to case with units mounted on a 3.2" x 3.2" x 0.12" THK (8.2cm.x 8.2cm.x 0.3cm.) Al. Plate. heatsink.

**UPDATE : APRIL 21, 1998**

## RATING AND CHARACTERISTIC CURVES ( FBR800 - FBR810 )

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

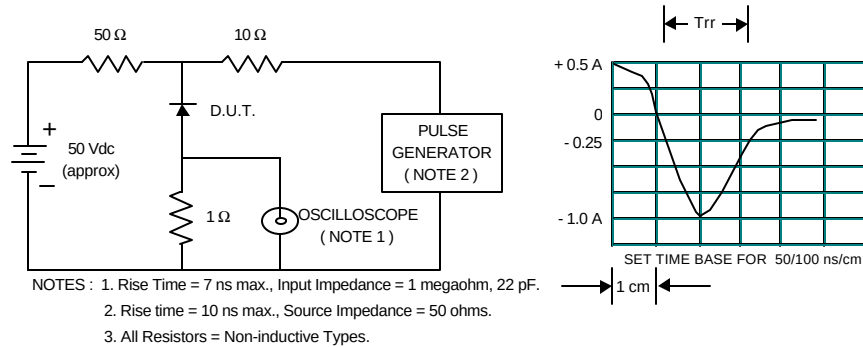


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

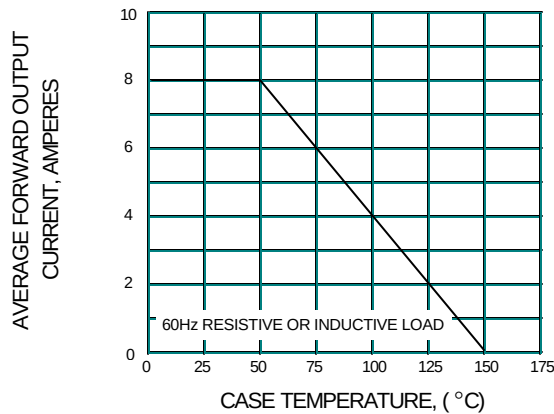


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

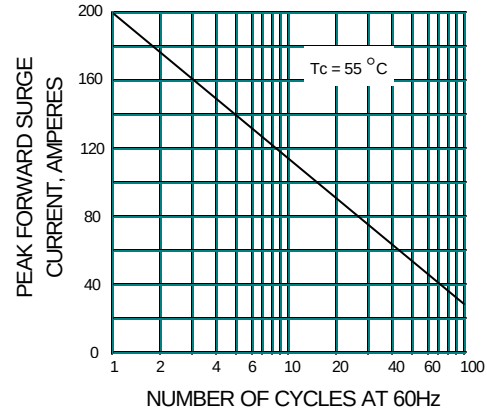


FIG.4 - TYPICAL FORWARD CHARACTERISTICS PER DIODE

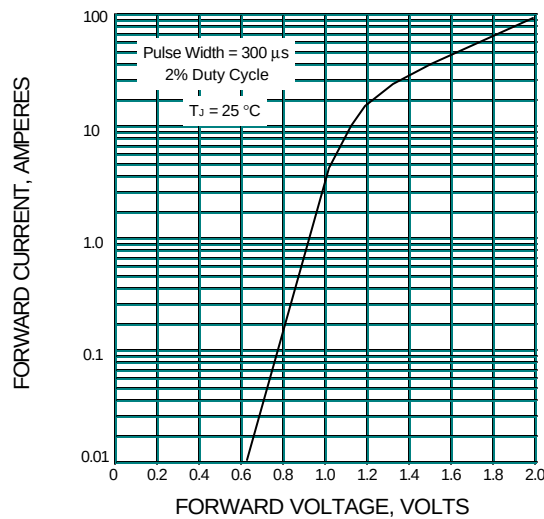


FIG.5 - TYPICAL REVERSE CHARACTERISTICS PER DIODE

