Certificate Number: Q10561

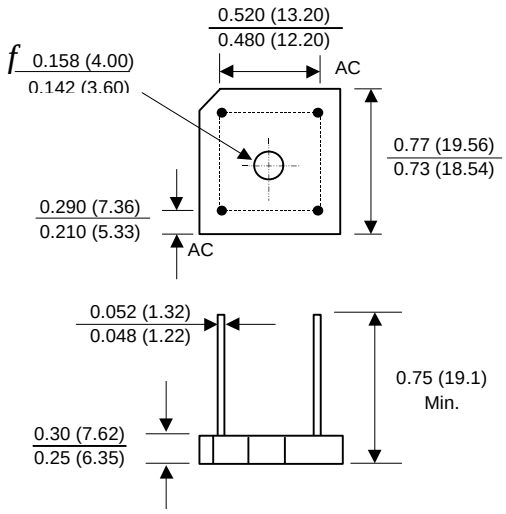
Certificate Number: E17276

# FBR800 - FBR810

# FAST RECOVERY BRIDGE RECTIFIERS

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

### BR10




**Dimensions in inches and ( millimeters )**

### 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
* Pb / RoHS Free

### 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

### 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%.

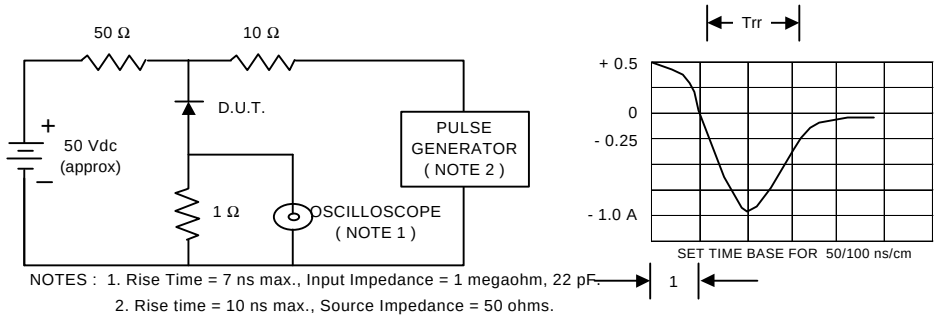
| RATING | SYMBOL | FBR 800 | FBR 801 | FBR 802 | FBR 804 | FBR 806 | FBR 808 | FBR 810 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420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

**Notes :**

1 ) Measured with $I_F$ = 0.5 Amp., $I_R$ = 1 Amp., Irr = 0.25 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.

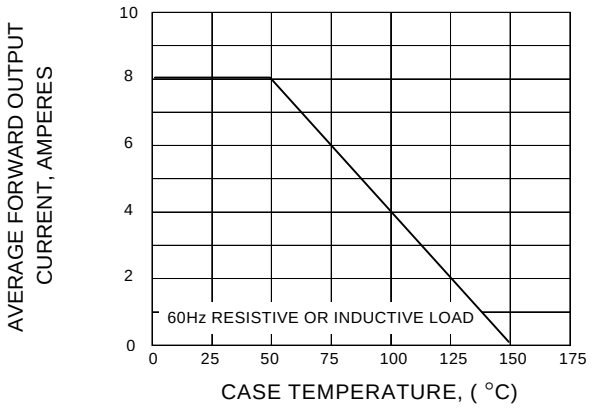
# RATING AND CHARACTERISTIC CURVES ( FBR800 - FBR810 )

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

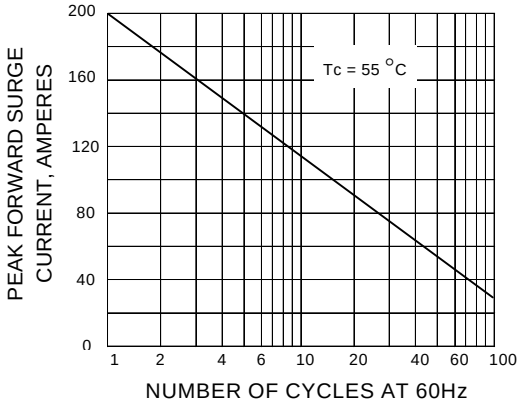



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

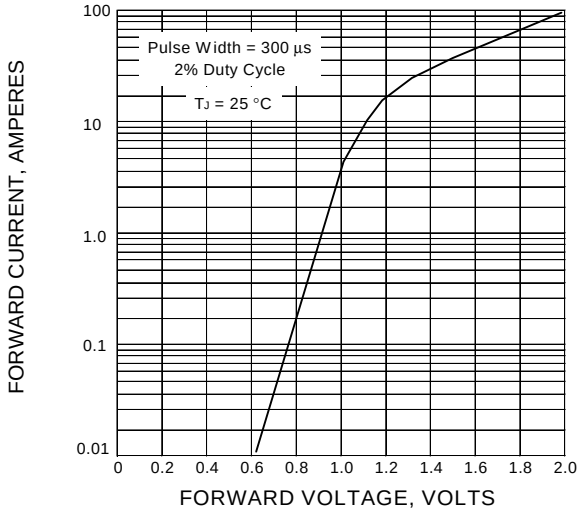
## FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT




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




## FIG.4 - TYPICAL FORWARD CHARACTERISTICS PER DIODE




## FIG.5 - TYPICAL REVERSE CHARACTERISTICS PER DIODE