



# FBR600 - FBR610

**PRV : 50 - 1000 Volts**  
**Io : 6.0 Amperes**

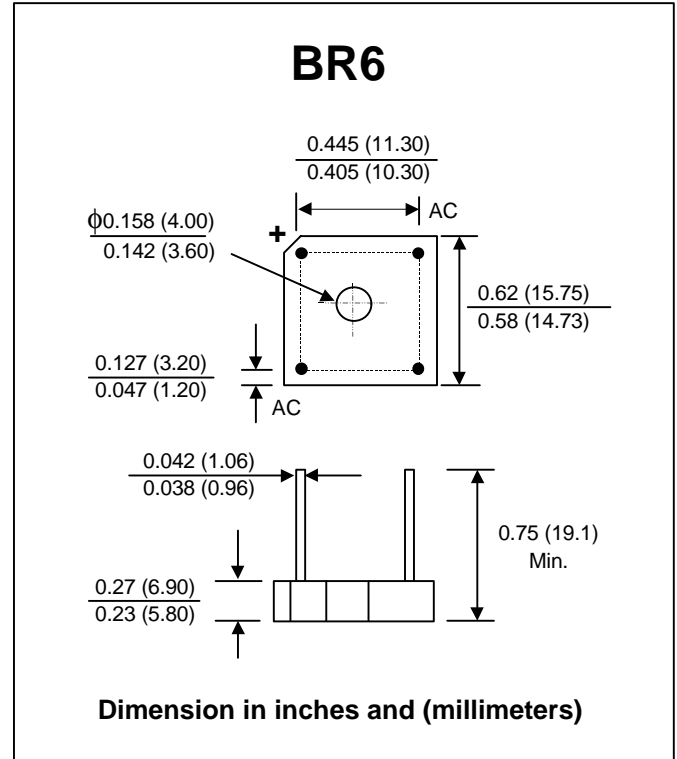
## FEATURES :

- \* 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
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 3.6 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%.

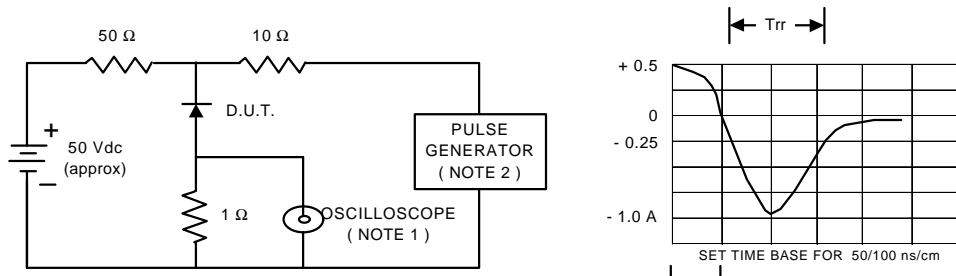
RATING	SYMBOL	FBR 600	FBR 601	FBR 602	FBR 604	FBR 606	FBR 608	FBR 610	UNIT
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Current T <sub>c</sub> = 50 °C	I <sub>F(AV)</sub>	6.0							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150							A
Current Squared Time at t < 8.3 ms.	I <sup>2</sup> t	64							A <sup>2</sup> S
Maximum Forward Voltage drop per Diode at I <sub>F</sub> = 3.0 A	V <sub>F</sub>	1.3							V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C	I <sub>R</sub>	10							μA
	I <sub>R(H)</sub>	1.0							mA
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>	8							°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<sub>F</sub> = 0.5 Amp., I<sub>R</sub> = 1 Amp., I<sub>rr</sub> = 0.25 Amp.
- 2) Thermal resistance from Junction to Case with units mounted on a 6" x 5.5" x 0.11" ( 15 x 14 x 0.3 cm ) Al. plate.

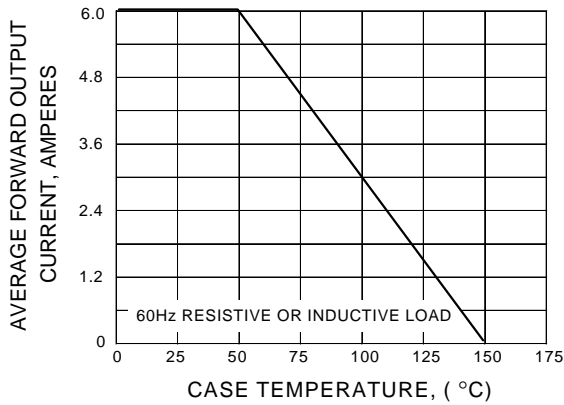
**RATING AND CHARACTERISTIC CURVES ( FBR600 - FBR610 )**

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

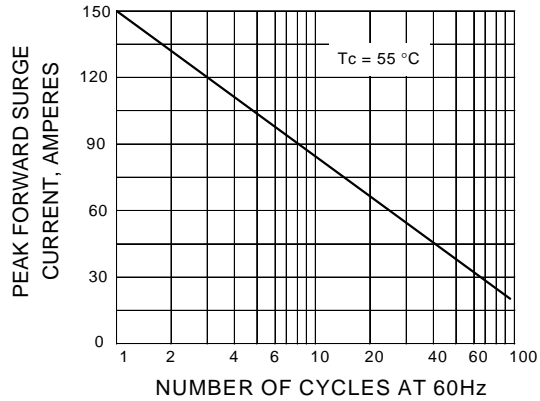


NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.

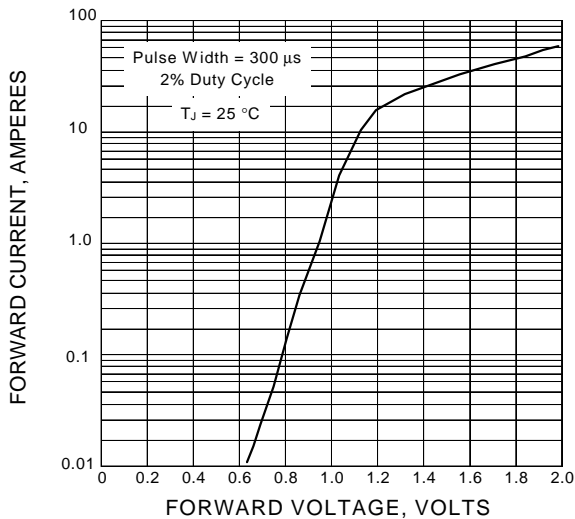
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS PER DIODE**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS PER DIODE**

