

# FBR600 - FBR610

**PRV : 50 - 1000 Volts**

**Io : 6.0 Amperes**

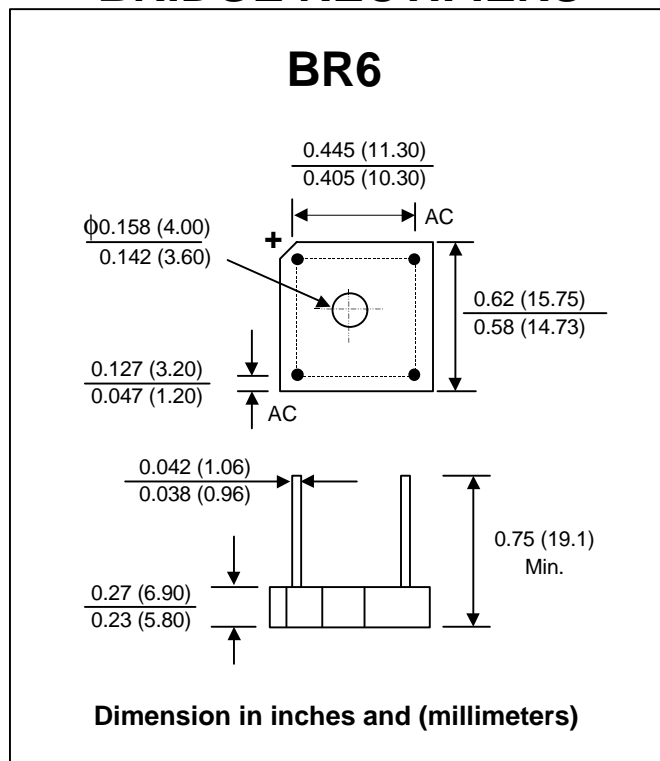
## FEATURES :

- \* 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%.

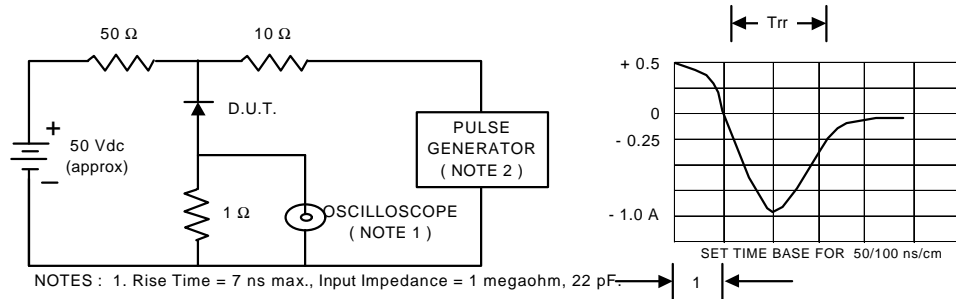
RATING	SYMBOL	FBR 600	FBR 601	FBR 602	FBR 604	FBR 606	FBR 608	FBR 610	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current $T_c = 50\text{ }^\circ\text{C}$	$I_{F(AV)}$	6.0							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	150							A
Current Squared Time at $t < 8.3\text{ ms.}$	$I^2t$	64							$A^2S$
Maximum Forward Voltage drop per Diode at $I_F = 3.0\text{ A}$	$V_F$	1.3							V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_R$	10							$\mu\text{A}$
	$I_{R(H)}$	1.0							$\text{mA}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	150			250		500		ns
Typical Thermal Resistance per diode (Note 2)	$R_{\theta JC}$	8							$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	- 50 to + 150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 50 to + 150							$^\circ\text{C}$

### Notes :

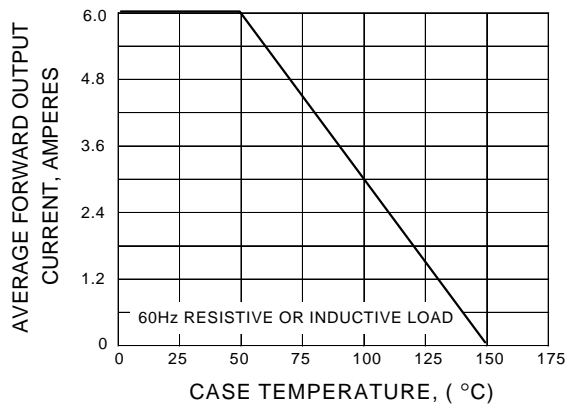
- 1) Measured with  $I_F = 0.5\text{ Amp.}$ ,  $I_R = 1\text{ Amp.}$ ,  $I_{rr} = 0.25\text{ Amp.}$
- 2) Thermal resistance from Junction to Case with units mounted on a 6" x 5.5" x 0.11" ( 15 x 14 x 0.3 cm ) Al. plate.

## RATING AND CHARACTERISTIC CURVES ( FBR600 - FBR610 )

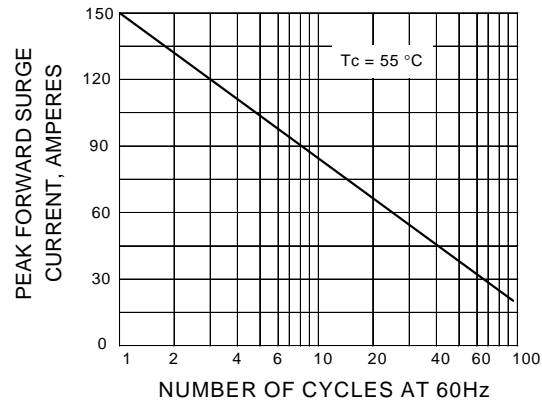
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



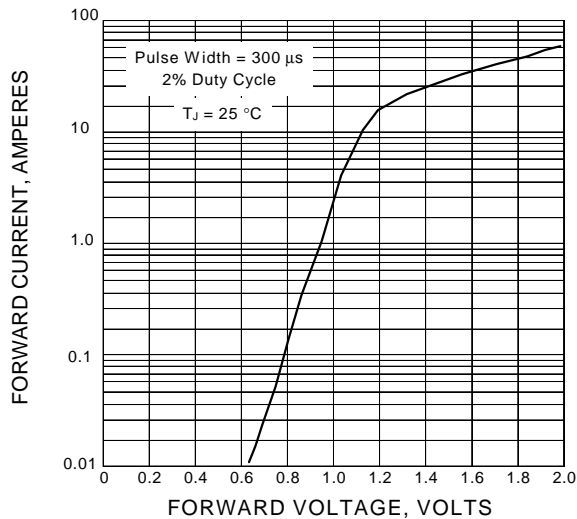
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



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

