

# FBR1000 - FBR1010

# FAST RECOVERY BRIDGE RECTIFIERS

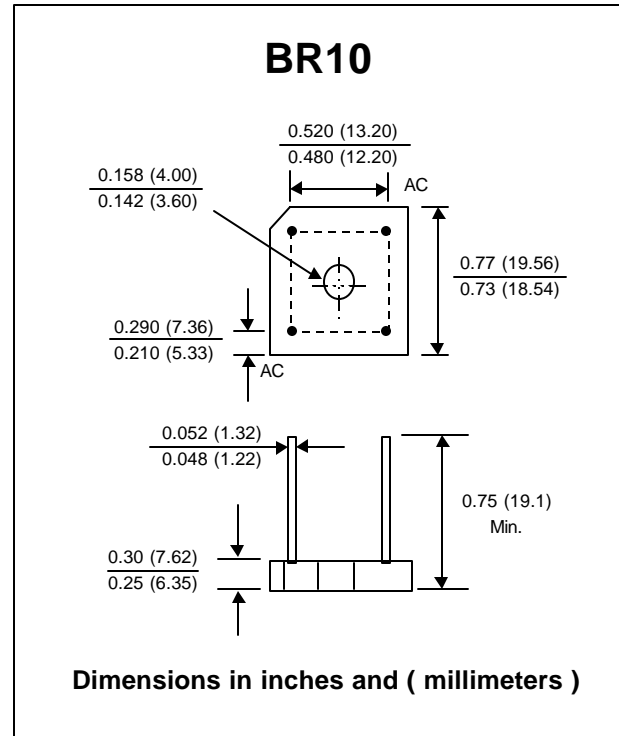
**PRV : 50 - 1000 Volts**  
**Io : 10 Amperes**

### 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



### 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%.

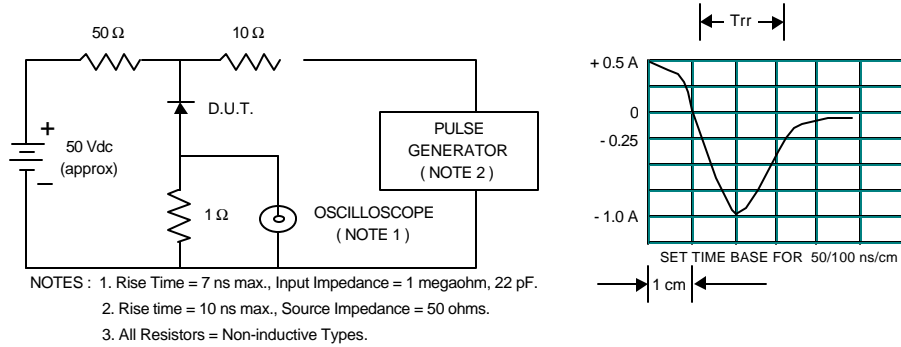
RATING	SYMBOL	FBR 1000	FBR 1001	FBR 1002	FBR 1004	FBR 1006	FBR 1008	FBR 1010	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Current $T_c = 55^\circ C$	$I_{F(AV)}$	10							Amps.
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	250							Amps.
Current Squared Time at $t < 8.3$ ms.	$I^2 t$	160							$A^2 S$
Maximum Forward Voltage drop per Diode at $I_F = 5.0$ Amps.	$V_F$	1.3							Volts
Maximum DC Reverse Current $T_a = 25^\circ C$ at Rated DC Blocking Voltage $T_a = 100^\circ C$	$I_R$	10							$\mu A$
	$I_{R(H)}$	200							$\mu A$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	150			250	500		ns	
Typical Thermal Resistance per diode (Note 2)	$R_{\theta JC}$	2.5							$^\circ C/W$
Operating Junction Temperature Range	$T_J$	- 50 to + 150							$^\circ C$
Storage Temperature Range	$T_{STG}$	- 50 to + 150							$^\circ C$

**Notes :** 1 ) Measured with  $I_F = 0.5$  Amp.,  $I_R = 1$  Amp.,  $I_{rr} = 0.25$  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. hea

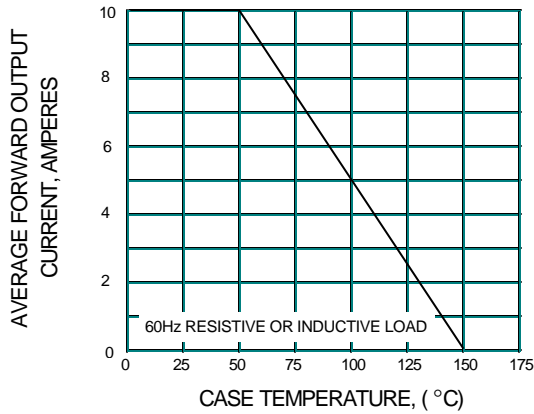
**UPDATE : APRIL 21, 1998**

## RATING AND CHARACTERISTIC CURVES ( FBR1000 - FBR1010 )

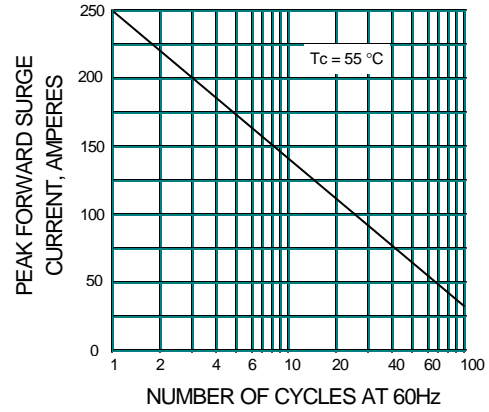
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



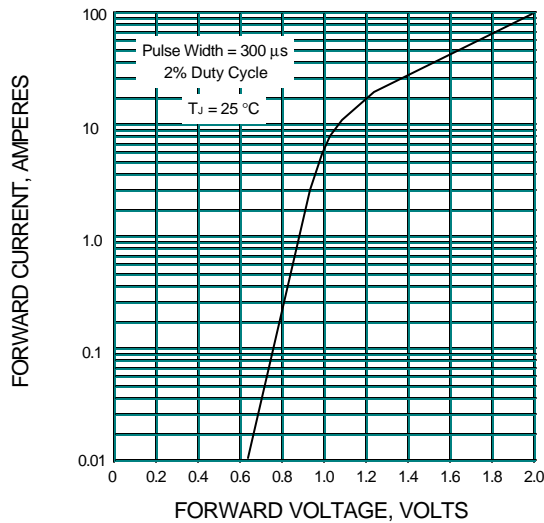
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



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

