

# FBR5000 - FBR5010

# FAST RECOVERY BRIDGE RECTIFIERS

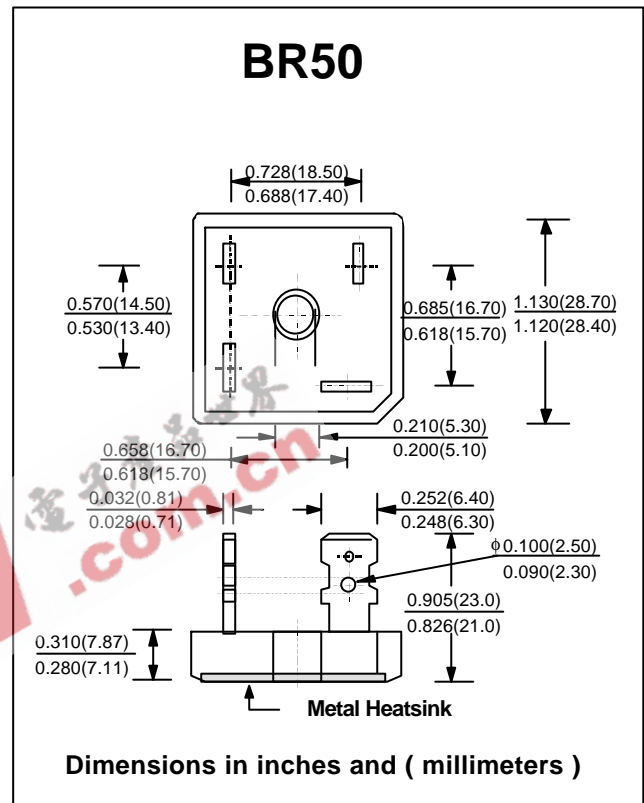
**PRV : 50 - 1000 Volts**  
**I<sub>o</sub> : 50 Amperes**

### FEATURES :

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

### MECHANICAL DATA :

- \* Case : Molded plastic with heatsink integrally mounted in the bridge encapsulation
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : plated .25" (6.35 mm). Faston
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
- \* Weight : 17.1 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%.

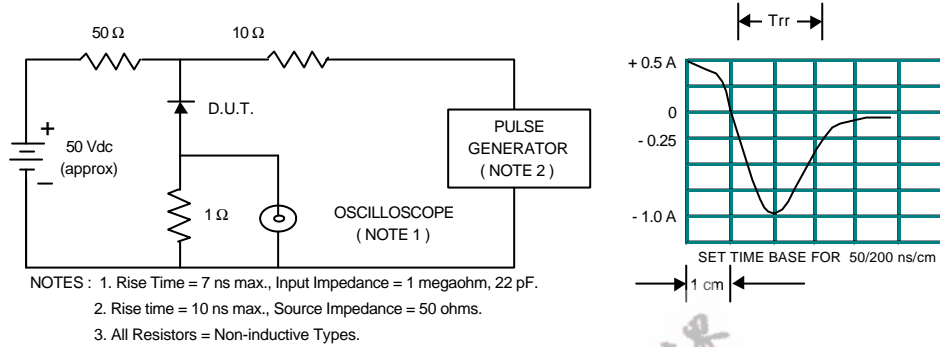
RATING	SYMBOL	FBR 5000	FBR 5001	FBR 5002	FBR 5004	FBR 5006	FBR 5008	FBR 5010	UNIT
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Current T <sub>c</sub> = 55 °C	I <sub>F(AV)</sub>	50							Amps.
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	400							Amps.
Current Squared Time at t < 8.3 ms.	I <sup>2</sup> t	664							A <sup>2</sup> S
Maximum Forward Voltage drop per Diode at I <sub>F</sub> = 25 Amps.	V <sub>F</sub>	1.3							Volts
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>	200			300		500		ns
Typical Thermal Resistance per diode (Note 2)	R <sub>θJC</sub>	1							°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 :

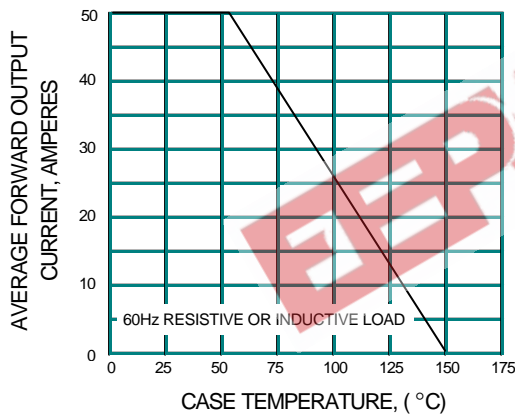
- 1) Measured with I<sub>F</sub> = 0.5 Amp., I<sub>R</sub> = 1 Amp., I<sub>rr</sub> = 0.25 Amp.
- 2) Thermal resistance from Junction to Case with units mounted on a 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink.

## RATING AND CHARACTERISTIC CURVES ( FBR5000 - FBR5010 )

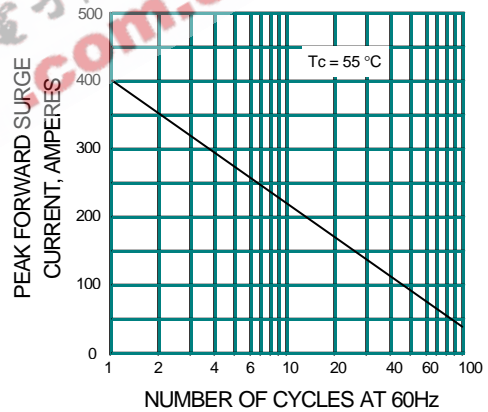
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



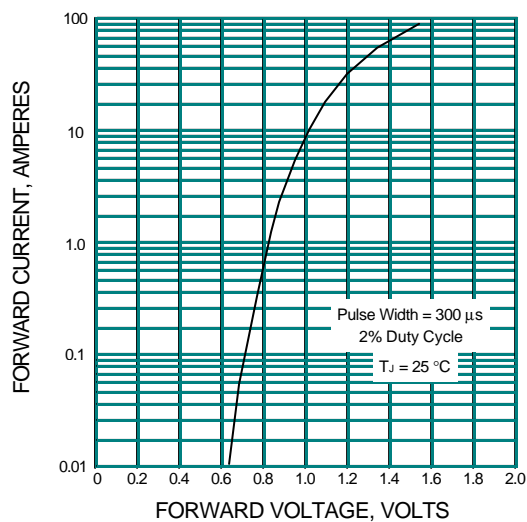
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



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

