

# FBR5000W - FBR5010W

## FAST RECOVERY BRIDGE RECTIFIERS

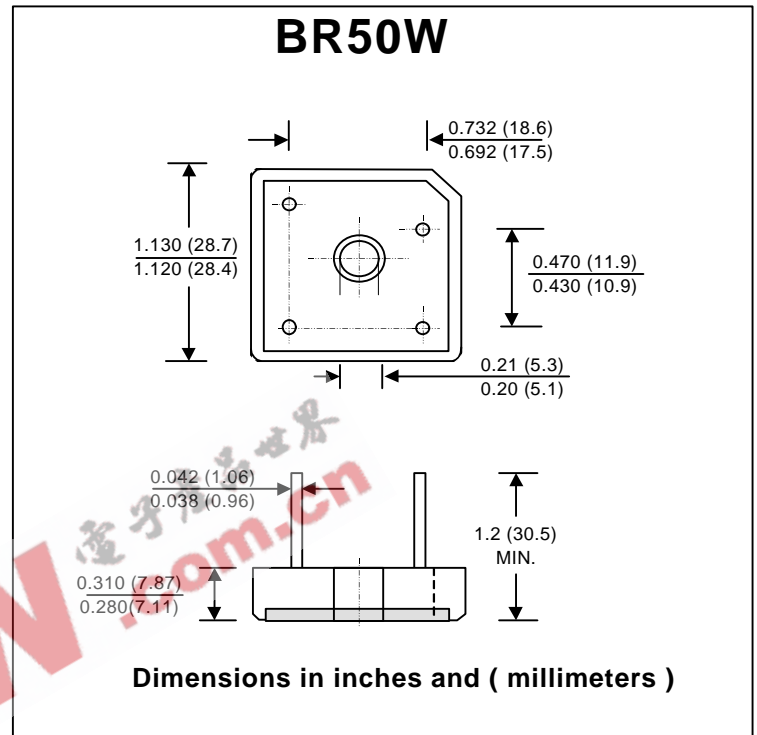
**PRV : 50 - 1000 Volts**  
**Io : 50 Amperes**

### 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 lead solderable per MIL-STD-202, Method 208 guaranteed
- \* 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 : 15.95 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%.

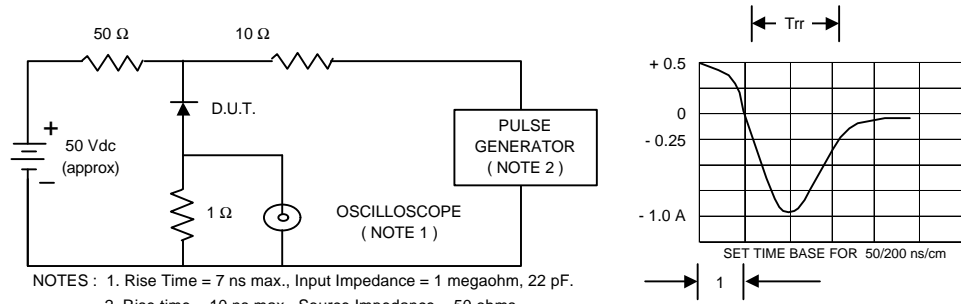
RATING	SYMBOL	FBR 5000W	FBR 5001W	FBR 5002W	FBR 5004W	FBR 5006W	FBR 5008W	FBR 5010W	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	V
Maximum Average Forward Current Tc = 55 °C	IF(AV)	50							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	IFSM	400							A
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 IF = 25 A	VF	1.3							V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C	IR	10							µA
	IR(H)	1.0							mA
Maximum Reverse Recovery Time (Note 1)	Trr	200			300		500		ns
Typical Thermal Resistance per diode (Note 2)	RθJC	1							°C/W
Operating Junction Temperature Range	TJ	- 50 to + 150							°C
Storage Temperature Range	TSTG	- 50 to + 150							°C

### Notes :

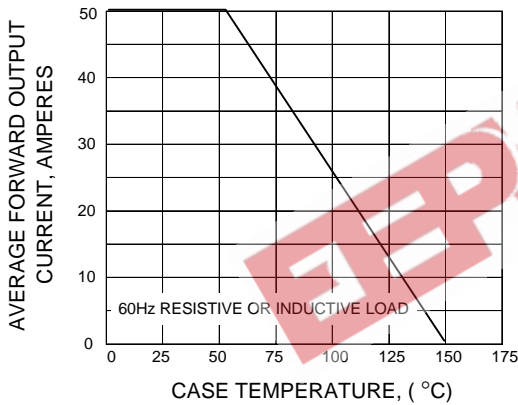
- 1) Measured with IF = 0.5 Amp., IR = 1 Amp., Irr = 0.25 Amp.
- 2) Thermal resistance from Junction to Case with units mounted on a 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink.

## RATING AND CHARACTERISTIC CURVES ( FBR5000W - FBR5010W )

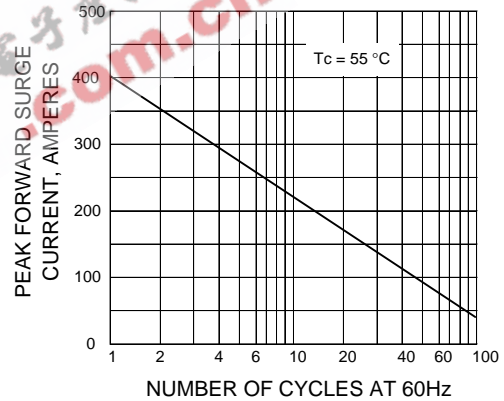
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



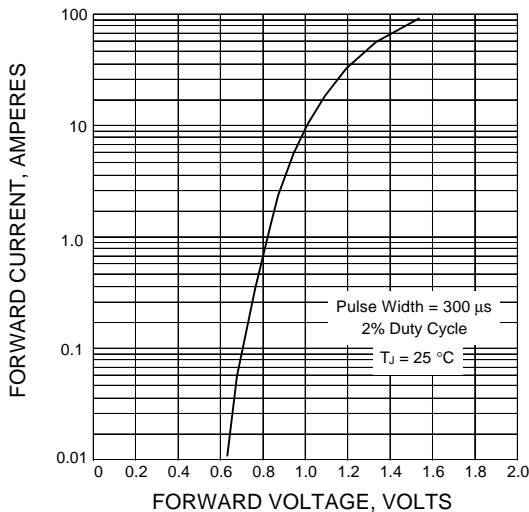
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



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

