



## SINGLE PHASE BRIDGE RECTIFIER

# FBR605 THRU FBR610

**VOLTAGE RANGE**      50 to 1000 Volts  
**CURRENT**              6.0 Ampere

### FEATURES

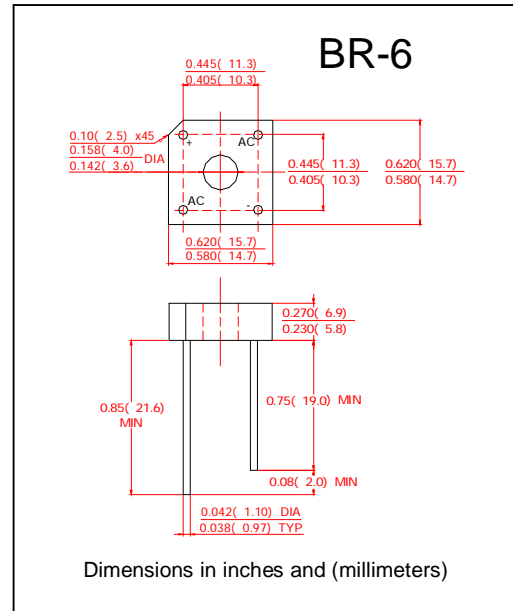
- Low cost
- High forward surge current capacity
- Fast switching high efficiency
- High temperature soldering guaranteed:  
260°C / 10 seconds, at 5 lbs. (2.3kg) tension.

### MECHANICAL DATA

- Case: Molded plastic body
- Terminal: Lead solderable per MIL-STD-202E method 208C
- Polarity: Polarity symbols marked on case
- Mounting: Thru hole for #6 screw, 5 in-lbs torque max.
- Weight: 0.13 ounce, 3.66 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%



	SYMBOLS	FBR605	FBR61	FBR62	FBR64	FBR66	FBR68	FBR610	UNIT
Maximum Repetitive 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 Rectified Output Current, at	$T_C = 50^\circ\text{C}$ (Note 1)	6.0							Amps
	$T_A = 25^\circ\text{C}$ (Note 2)	3.0							
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125							Amps
Rating for Fusing ( $t < 8.3\text{mS}$ )	$I^2t$	64							$\text{A}^2\text{s}$
Maximum Instantaneous Forward Voltage drop per Bridge element at 3.0 A	$V_F$	1.2				1.3			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	10							$\mu\text{A}$
	$T_A = 100^\circ\text{C}$	1.0							mA
Maximum Reverse Recovery Time (Note3) $T_J = 25^\circ\text{C}$	$T_{RR}$	150				250	500		nS
Isolation Voltage from case to lug	$V_{ISO}$	2500							Volts
Typical Thermal Resistance (Note 1)	$R_{\theta Jc}$	8.0							$^\circ\text{C}/\text{W}$
Operating Temperature Rang	$T_J$	-55 to +150							$^\circ\text{C}$
Storage Temperature Rang	$T_{STG}$	-55 to +150							$^\circ\text{C}$

#### Notes:

1. Unit mounted on 6.0" x 5.5" x 0.11" thick (15×14×0.3cm) AL plate
2. Unit mounted on P.C. Board 0.375" (9.5mm) lead length with 0.47"×0.47" (12×12mm) copper pads.
3. Reverse Recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 0.5\text{A}$ ,  $I_{RR} = 0.25\text{A}$



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**FBR605 THRU FBR610**

**VOLTAGE RANGE**

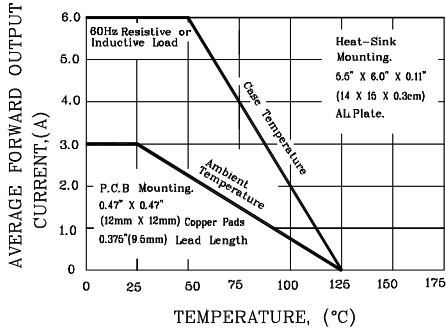
**50 to 1000 Volts**

**CURRENT**

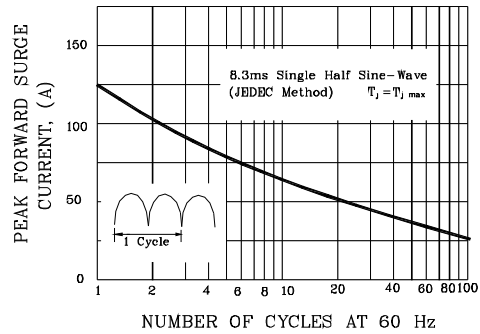
**6.0 Ampere**

### RATINGS AND CHARACTERISTIC CURVES FBR605 THRU FBR610

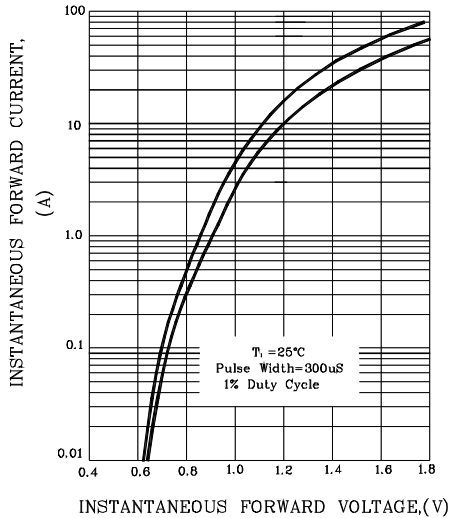
**FIG.1-DERATING CURVE FOR  
OUTPUT RECTIFIED CURRENT**



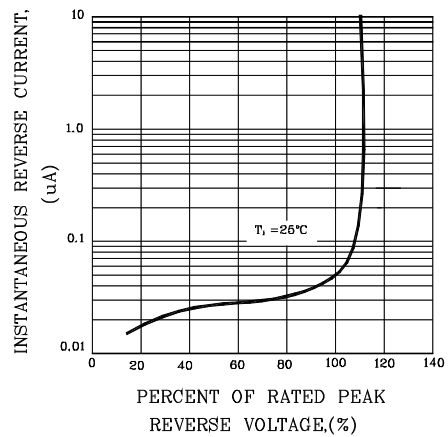
**FIG.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT PER ELEMENT**



**FIG.3-TYPICAL FORWARD CHARACTERISTICS  
PER BRIDGE ELEMENT**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS  
PER BRIDGE ELEMENT**



**FIG.5-TYPICAL JUNCTION CAPACITANCE  
PER BRIDGE ELEMENT**

