



## SINGLE PHASE BRIDGE RECTIFIER

# FBR605 THRU FBR610

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

### FEATURES

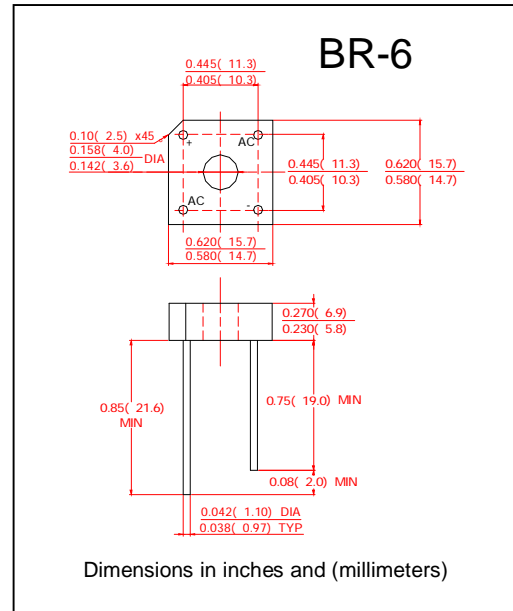
- Low cost
- High forward surge current capacity
- Fast switching high efficiency
- High temperature soldering guaranteed:  
260°C / 10 seconds, at 5 lbs. (2.3kg) tension.

### 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<br>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:  $I_F = 0.5\text{A}$ ,  $I_R = 0.5\text{A}$ ,  $I_{RR} = 0.25\text{A}$



## SINGLE PHASE BRIDGE RECTIFIER

**FBR605 THRU FBR610**

**VOLTAGE RANGE**

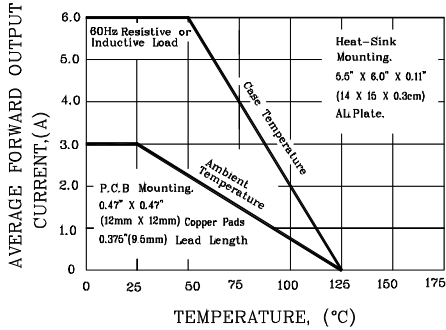
**50 to 1000 Volts**

**CURRENT**

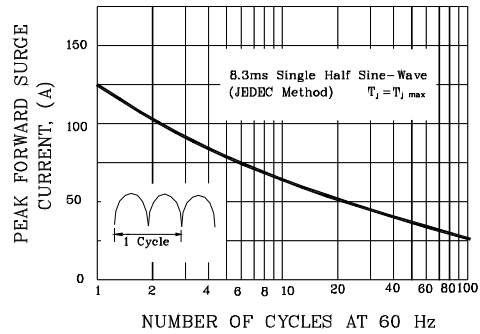
**6.0 Ampere**

### RATINGS AND CHARACTERISTIC CURVES FBR605 THRU FBR610

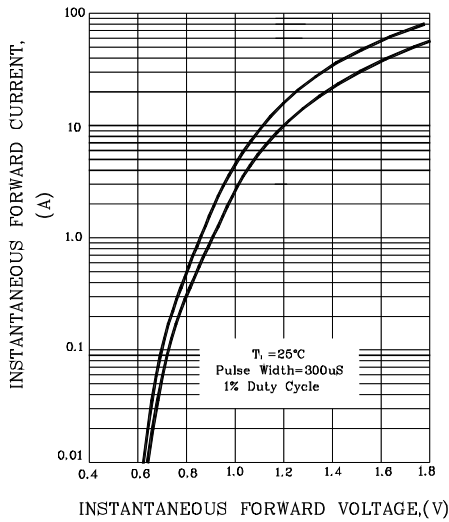
**FIG.1-DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



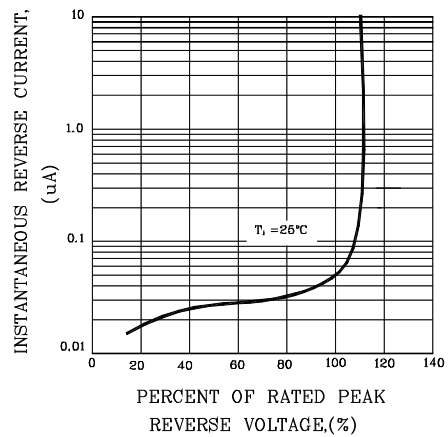
**FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER ELEMENT**



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



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



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

