

50-60Hz RECTIFICATION BRIDGE

MAJOR PRODUCT CHARACTERISTICS

| | |
|-------------------|---------------|
| $I_{F(AV)}$ | 6 A |
| V_{RRM} | 600 V / 800 V |
| $V_F(\text{max})$ | 1.05 V |

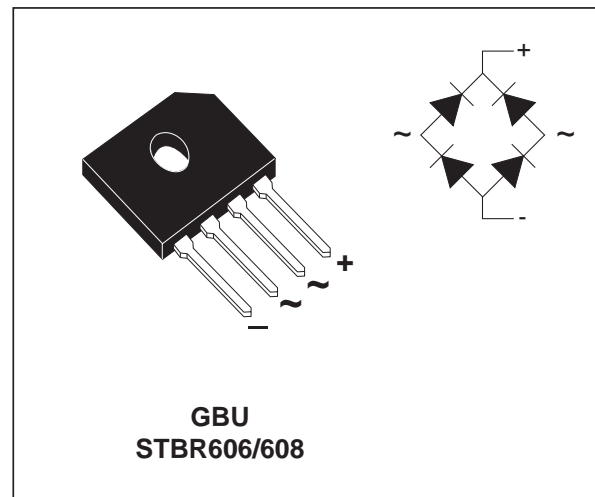
FEATURES AND BENEFITS

- Dielectric strength of 2000V
- High Surge overload rating
- High Surge current capability
- UL94V0
- Planar technology

DESCRIPTION

Single-phase 6A Bridge for 50 & 60Hz rectification in Switch Mode Power Supplies.

Applications: Home appliances, Automation, Telecommunications, PC, Servers.



ABSOLUTE RATINGS (limiting values)

| Symbol | Parameter | | STBR606 | STBR608 | Unit |
|-------------|--|--|-------------|---------|----------------------|
| V_{RRM} | Repetitive peak reverse voltage | | 600 | 800 | V |
| V_{RMS} | RMS Voltage | | 420 | 560 | V |
| V_{DC} | DC Blocking voltage | | 600 | 800 | V |
| $I_{F(AV)}$ | Average Forward Current | $T_C = 60^\circ\text{C}$ | 6 | | A |
| I_{FSM} | Non repetitive surge peak forward current | $t_p = 8.3 \text{ ms}$ Single sine wave (JEDEC method) | 175 | | A |
| I^2t | Rating for Fusing ($t_p < 8.3\text{ms}$) | | 127 | | A^2S |
| T_j | Maximum operating junction temperature | | 150 | | $^\circ\text{C}$ |
| T_{stg} | Storage temperature range | | - 50 to 150 | | $^\circ\text{C}$ |

THERMAL PARAMETERS

| Symbol | Parameter | Min. | Typ. | Max. | Unit |
|---------------|---------------------|------|------|------|---------------|
| $R_{th(j-c)}$ | Junction to case | | 7.4 | 8 | $^{\circ}C/W$ |
| $R_{th(j-a)}$ | Junction to ambient | | | 35 | $^{\circ}C/W$ |

ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Test conditions | Min. | Typ. | Max. | Unit |
|--------|---------------------------------------|----------------------|------|------|------|---------|
| V_F | Forward voltage drop | $I_F = 6A$ | | | 1.05 | V |
| I_R | Reverse leakage current per leg | $V_R = V_{RRM}$ | | | 5 | μA |
| | | $T_j = 25^{\circ}C$ | | | | |
| | | $T_j = 125^{\circ}C$ | | | 50 | μA |
| C | Junction capacitance per leg (note 1) | | | 55 | | pF |

Note 1: Measured at 1MHz and applied reverse voltage of 4V.

Fig. 1: Average power dissipation of bridge versus average output current.

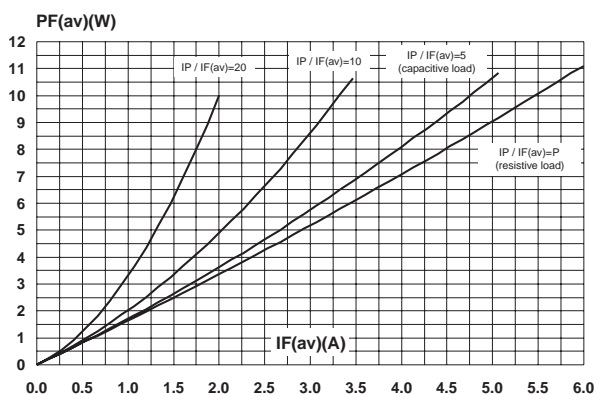


Fig. 3: Variation of thermal impedance junction to ambient versus pulse duration (printed circuit board epoxy FR4)

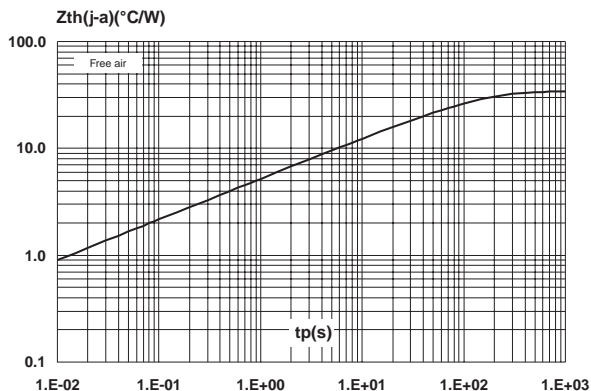


Fig. 2: Average output current versus ambient temperature (resistive load or inductive load)

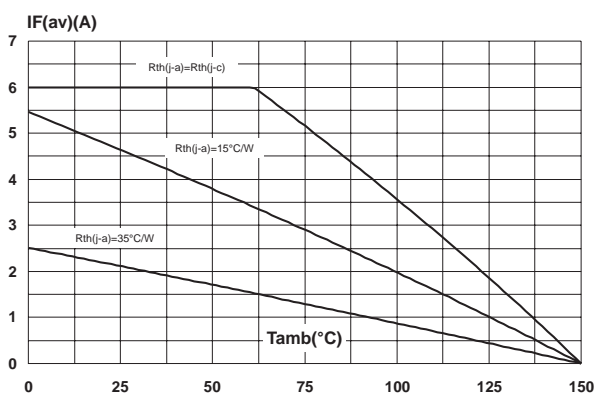


Fig. 4: Forward voltage drop versus forward current (typical values, per leg).

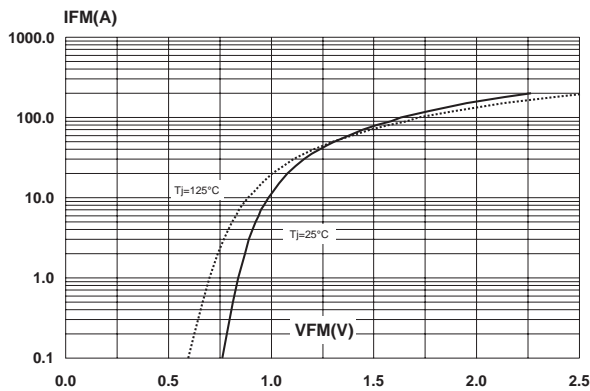


Fig. 5: Reverse leakage current versus reverse voltage applied (typical values, per leg).

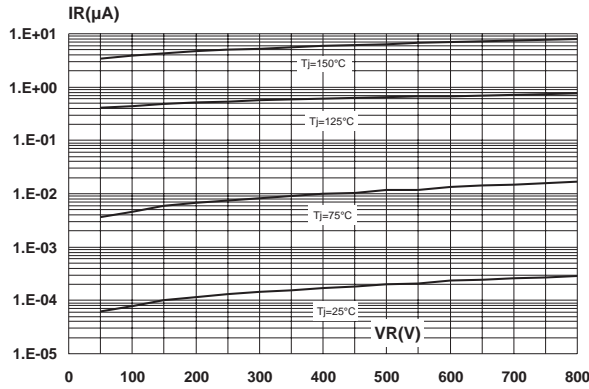


Fig. 6: Relative leakage current versus junction temperature (typical values).

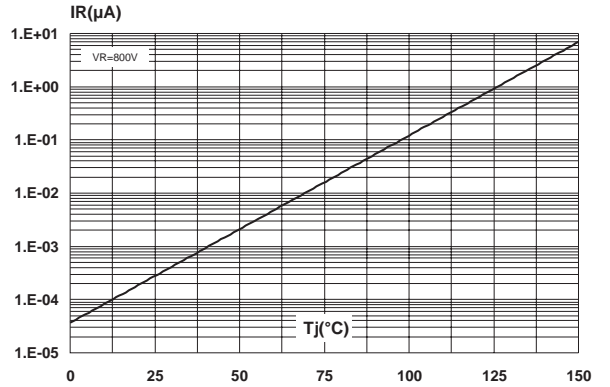


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

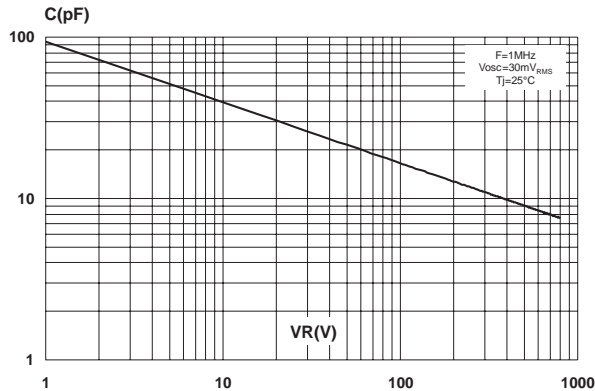


Fig. 8: Softness factor versus dI_F/dt (typical values).

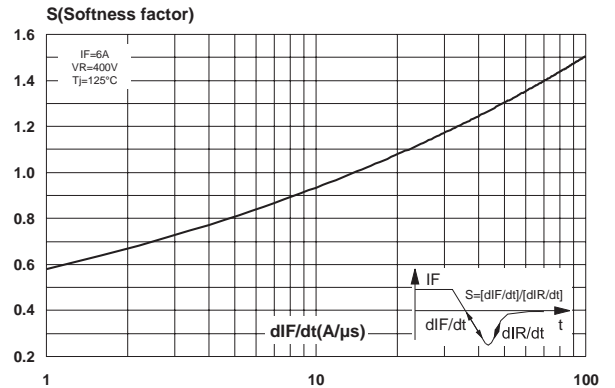
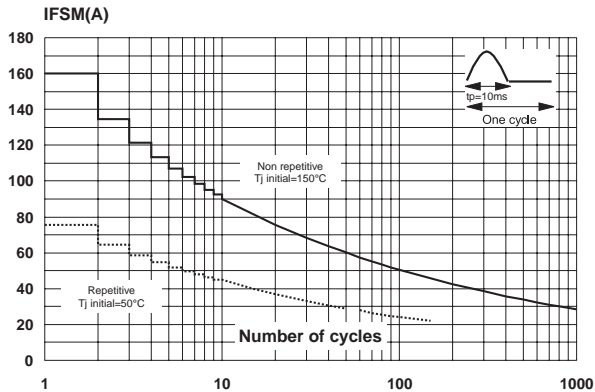
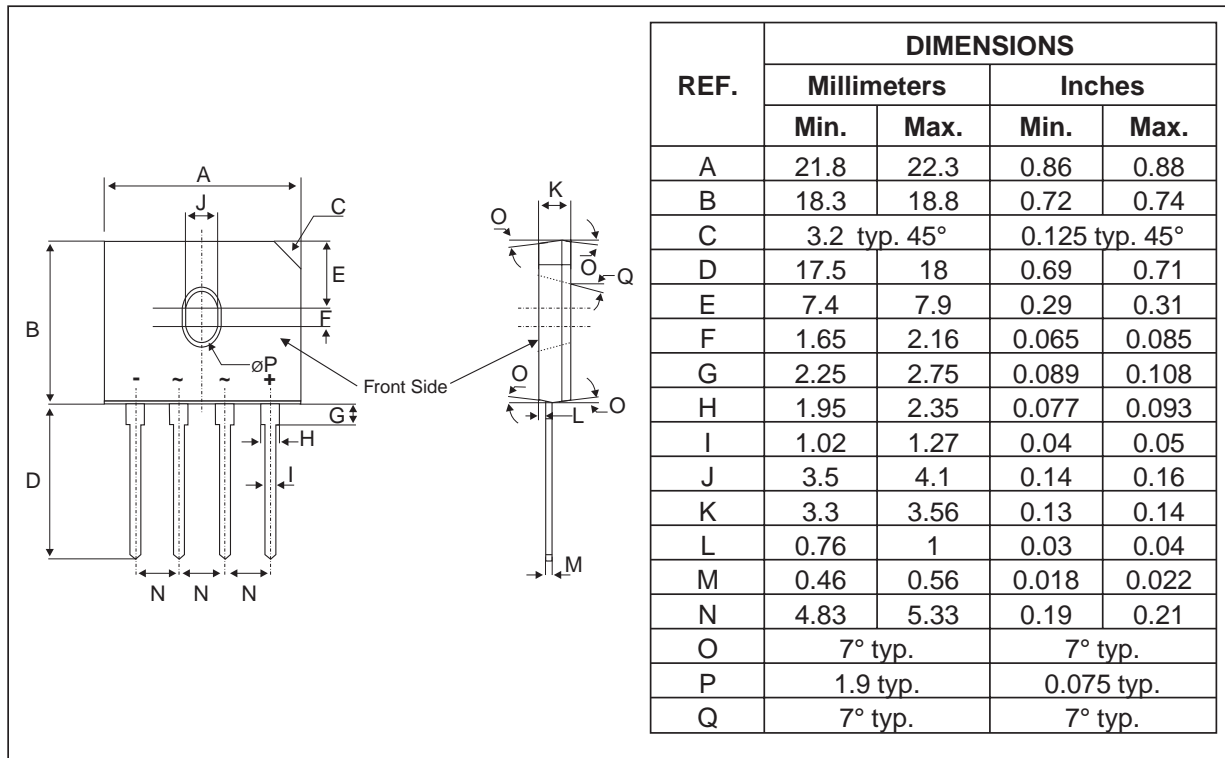


Fig. 9: Surge peak forward current versus number of cycles (per leg).



PACKAGE MECHANICAL DATA
GBU



| Ordering type | Marking | Package | Weight | Base qty | Delivery mode |
|---------------|---------|---------|--------|----------|---------------|
| STBR606 | STBR606 | GBU | 4.0g | 20 | Tube |
| STBR608 | STBR608 | GBU | 4.0g | 20 | Tube |

- Epoxy meets UL94,V0
- Cooling method: C
- Recommended torque value: 0.8 m.N
- Maximum torque value: 1.0 m.N

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