



GBU4005 thru GBU410

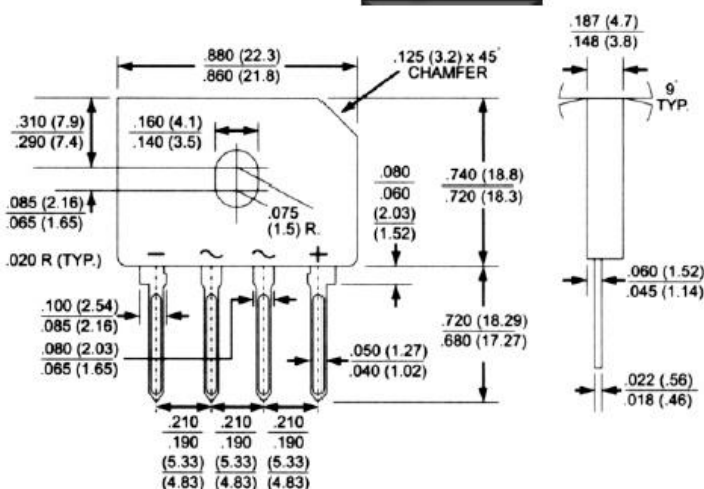
Glass Passivated Single-Phase Bridge Rectifiers

Voltage Range 50 to 1000 Volts Forward Current 4.0 Amperes

SYNSEMI SEMICONDUCTOR

Features

- ◆ Surge overload rating - 150 Amperes peak
- ◆ Ideal for printed circuit boards
- ◆ Reliable low cost construction utilizing molded plastic technique
- ◆ Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Mounting Position: Any



Dimensions in inches and (millimeters)

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%

| Parameter | Symbols | GBU4005 | GBU401 | GBU402 | GBU404 | GBU405 | GBU408 | GBU410 | Units |
|--|-----------------|---------|--------|--------|--------|-------------|--------|--------|------------------------|
| Maximum recurrent 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 @ $T_c=100^\circ\text{C}$ (with heatsink Note 2) / (without heatsink) | I_{FAV} | | | | | 4.0 | | | Amps |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | | | | | 150.0 | | | Amps |
| Max. instantaneous forward voltage drop at 2.0A DC | V_F | | | | | 1.0 | | | Volt |
| Maximum DC reverse current at rated DC blocking voltage per element @ $T_j=25^\circ\text{C}$ / @ $T_j=125^\circ\text{C}$ | I_R | | | | | 5.0 | | | μA |
| Rating for fusing ($t < 8.3\text{ms}$) | I^2t | | | | | 93 | | | A^2sec |
| Typical junction capacitance per element (Note 1) | C_j | | | | | 45 | | | pF |
| Typical thermal resistance (Note 2) | $R_{\theta JC}$ | | | | | 2.2 | | | $^\circ\text{C/W}$ |
| Operating temperature range | T_j | | | | | -55 to +150 | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | | | | | -55 to +150 | | | $^\circ\text{C}$ |

Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC
 2. Device mounted on 50mmx 50mm x 1.6mm Cu plate heatsink

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RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVE

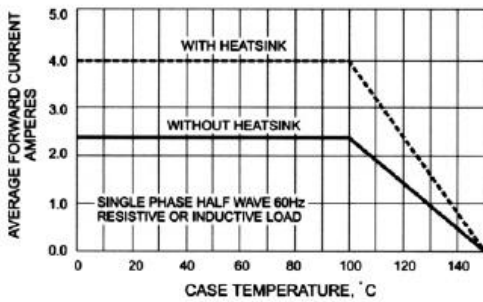


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

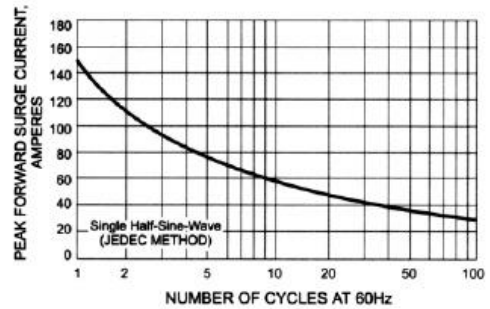


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

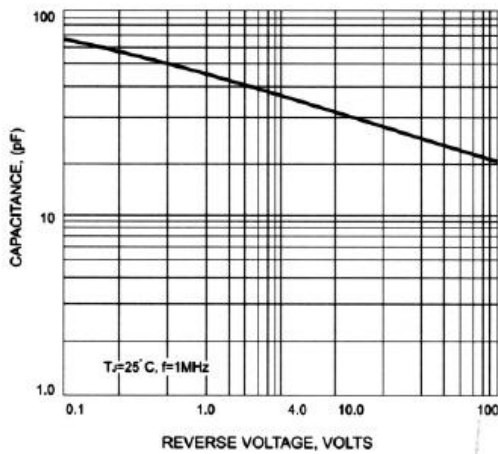


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

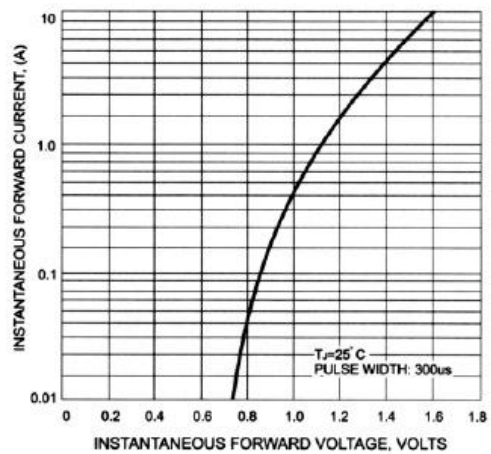


FIG. 5 - TYPICAL REVERSE CHARACTERISTICS

