



SINGLE PHASE BRIDGE RECTIFIER

GBPC12005 THRU GBPC1210

**VOLTAGE RANGE
CURRENT**

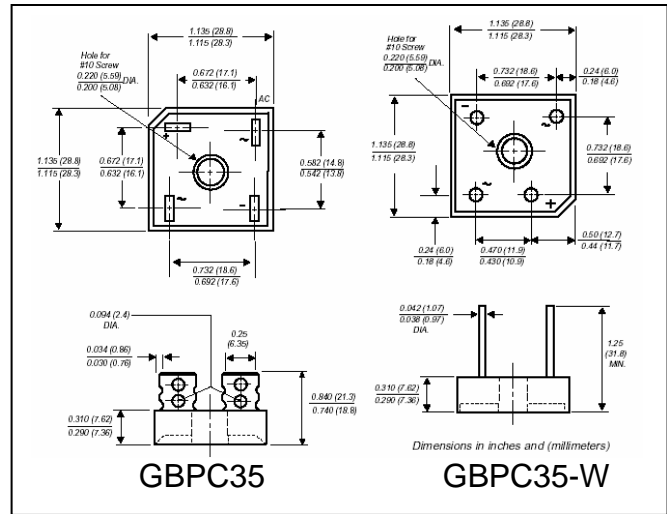
**50 to 1000 Volts
12.0 Ampere**

FEATURES

- Plastic package has UL flammability classification 94V-0
- Integrally molded heatsink provides very low thermal resistance for maximum heat dissipation
- High forward surge capacity
- Glass passivated chip junction
- High isolation voltage from case to lugs
- High temperature soldering guaranteed: 260°C / 10 seconds
- Available in either lug package (GBPC12005) or wire lead package (GBPC1200W)

MECHANICAL DATA

- Case: Molded plastic with integrally mounted heatsink
- Terminal: Plated 0.25" (6.35mm) lug or plated 0.040" (1.02mm) diameter lead
- Polarity: Polarity symbols marked on case
- Mounting: Thru hole for #10 screw, 20 in-lbs Torque max. See Note 1
- Weight: 0.53 ounce, 15.0 gram – GBPC35 and GBPC35-W



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 | GBPC 12005 | GBPC 1201 | GBPC 1202 | GBPC 1204 | GBPC 1206 | GBPC 1208 | GBPC 1210 | 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 Current @ $T_A = 50^\circ C$ (See Fig 1) | $I_{(AV)}$ | 12 | | | | | | | Amps |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | I_{FSM} | 200 | | | | | | | Amps |
| Rating for Fusing ($t < 8.3mS$) | I^2t | 160 | | | | | | | A^2s |
| Maximum Instantaneous Forward Voltage drop per Bridge element 6.0A | V_F | 1.1 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per element | I_R | $T_A = 25^\circ C$ | | | | | | | μA |
| | | $T_A = 125^\circ C$ | | | | | | | μA |
| Isolation Voltage from case to lug or lead | V_{ISO} | 2500 | | | | | | | Volts |
| Typical Junction Capacitance per leg (Measured at 1.0MHz and applied reverse voltage of 4.0V) | C_J | 300 | | | | | | | pF |
| Typical Thermal Resistance per leg | $R_{\theta JC}$ | 1.9 | | | | | | | $^\circ C/W$ |
| Operating Junction Temperature Range | T_J | (-55 to +150) | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | (-55 to +150) | | | | | | | $^\circ C$ |

Notes:

1. Bolt down on heat-sink with silicon thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw



RATINGS AND CHARACTERISTIC CURVES GBPC12005 THRU GBPC1210

FIG.1-MAXIMUM OUTPUT RECTIFIED CURRENT

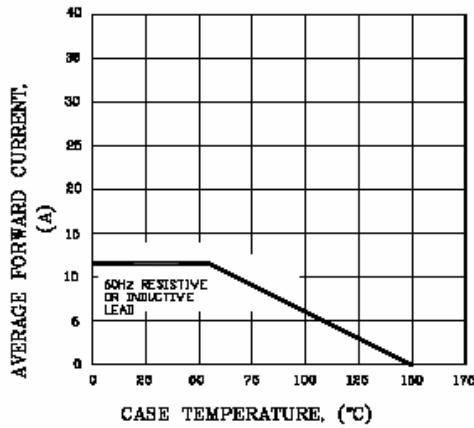


FIG.2-MAXIMUM OUTPUT RECTIFIED CURRENT

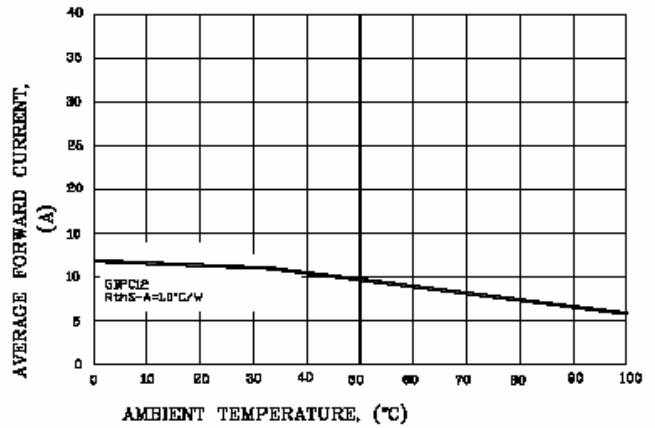


Fig. 3 - Maximum Power Dissipation

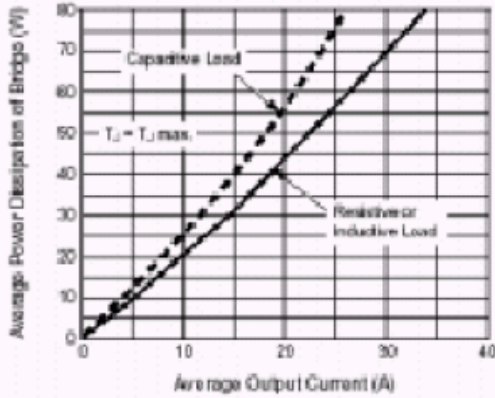


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

