

GLASS PASSIVATED SINGLE-OHASE BPIDGE RECTIFIER

GBPC25005/W THRU GBPC2510/W

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

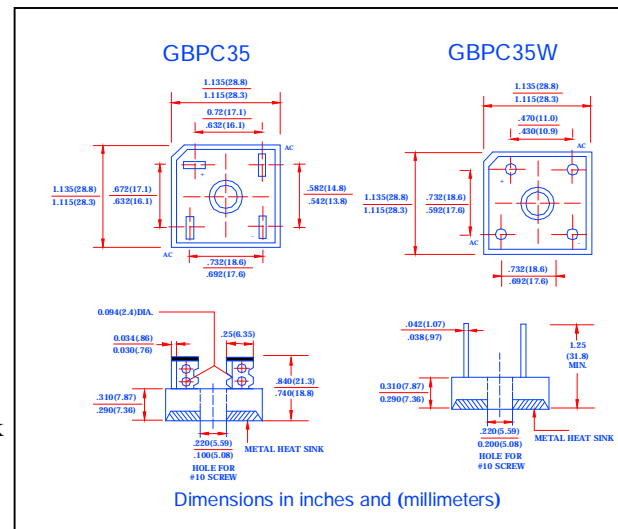
25.0 Ampere

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 (GBPC25005) or wire lead package (GBPC25005W)

MECHANICAL DATA

- Case: Epoxy, Molded Plastic with integrally mounted heatsink
- Terminals: 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 3
- 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 25005/W | GBPC 2501/W | GBPC 2502/W | GBPC 2504/W | GBPC 2506/W | GBPC 2508/W | GBPC 2510/W | 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 (SEE FIG.1) at $T_C=55^\circ C$ | $I_{(AV)}$ | 25 | | | | | | | Amps |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | I_{FSM} | 300 | | | | | | | Amps |
| Rating for Fusing ($t < 8.3ms$) | I^2t | 375 | | | | | | | A^2s |
| Maximum Instantaneous Forward Voltage drop Per Bridge element 12.5A | V_F | 1.1 | | | | | | | Volts |
| Maximum DC Reverse Current at rated DC blocking Voltage per element | $T_A = 25^\circ C$ | 5.0 | | | | | | | μA |
| | $T_A = 125^\circ C$ | 500 | | | | | | | |
| Isolation Voltage from case to lug or lead | V_{ISO} | 2500 | | | | | | | nS |
| Typical Junction Capacitance per leg (NOTE 1) | C_j | 300 | | | | | | | pF |
| Typical Thermal Resistance per leg (NOTE 2) | $R_{\theta JC}$ | 1.9 | | | | | | | $^\circ C/W$ |
| Operating Junction Temperature | T_J | (-55 to +150) | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | (-55 to +150) | | | | | | | $^\circ C$ |

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0V
2. Thermal resistance from junction to case per leg
3. Bolt down on heat-sink with silicon thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw.

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RATINGS AND CHARACTERISTIC CURVES GBPC25005/W THRU GBPC2510/W

FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

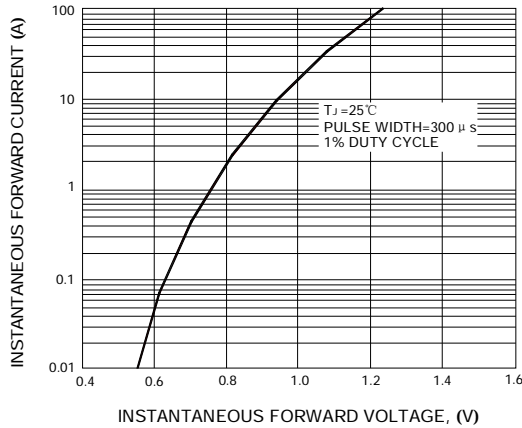


FIG. 6 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

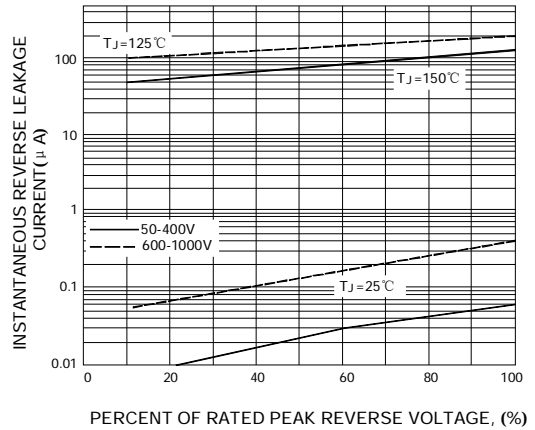


FIG. 7 - TYPICAL JUNCTION CAPACITANCE PER LEG

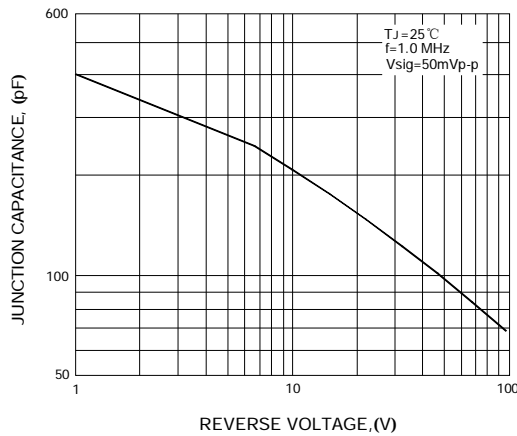
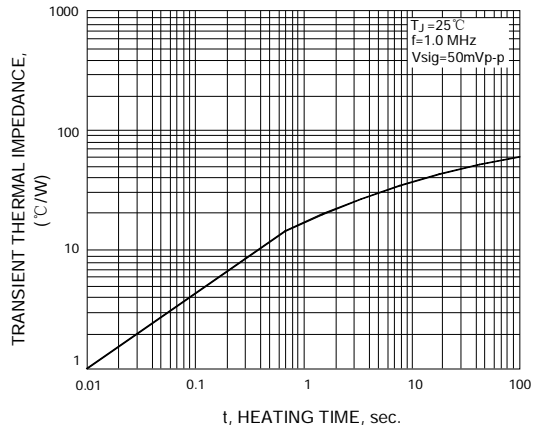


FIG. 8 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



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FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

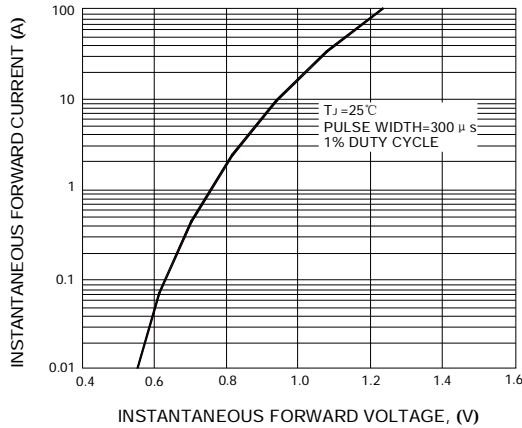


FIG. 6 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

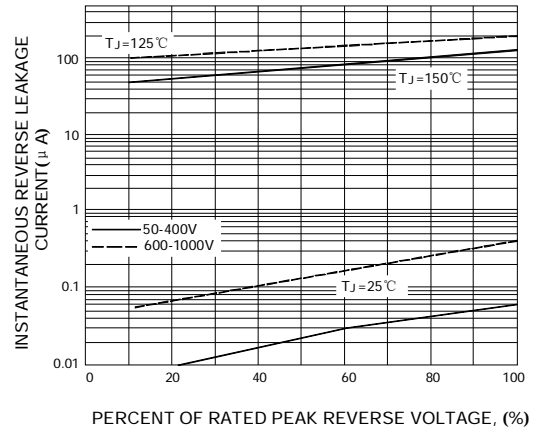


FIG. 7 - TYPICAL JUNCTION CAPACITANCE PER LEG

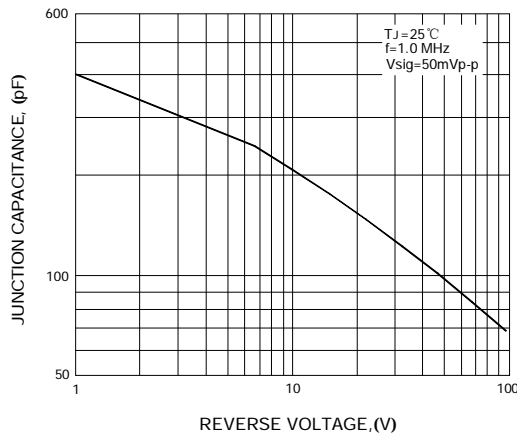


FIG. 8 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

