

Single Phase Glass Passivated Silicon Bridge Rectifier

$V_{RRM} = 50\text{ V} - 400\text{ V}$

$I_O = 25\text{ A}$

Features

- Integrally molded heat sink provides low thermal resistance for maximum heat dissipation
- High surge current capability
- Universal 3-way terminals: snap on, wire-around, or P.C board mounting
- High temperature soldering guaranteed: 260°C/ 10 seconds at 5 lbs (2.3 kg) tension
- Not ESD Sensitive

Mechanical Data

Case: Molded plastic with heat sink integrally mounted in the bridge encapsulation

Terminals: Either nickel plated 0.25". Faston lugs or copper leads 0.040" diameter.

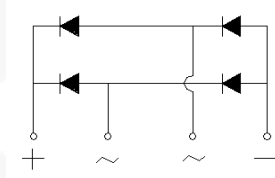
Polarity: Polarity symbols marked on the body

Mounting position: Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface

Weight: 15 grams or 0.53 ounces

Mounting torque: 20 inch-lbs max

GBPC-T/W Package



Maximum ratings at $T_c = 25\text{ }^\circ\text{C}$, unless otherwise specified (GBPCXXXXT uses GBPC-T package while GBPCXXXXW uses GBPC-W package)

| Parameter | Symbol | Conditions | GBPC25005T/W | GBPC2501T/W | GBPC2502T/W | GBPC2504T/W | Unit |
|---------------------------------|-----------|------------|--------------|-------------|-------------|-------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 50 | 100 | 200 | 400 | V |
| RMS reverse voltage | V_{RMS} | | 35 | 70 | 140 | 280 | V |
| DC blocking voltage | V_{DC} | | 50 | 100 | 200 | 400 | V |
| Operating temperature | T_j | | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |

Electrical characteristics at $T_c = 25\text{ }^\circ\text{C}$, unless otherwise specified

Single phase, half sine wave, 60 Hz, resistive or inductive load

For capacitive load derate current by 20%

| Parameter | Symbol | Conditions | GBPC25005T/W | GBPC2501T/W | GBPC2502T/W | GBPC2504T/W | Unit |
|---|-----------------|-------------------------------------|--------------|-------------|-------------|-------------|------------------------|
| Maximum average forward rectified current | I_O | $T_c = 50\text{ }^\circ\text{C}$ | 25.0 | 25.0 | 25.0 | 25.0 | A |
| Peak forward surge current | I_{FSM} | single sine-wave | 300 | 300 | 300 | 300 | A |
| Maximum instantaneous forward voltage drop per leg | V_F | $I_F = 12.5\text{ A}$ | 1.1 | 1.1 | 1.1 | 1.1 | V |
| Maximum DC reverse current at rated DC blocking voltage per leg | I_R | $T_a = 25\text{ }^\circ\text{C}$ | 5 | 5 | 5 | 5 | μA |
| | | $T_a = 125\text{ }^\circ\text{C}$ | 500 | 500 | 500 | 500 | |
| Rating for fusing | I^2t | $1\text{ ms} < t_m < 8.3\text{ ms}$ | 375 | 375 | 375 | 375 | A^2sec |
| RMS isolation voltage from case to leads | V_{ISO} | | 2500 | 2500 | 2500 | 2500 | V |
| Typical junction capacitance | C_j | | 300 | 300 | 300 | 300 | pF |
| Typical thermal resistance | $R_{\theta JC}$ | | 1.9 | 1.9 | 1.9 | 1.9 | $^\circ\text{C/W}$ |

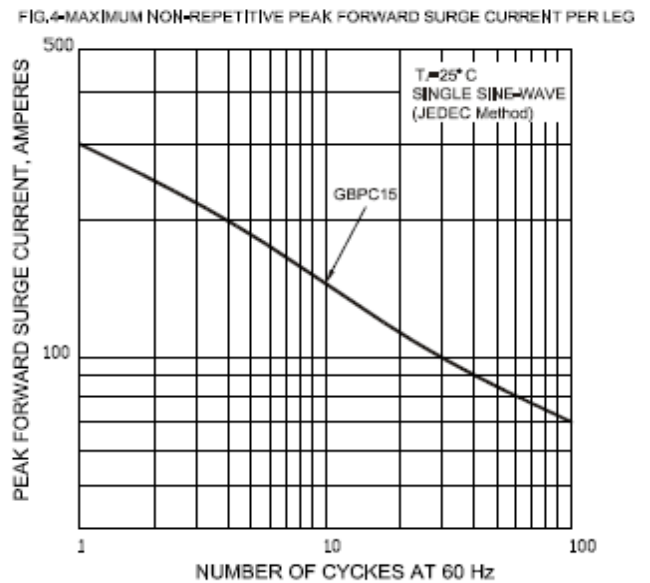
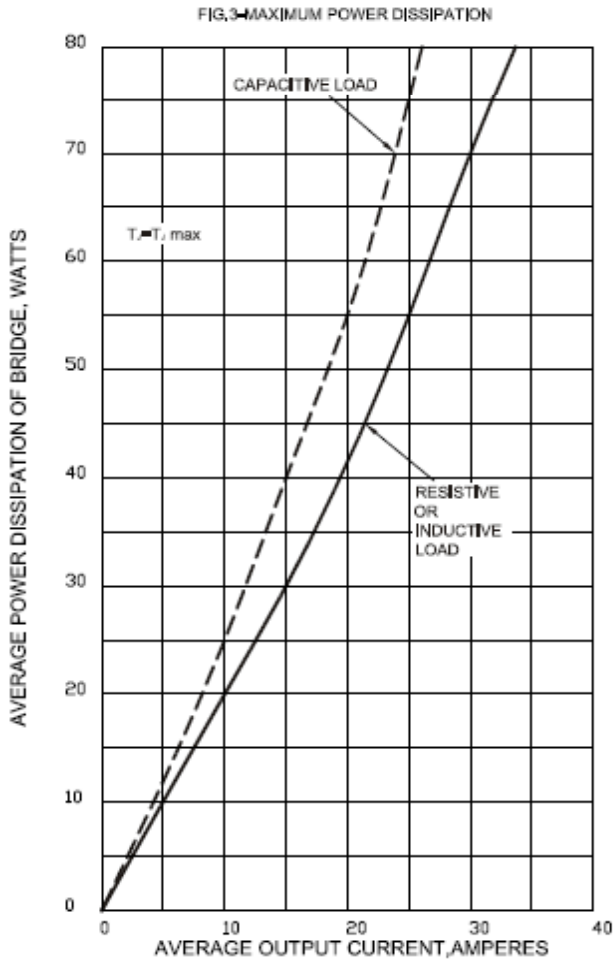
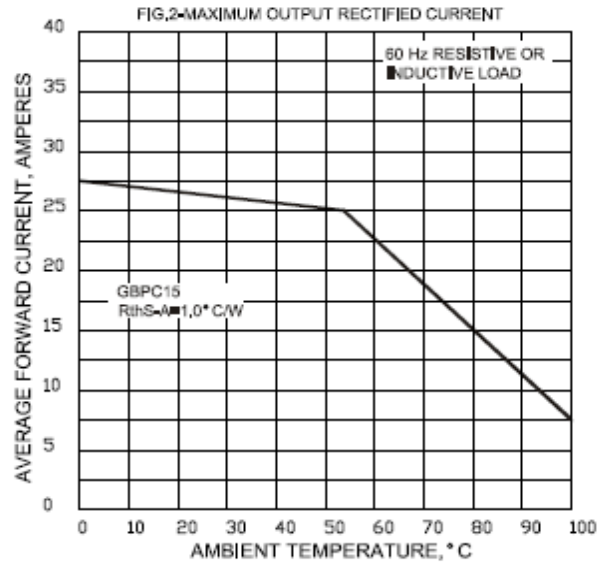
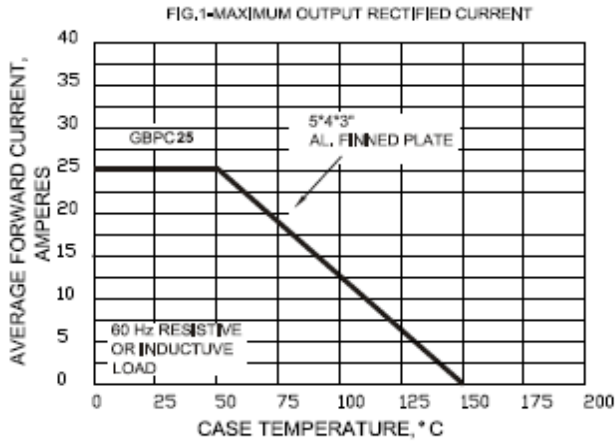


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

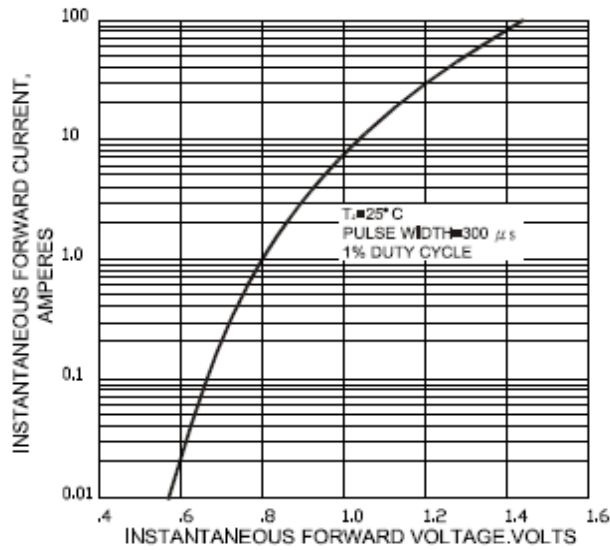


FIG.6-TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

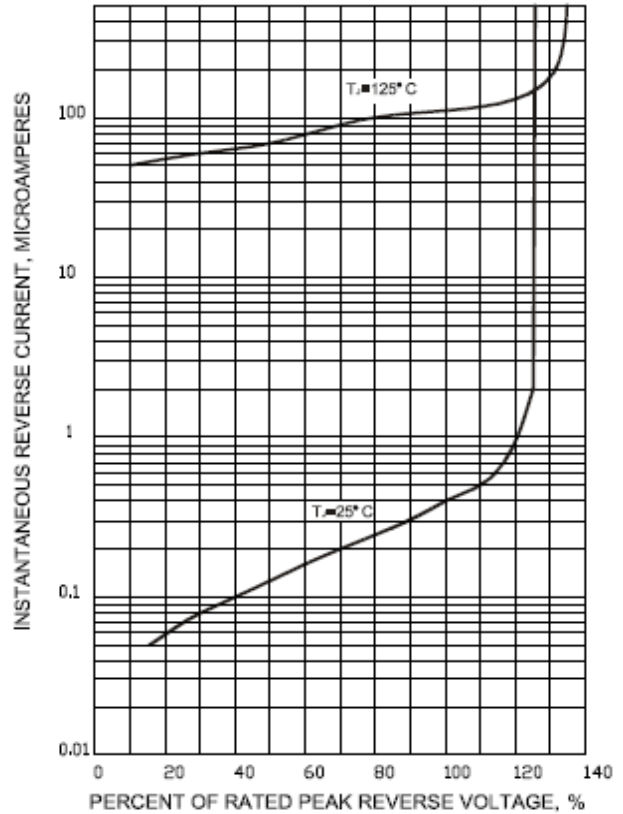


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

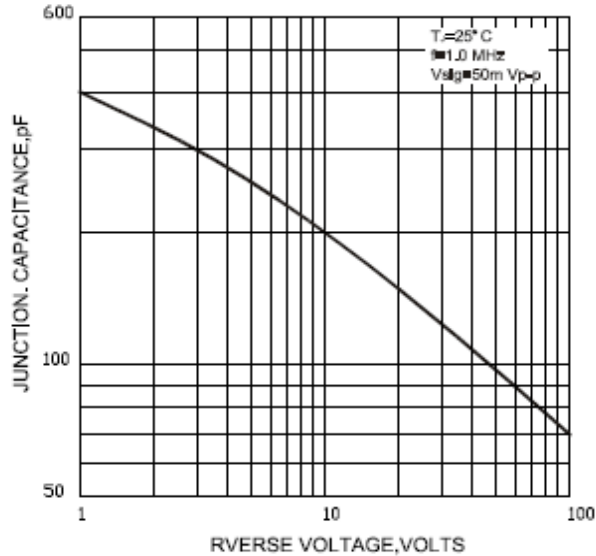
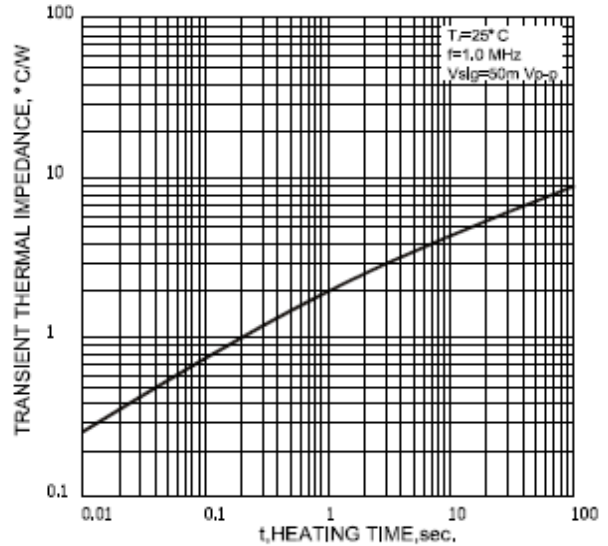
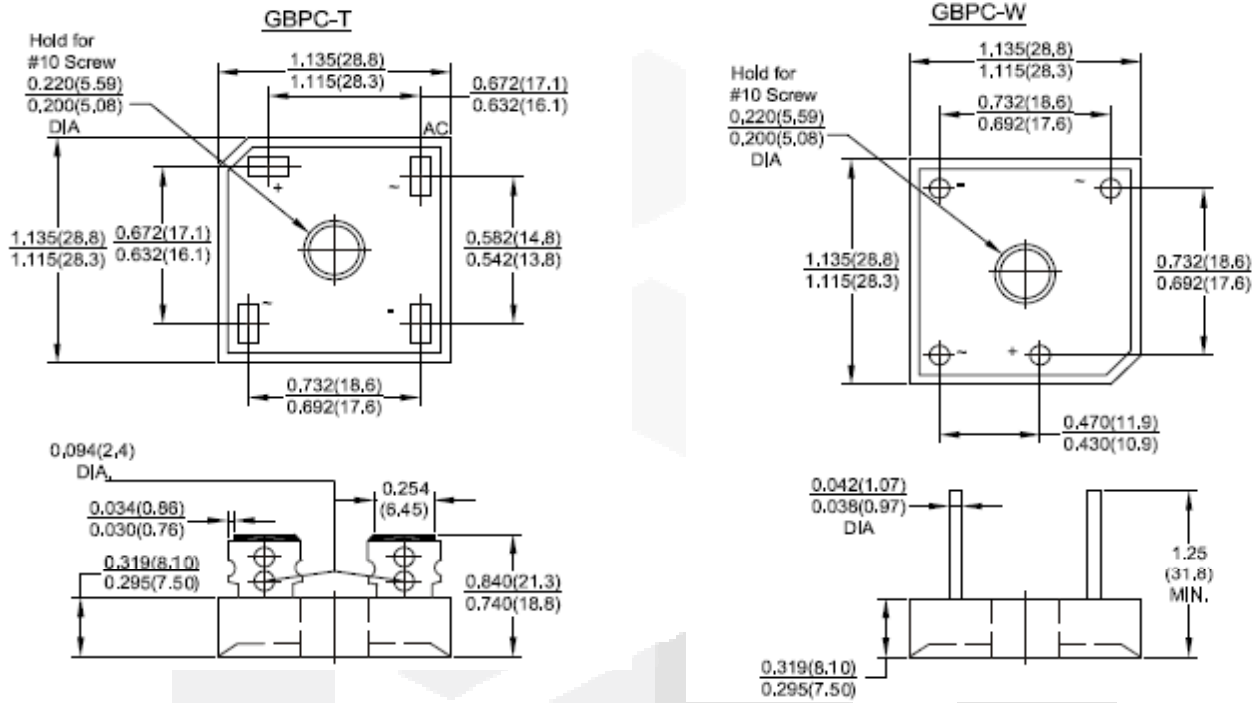


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)

