

## 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.

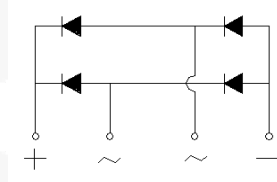
Polarity: Polarity symbols marked on the body

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  $T_c = 25^\circ\text{C}$ , 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  | °C   |
| Storage temperature             | $T_{stg}$ |            | -55 to 150   | -55 to 150  | -55 to 150  | -55 to 150  | °C   |

### Electrical characteristics at $T_c = 25^\circ\text{C}$ , 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                       | $I_O$           | $T_c = 50^\circ\text{C}$              | 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 | $I_R$           | $T_a = 25^\circ\text{C}$              | 5            | 5           | 5           | 5           | $\mu\text{A}$          |
|                                                                 |                 | $T_a = 125^\circ\text{C}$             | 500          | 500         | 500         | 500         |                        |
| Rating for fusing                                               | $I^2t$          | $1 \text{ ms} < t_m < 8.3 \text{ ms}$ | 375          | 375         | 375         | 375         | $\text{A}^2\text{sec}$ |
| 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         | °C/W                   |

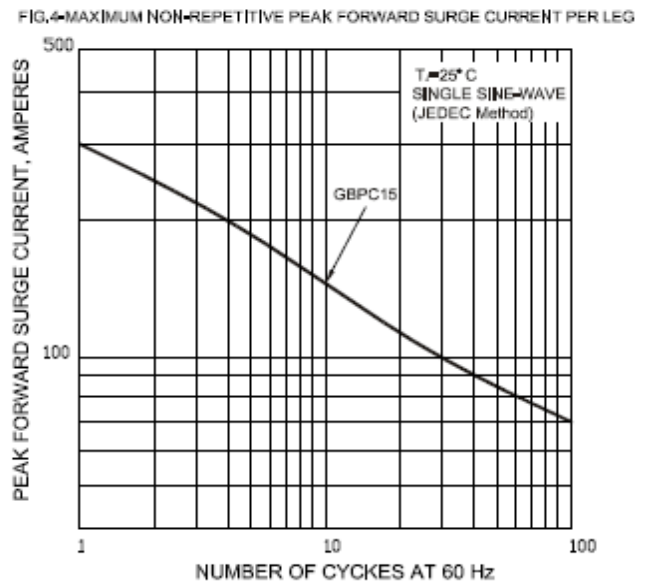
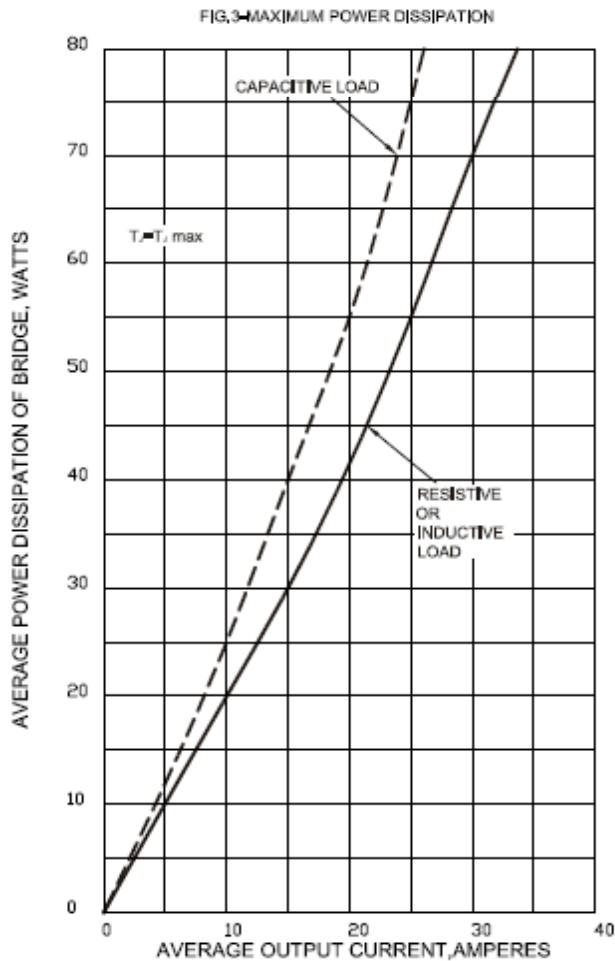
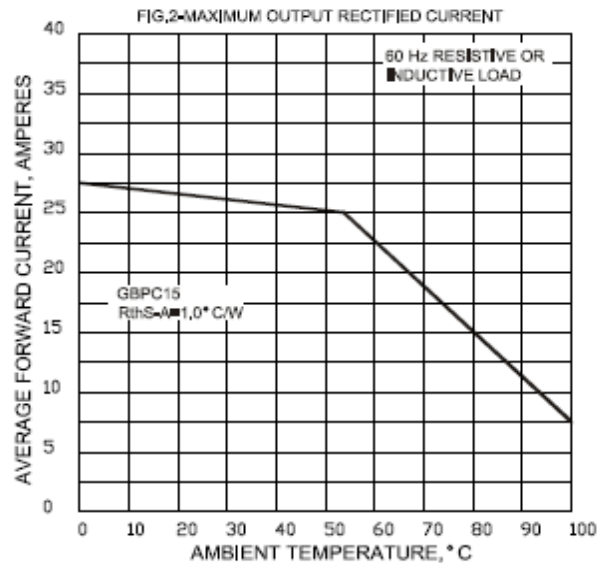
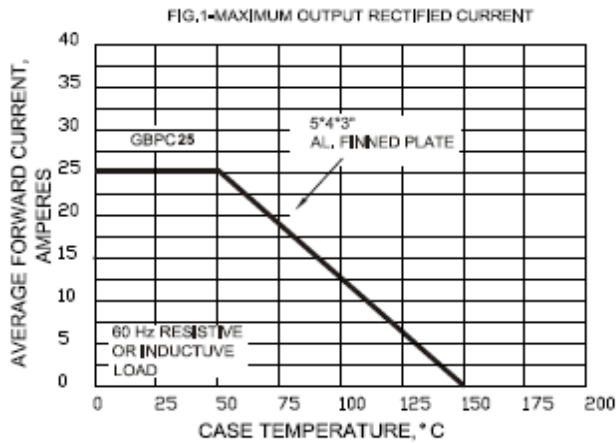


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

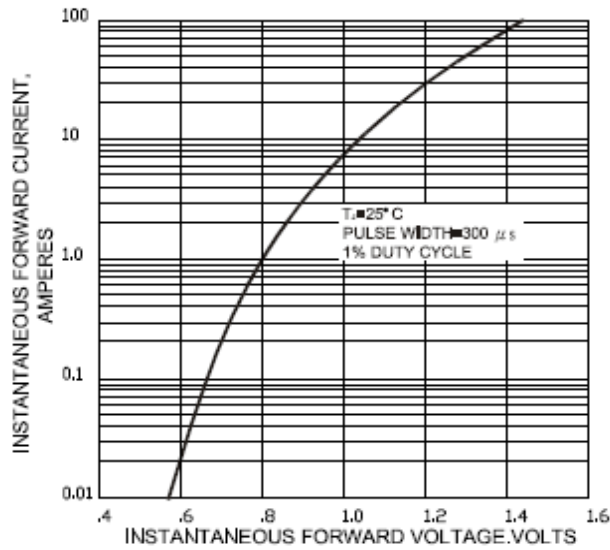


FIG.6-TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

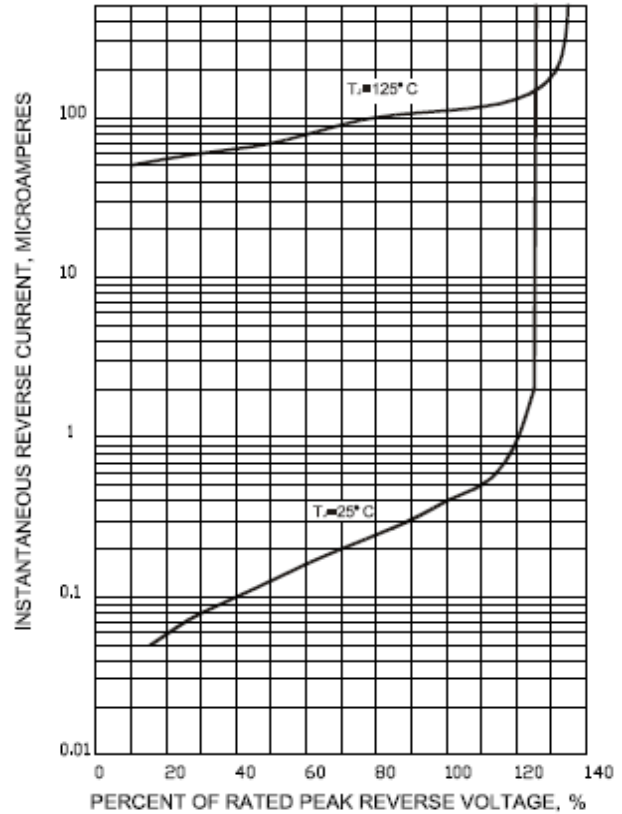


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

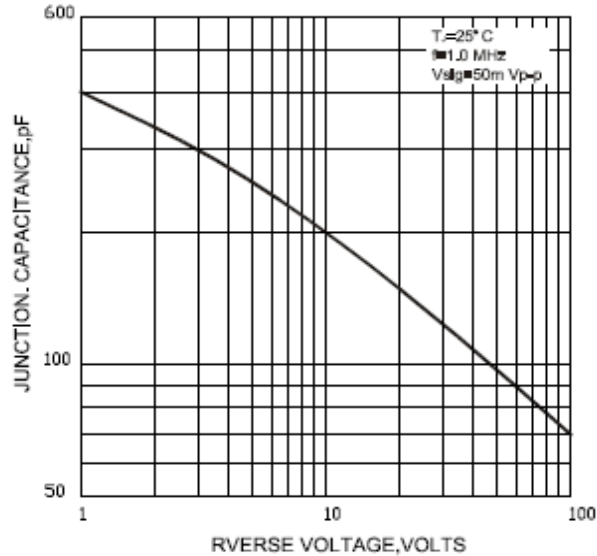
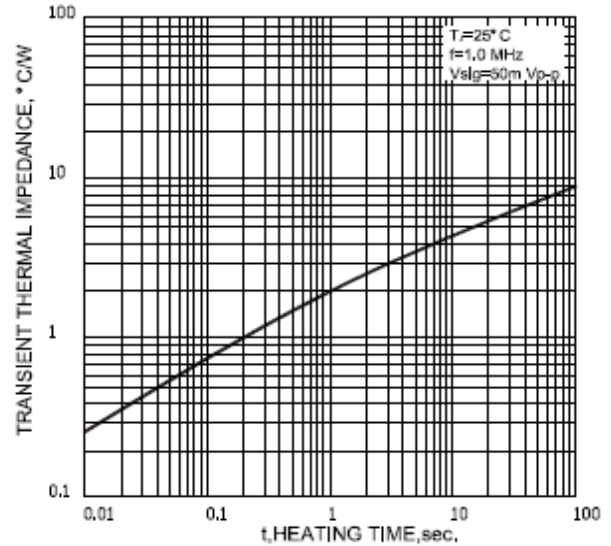
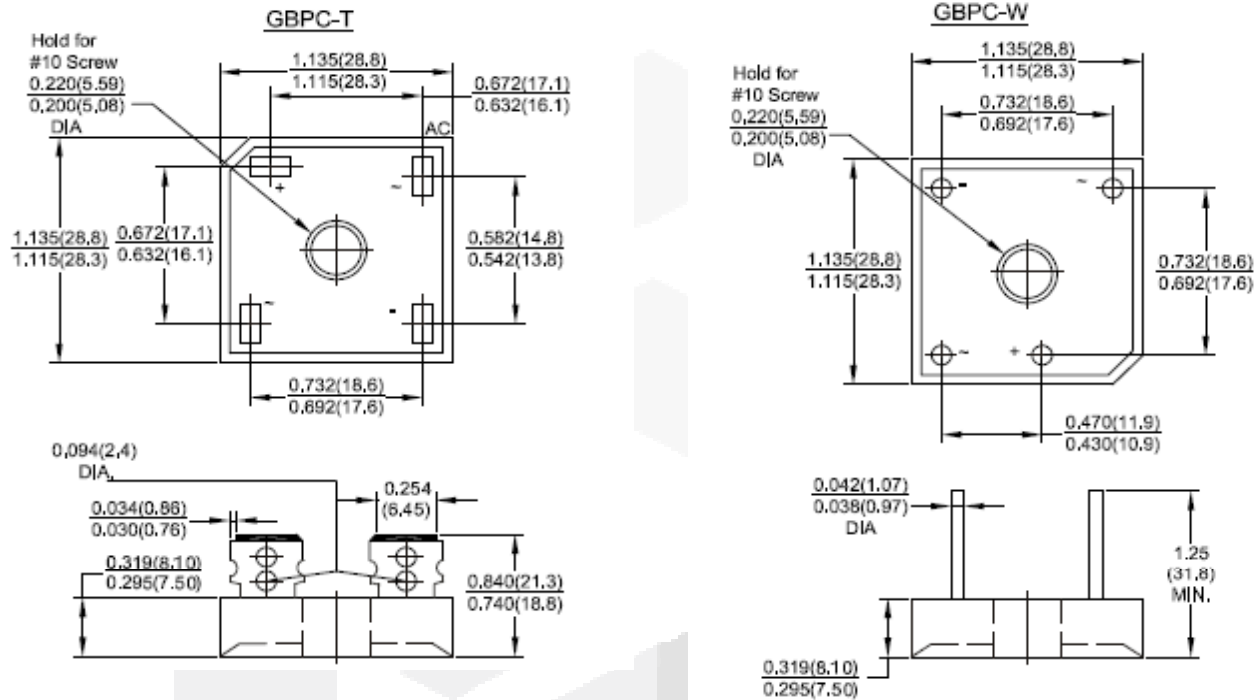


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



## Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)

