



# GBPC3506T/W thru GBPC3510T/W

## Silicon Bridge Rectifier

$V_{RRM} = 50\text{ V} - 1000\text{ V}$

$I_F = 35\text{ A}$

### Features

- Integrally molded heat sink provides low thermal resistance for maximum heat dissipation
- Types up to 1000 V  $V_{RRM}$ 
  - Void-free junction by using vacuum soldering
- High surge current capability
- High temperature soldering guaranteed: 260°C/ 10 seconds at 5 lbs(2.3 kg) tension
- Universal 3-way terminals: snap on, wire-around, or P.C board mounting

GBPC-T/W Package

### Mechanical Data

Case: Molded plastic with heat sink mounted in the bridge  
 Mounting position: Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface  
 Terminals: Either nickel plated 0.25"(6.35 mm) Faston lugs or 0.040"(1.02 mm) diameter copper leads.  
 Weight: 15 grams or 0.53 ounces  
 Mounting torque: 20 inch-lbs max  
 Polarity: Marked on body



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

| Parameter  | Symbol     | Conditions   | GBPC3506T/W | GBPC3508T/W | GBPC3510T/W | Unit             |
|--|------------|--|-------------|-------------|-------------|------------------|
| Repetitive peak reverse voltage                      | $V_{RRM}$  |  | 600         | 800         | 1000        | V                |
| RMS reverse voltage                                  | $V_{RMS}$  |  | 420         | 560         | 700         | V                |
| DC blocking voltage                                  | $V_{DC}$   |  | 600         | 800         | 1000        | V                |
| Continuous forward current                           | $I_F$      | $T_C \leq 50\text{ }^\circ\text{C}$                      | 35          | 35          | 35          | A                |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$ | 400         | 400         | 400         | A                |
| Operating temperature                                | $T_j$      |  | -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  | $^\circ\text{C}$ |

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

| Parameter             | Symbol | Conditions  | GBPC3506T/W | GBPC3508T/W | GBPC3510T/W | Unit          |
|-----------------------|--------|---|-------------|-------------|-------------|---------------|
| Diode forward voltage | $V_F$  | $I_F = 17.5\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$  | 1.1         | 1.1         | 1.1         | V             |
| Reverse current       | $I_R$  | $V_R = 50\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$<br>$V_R = 50\text{ V}$ , $T_j = 125\text{ }^\circ\text{C}$ | 5<br>500    | 5<br>500    | 5<br>500    | $\mu\text{A}$ |

### Thermal characteristics

| Parameter                           | Symbol     | Conditions | GBPC3506T/W | GBPC3508T/W | GBPC3510T/W | Unit               |
|-------------------------------------|------------|------------|-------------|-------------|-------------|--------------------|
| Thermal resistance, junction - case | $R_{thJC}$ |            | 1.4         | 1.4         | 1.4         | $^\circ\text{C/W}$ |

FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

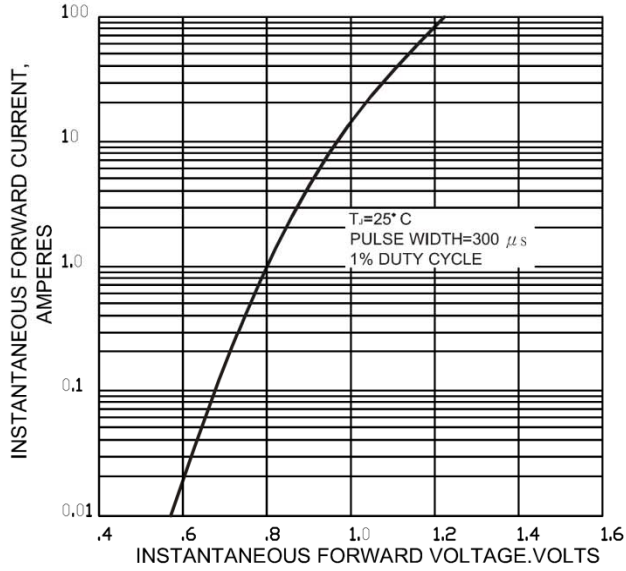


FIG.6-TYPICAL REVERSE CHARACTERISTICS

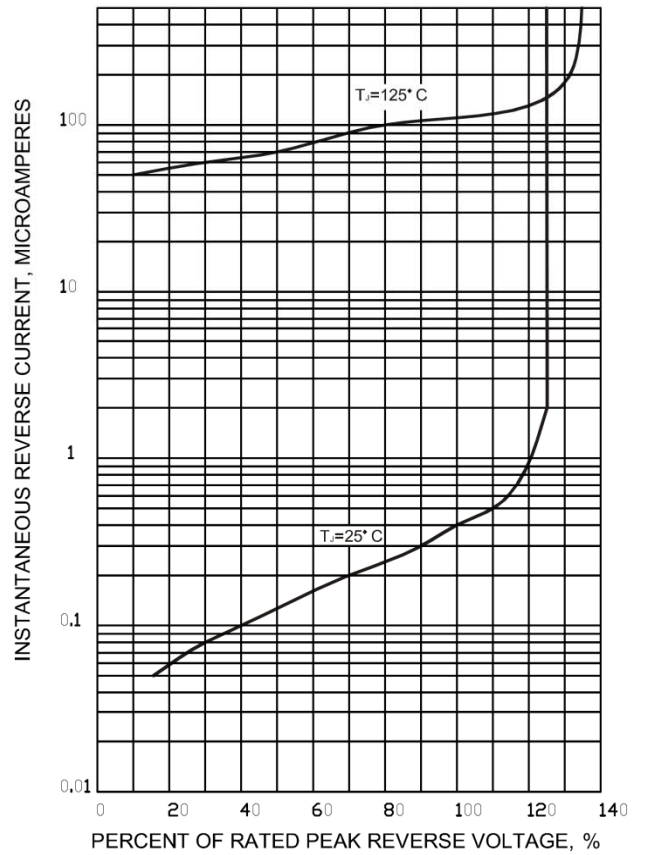


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

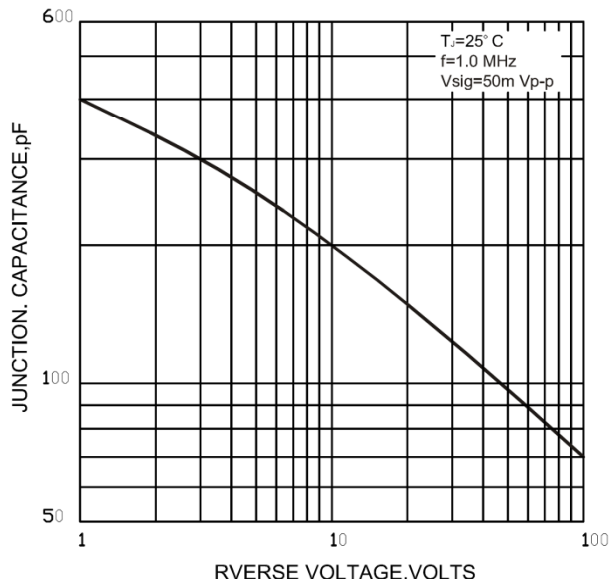


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE

