

Silicon Bridge Rectifier

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

$I_F = 50 \text{ A}$

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: 19 grams or 0.67 ounces

Mounting torque: 20 inch-lbs max

Polarity: Marked on body



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

Parameter	Symbol	Conditions	GBPC5006T/W	GBPC5008T/W	GBPC5010T/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	$T_C \leq 50^\circ\text{C}$	50	50	50	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25^\circ\text{C}$, $t_p = 8.3 \text{ ms}$	400	400	400	A
Operating temperature	T_j		-55 to 150	-55 to 150	-55 to 150	°C
Storage temperature	T_{stg}		-55 to 150	-55 to 150	-55 to 150	°C

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

Parameter	Symbol	Conditions	GBPC5006T/W	GBPC5008T/W	GBPC5010T/W	Unit
Diode forward voltage	V_F	$I_F = 25 \text{ A}$, $T_j = 25^\circ\text{C}$	1.2	1.2	1.2	V
Reverse current	I_R	$V_R = 50 \text{ V}$, $T_j = 25^\circ\text{C}$ $V_R = 50 \text{ V}$, $T_j = 125^\circ\text{C}$	5 500	5 500	5 500	μA

Thermal characteristics

Thermal resistance, junction - case	R_{thJC}		1.2	1.2	1.2	°C/W
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FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

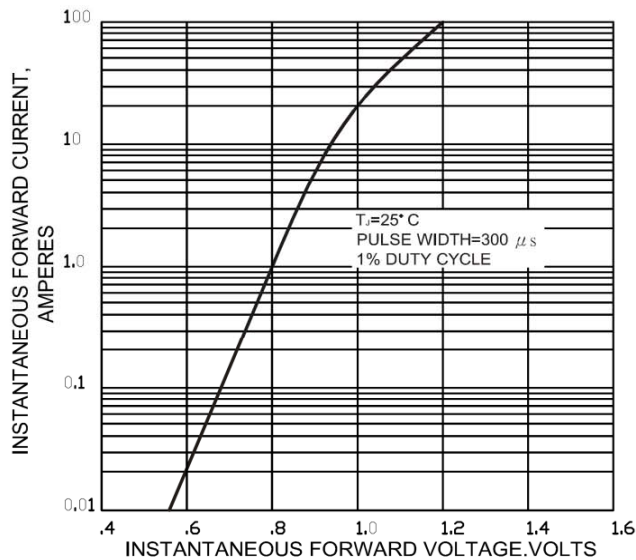


FIG.6-TYPICAL REVERSE CHARACTERISTICS

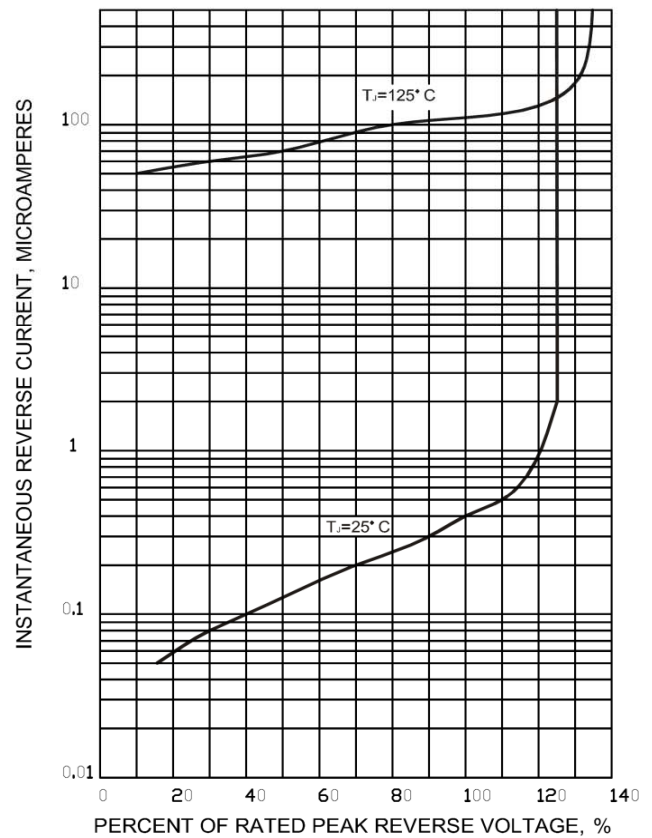


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

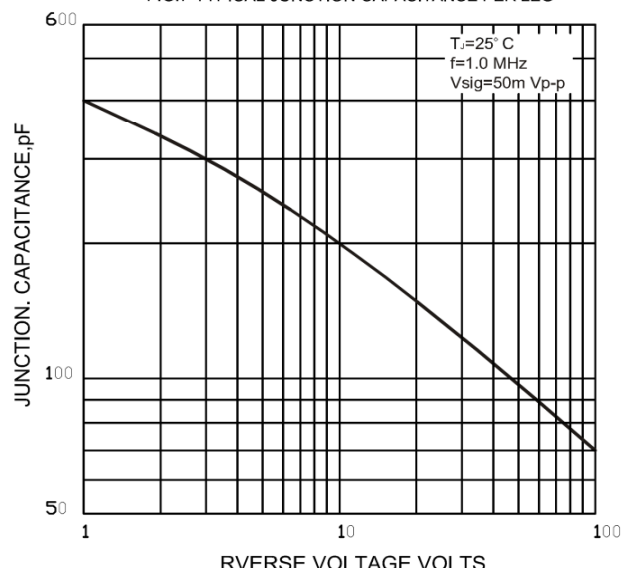


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE

