America Semiconductor

GBPC50005T/W thru GBPC5004T/W

Silicon Bridge Rectifier

V_{RRM} = 50 V - 1000 V

I_F =50 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 °C, unless otherwise specified (GBPCXXXXT uses GBPC-T package while GBPCXXXXW uses GBPC-W package)

Parameter	Symbol	Conditions	GBPC50005T/W	GBPC5001T/W	GBPC5002T/W	GBPC5004T/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
Continuous forward current	I_F	$T_C \leq 50$ °C	50	50	50	50	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	400	400	400	400	A
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 Tj = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	GBPC50005T/W	GBPC5001T/W	GBPC5002T/W	GBPC5004T/W	Unit
Diode forward voltage	V_F	I_F = 25 A, T_j = 25 °C	1.2	1.2	1.2	1.2	V
Reverse current	I_R	V_R = 50 V, T_j = 25 °C	5	5	5	5	µA
		V_R = 50 V, T_j = 125 °C	500	500	500	500	
Thermal characteristics							
Thermal resistance, junction - case	R_{thJC}		1.2	1.2	1.2	1.2	°C/W

FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

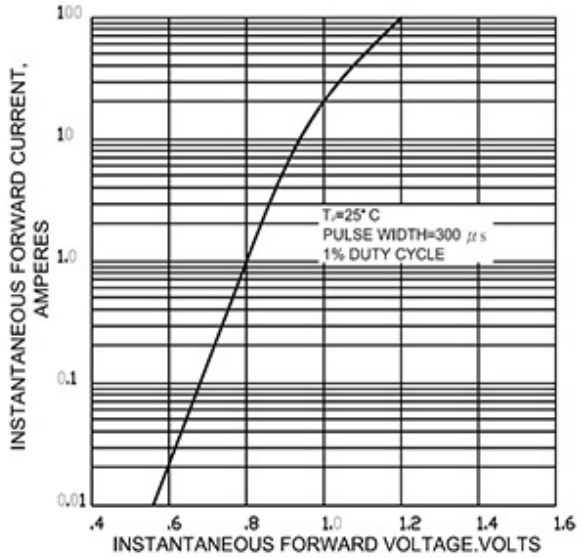

FIG.6-TYPICAL REVERSE CHARACTERISTICS

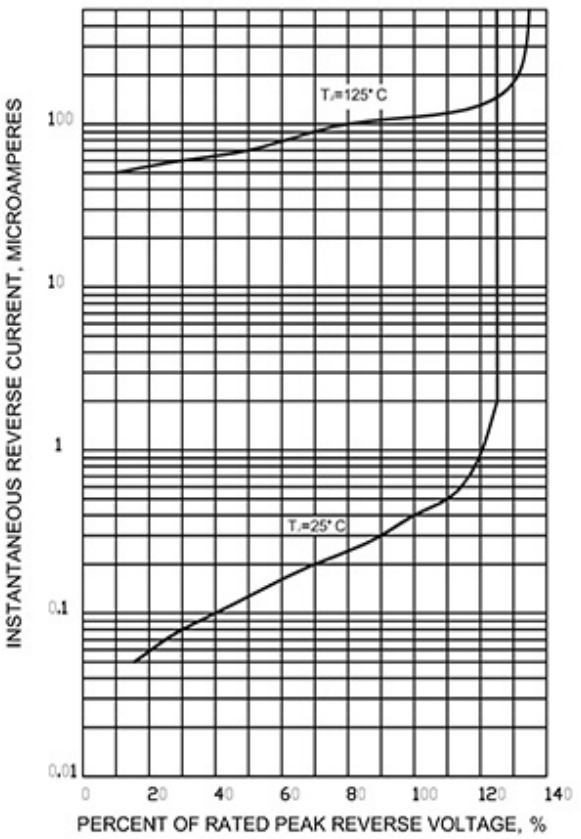

FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

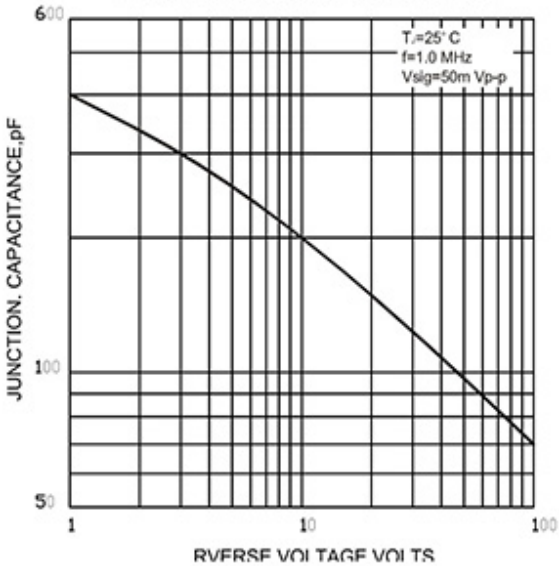

FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE