



# America Semiconductor

## Silicon Bridge Rectifier

### GBPC25005TW thru GBPC2504TW

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

$I_F = 25\text{ A}$

#### 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	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
Continuous forward current	$I_F$	$T_C \leq 50\text{ }^\circ\text{C}$	25	25	25	25	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	300	300	300	300	A
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 $T_j = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Conditions	GBPC25005T/W	GBPC2501T/W	GBPC2502T/W	GBPC2504T/W	Unit
Diode forward voltage	$V_F$	$I_F = 12.5\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	1.1	1.1	1.1	1.1	V
Reverse current	$I_R$	$V_R = 50\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$	5	5	5	5	$\mu\text{A}$
		$V_R = 50\text{ V}$ , $T_j = 125\text{ }^\circ\text{C}$	500	500	500	500	

#### Thermal characteristics

Thermal resistance, junction - case	$R_{thJC}$		1.9	1.9	1.9	1.9	$^\circ\text{C/W}$
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FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

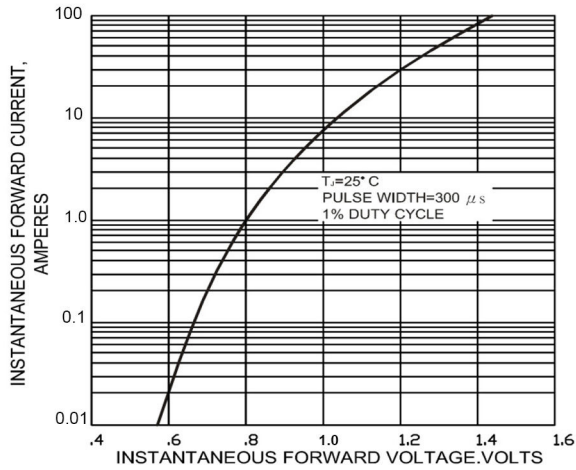


FIG.6-TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

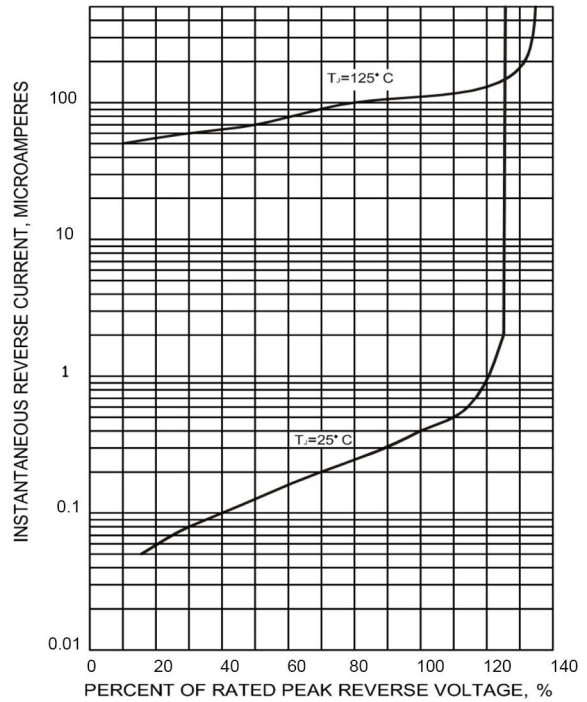


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

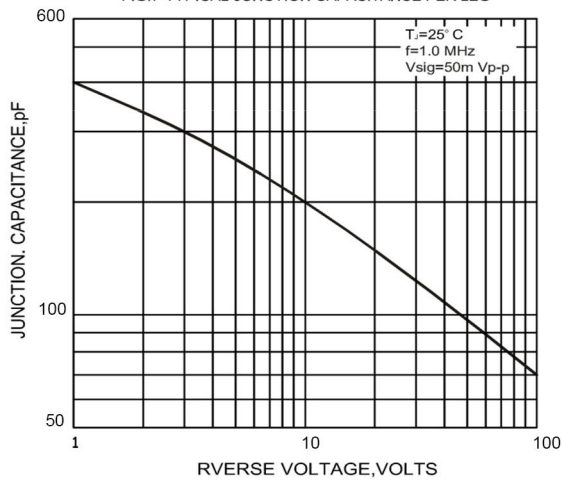


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

