Single Phase Glass Passivated Silicon Bridge Rectifier

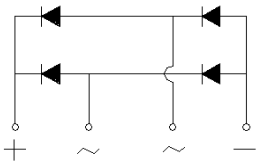
V_{RRM} = 600 V - 1000 V

I_O = 50 A

Features

- Integrally molded heat sink provides low thermal resistance for maximum heat dissipation
- High surge current capability
- Void-free junction soldering by using vacuum soldering
- Universal 3-way terminals: snap on, wire-around, or P.C board mounting
- High temperature soldering guaranteed: 260ºC/ 10 seconds at 5 lbs (2.3 kg) tension
- Not ESD Sensitive

GBPC-T/W Package



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: Polarrity symbols marked on the body

Mounting position: Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface

Weight: 19 grams or 0.67 ounces

Mounting torque: 20 inch-lbs max

Maximum ratings at Tc = 25 °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
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 Tc = 25 °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	GBPC5006T/W	GBPC5008T/W	GBPC5010T/W	Unit
Maximum average forward rectified current	I_O	T_c = 50 °C	50.0	50.0	50.0	A
Peak forward surge current	I_{FSM}	single sine-wave	400	400	400	A
Maximum instantaneous forward voltage drop per leg	V_F	I_F = 25 A	1.2	1.2	1.2	V
Maximum DC reverse current at rated DC blocking voltage per leg	I_R	T_a = 25 °C T_a = 125 °C	5 500	5 500	5 500	µA
Rating for fusing	I^2t	1 ms < t_m < 8.3 ms	1200	1200	1200	A^2sec
RMS isolation voltage from case to leads	V_{ISO}		2500	2500	2500	V
Typical junction capacitance	C_j		360	360	360	pF
Typical thermal resistance	$R_{\Theta JC}$		1.2	1.2	1.2	°C/W

FIG.1-MAXIMUM OUTPUT RECTIFIED CURRENT

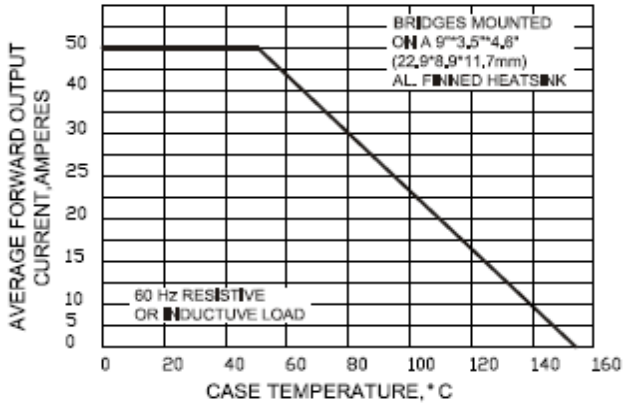


FIG.2-MAXIMUM OUTPUT RECTIFIED CURRENT

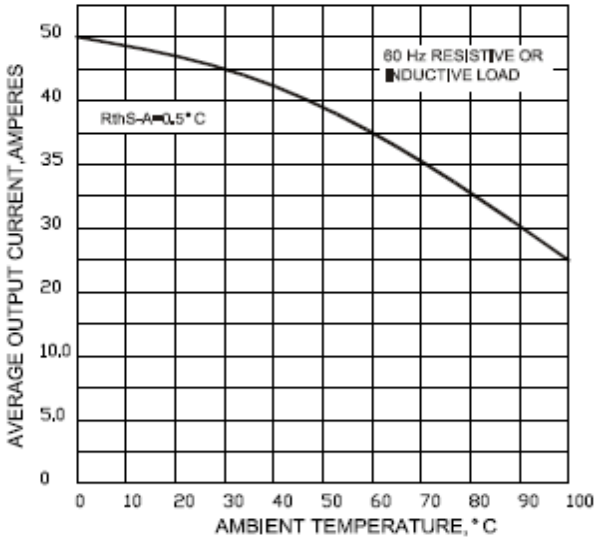


FIG.3-MAXIMUM POWER DISSIPATION

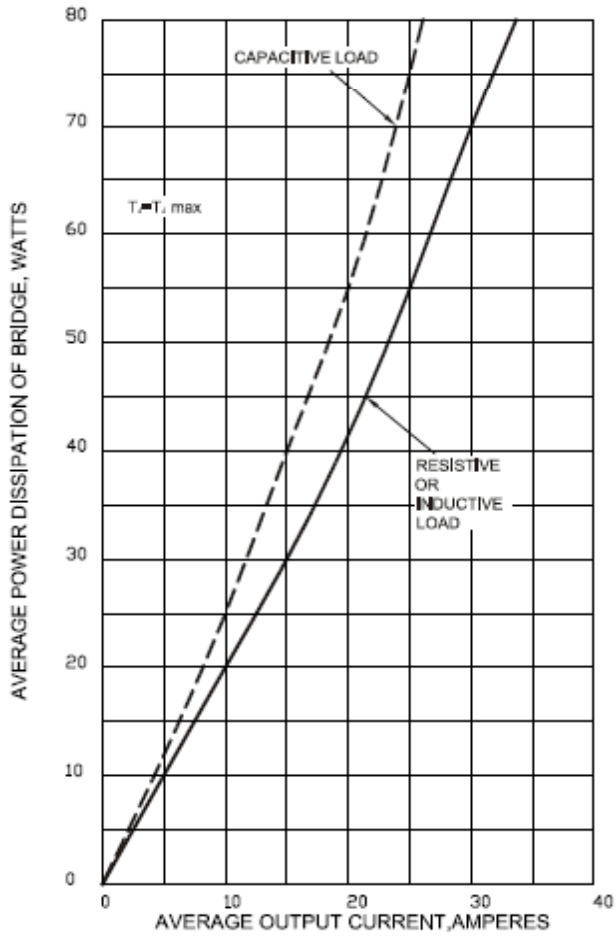


FIG.4-MAXIMUM NON-REPEITIVE PEAK FORWARD

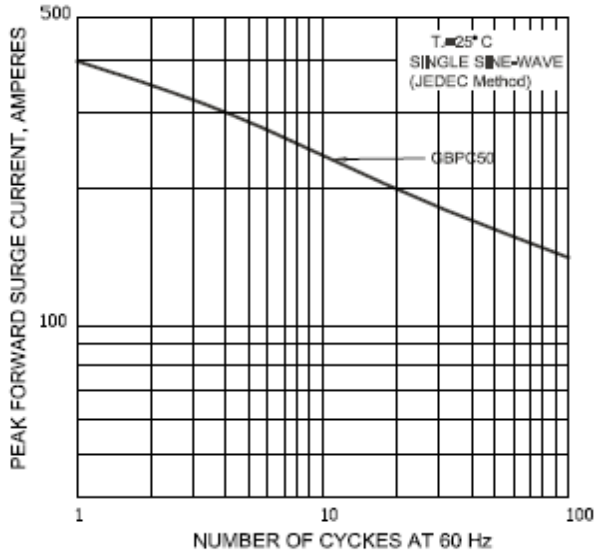


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

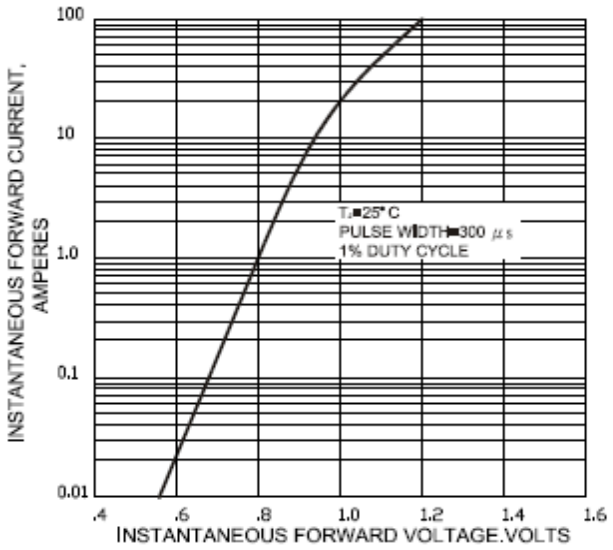


FIG.6-TYPICAL REVERSE CHARACTERISTICS

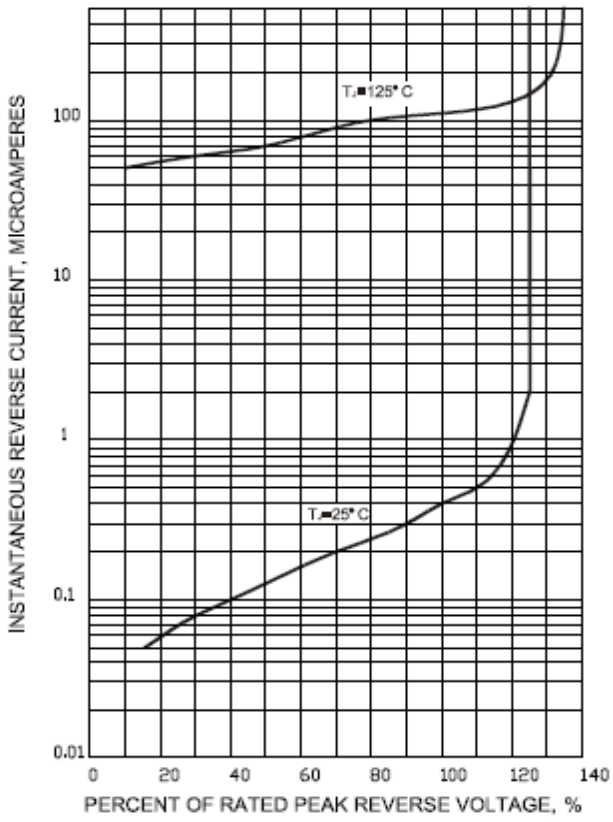


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

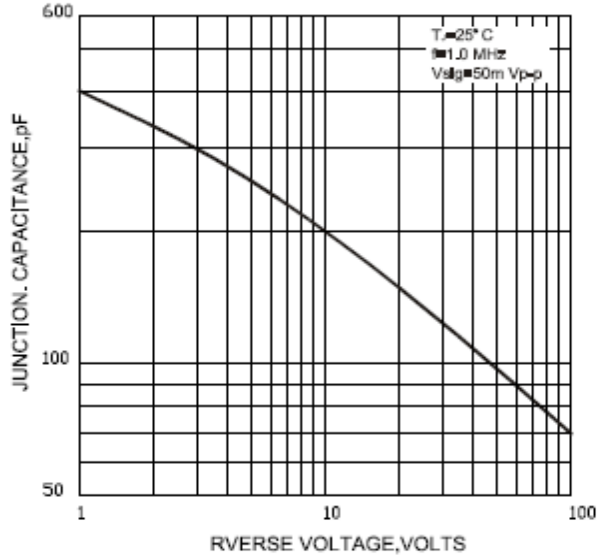
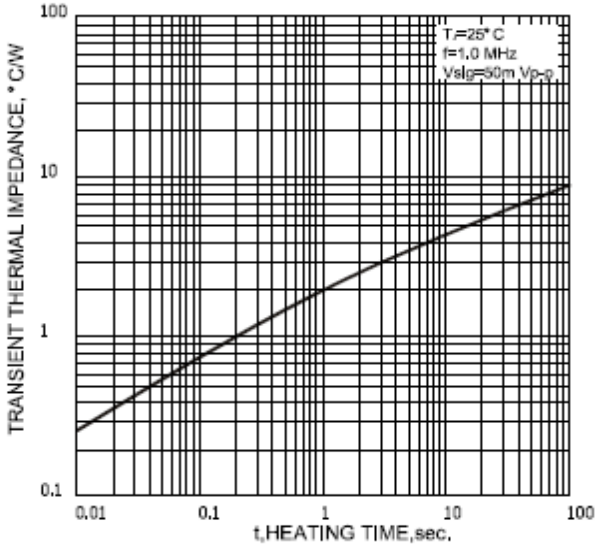
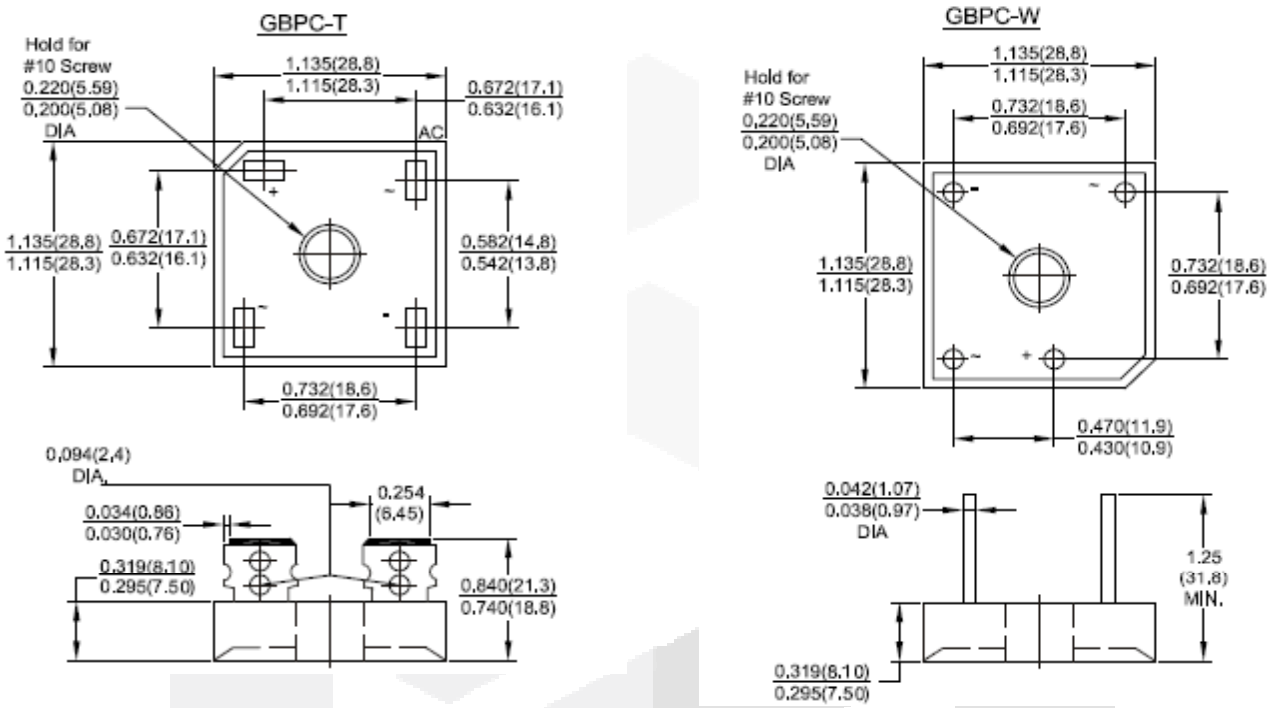


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE

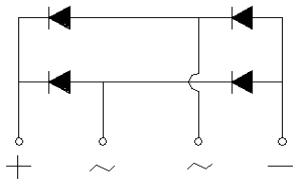


Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)



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