

Single Phase Glass Passivated Silicon Bridge Rectifier

$V_{RRM} = 50 \text{ V} - 400 \text{ V}$

$I_O = 25 \text{ A}$

Features

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

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.

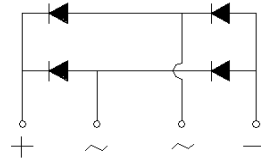
Polarity: Polarity symbols marked on the body

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

Weight: 15 grams or 0.53 ounces

Mounting torque: 20 inch-lbs max

GBPC-T/W Package



Maximum ratings at $T_c = 25^\circ\text{C}$, 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
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 $T_c = 25^\circ\text{C}$, unless otherwise specified

Single phase, half sine wave, 60 Hz, resistive or inductive load

For capacitive load derate current by 20%

Parameter	Symbol	Conditions	GBPC25005T/W	GBPC2501T/W	GBPC2502T/W	GBPC2504T/W	Unit
Maximum average forward rectified current	I_O	$T_c = 50^\circ\text{C}$	25.0	25.0	25.0	25.0	A
Peak forward surge current	I_{FSM}	single sine-wave	300	300	300	300	A
Maximum instantaneous forward voltage drop per leg	V_F	$I_F = 12.5 \text{ A}$	1.1	1.1	1.1	1.1	V
Maximum DC reverse current at rated DC blocking voltage per leg	I_R	$T_a = 25^\circ\text{C}$	5	5	5	5	μA
		$T_a = 125^\circ\text{C}$	500	500	500	500	
Rating for fusing	I^2t	$1 \text{ ms} < t_m < 8.3 \text{ ms}$	375	375	375	375	A^2sec
RMS isolation voltage from case to leads	V_{ISO}		2500	2500	2500	2500	V
Typical junction capacitance	C_j		300	300	300	300	pF
Typical thermal resistance	$R_{\theta JC}$		1.9	1.9	1.9	1.9	$^\circ\text{C/W}$

FIG.1-MAXIMUM OUTPUT RECTIFIED CURRENT

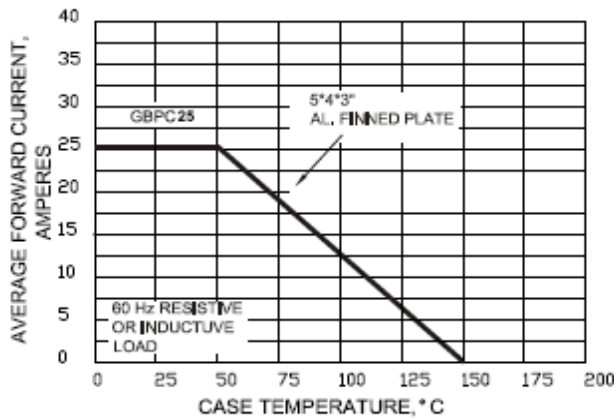


FIG.2-MAXIMUM OUTPUT RECTIFIED CURRENT

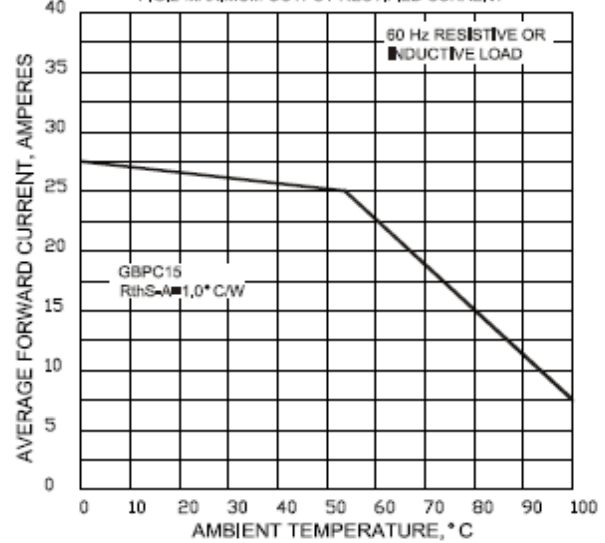


FIG.3-MAXIMUM POWER DISSIPATION

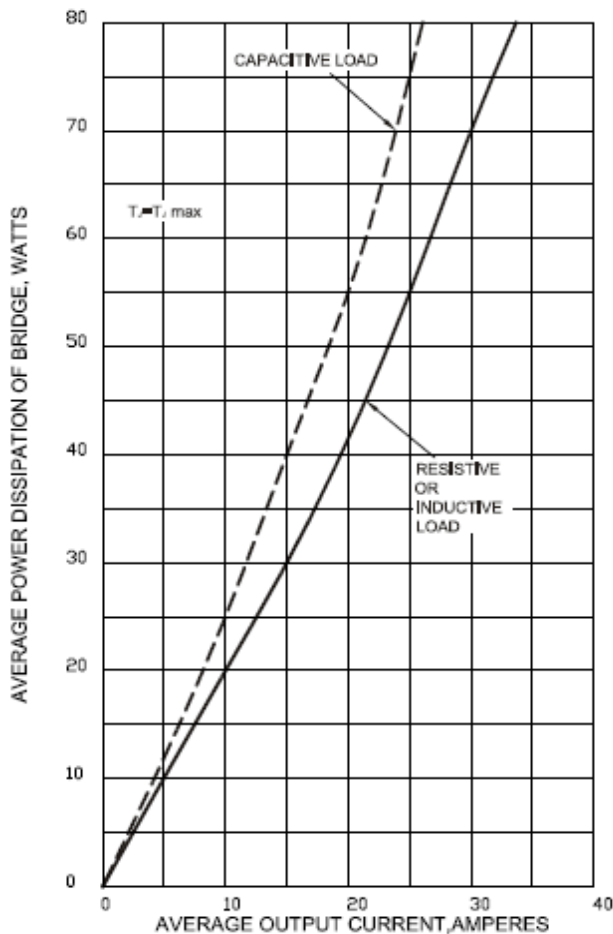


FIG.4-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

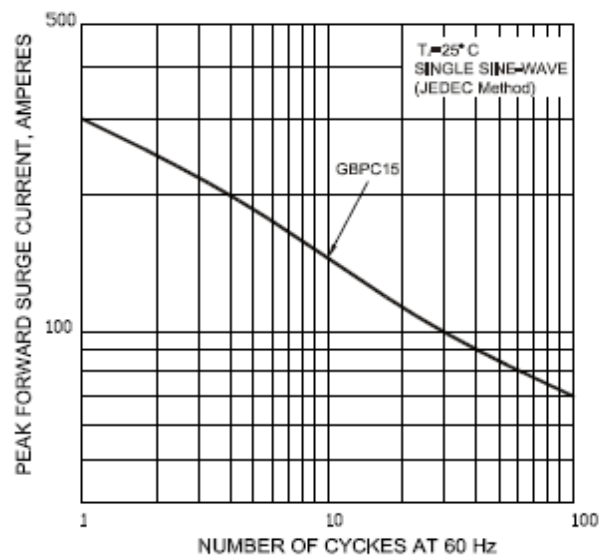


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

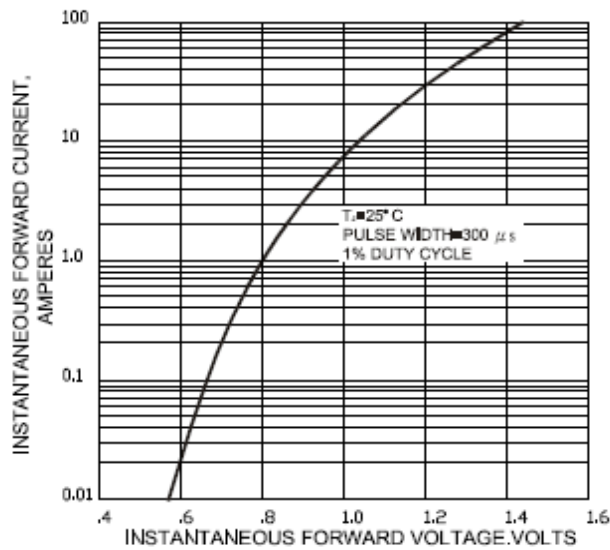


FIG.6-TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

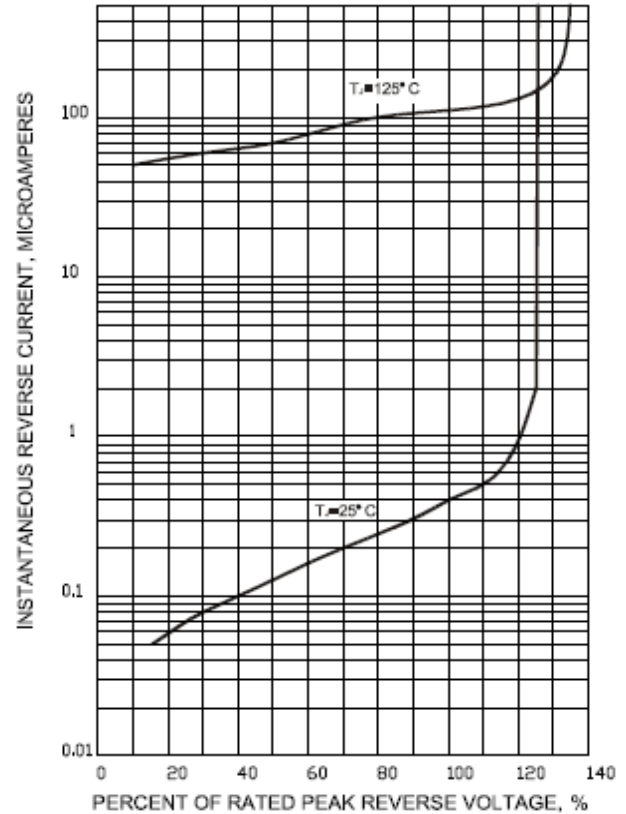


FIG.7-TYPICAL JUNCTION CAPACITANCE PER LEG

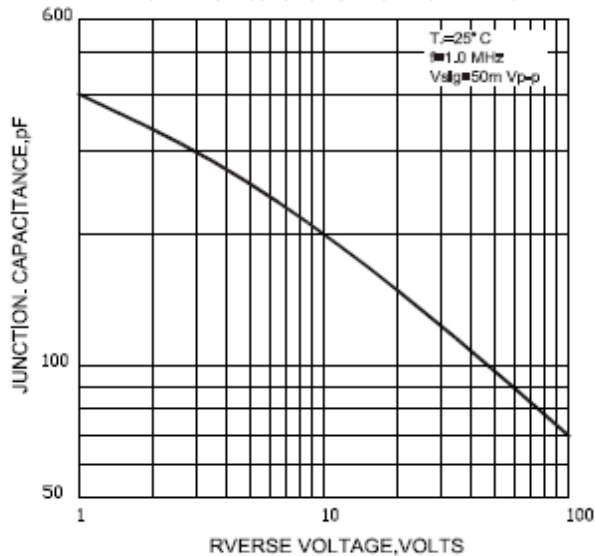
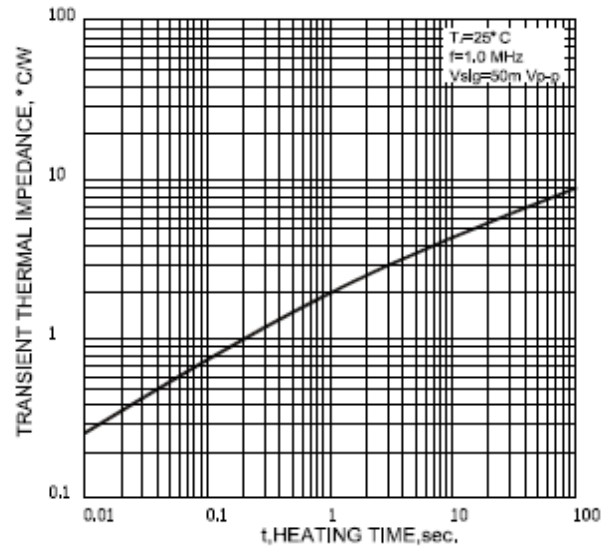
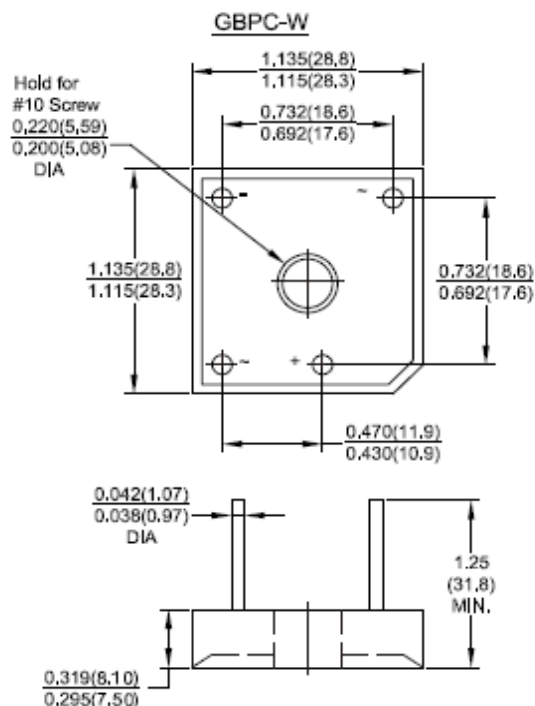
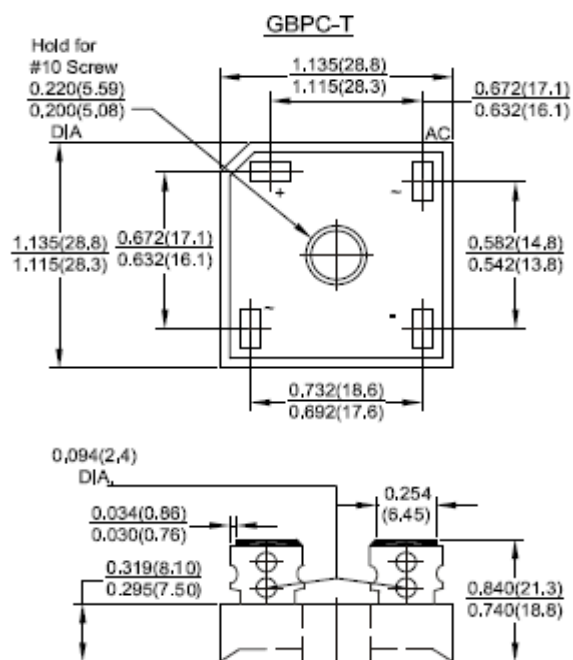


FIG.8-TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

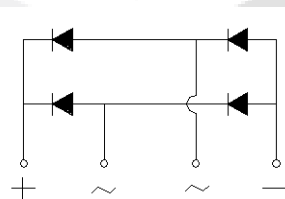


Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)



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