



SINGLE-PHASE SILICON BRIDGE RECTIFIER

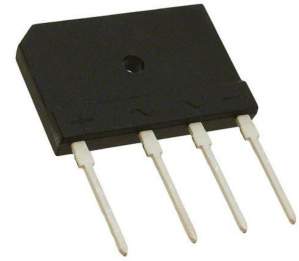
GBJ5006 THRU GBJ5016

VOLTAGE RANGE 600 to 1600 Volts
CURRENT 50.0 Ampere



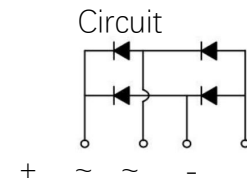
Features

- Glass passivated die construction
- Reverse Voltage - 600 to 1600Volts
- Ideal for printed circuit boards
- High surge current capability
- High temperature soldering guaranteed:
- 265°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension
- Plastic material has U/L flammability classification 94V-0



Mechanical Data

- Case: Molded plastic case
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026
- Polarity: Marked on Body
- Mounting position:Any
- specified.Single phase, half wave ,60Hz, resistive or inductive
- load.For capacitive load, derate current by 20%



Bridge Type

TYPE	VRRM	VRSM
GBJ 5006	600V	700V
GBJ 5008	800V	900V
GBJ 5010	1000V	1100V
GBJ 5012	1200V	1300V
GBJ 5016	1600V	1700V

Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Conditions	Values	Units
I(AV)	Maximum average forward output rectified current $T_c = 100^\circ\text{C}$	50	A
IFSM	Peak forward surge current single half sine-wave superimposed on rated load (JEDEC Method)	500	A
I^2t	Rating for fusing ($t < 10\text{ms}$)	1037	A
Visol	a.c.50HZ;r.m.s.;1min	2500	V
R θ JC	Maximum thermal resistance per leg (1)	1.5	$^\circ\text{C}/\text{W}$
TOR	Mounting Torque (Recommended torque:0.5 N.m)	0.8	N.m
Tj, TSTG	Operating Junction and storage temperature range	-55 to+150	$^\circ\text{C}$
Weight	Approximate Weight	7	g

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Conditions	Values	Units
VF	Maximum Instantaneous Forward Voltage per leg IFM =25A	1.1	V
IR	Maximum DC reverse current at rated DC blocking voltage per leg $T_A = 25^\circ\text{C}$	5.0	μA
	$T_A = 125^\circ\text{C}$	500	

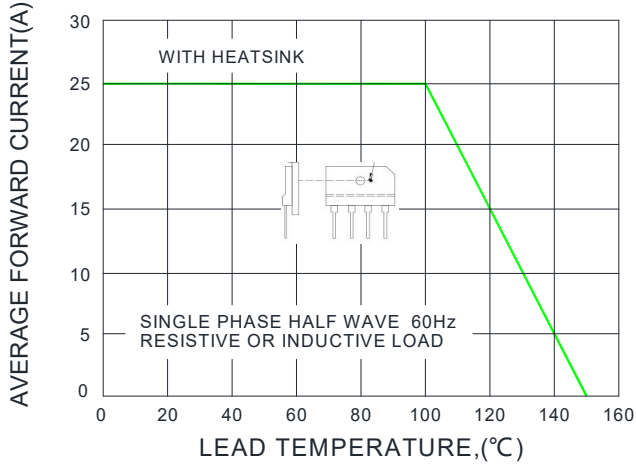
Notes:

1. Junction to case with heatsink.
2. Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw.

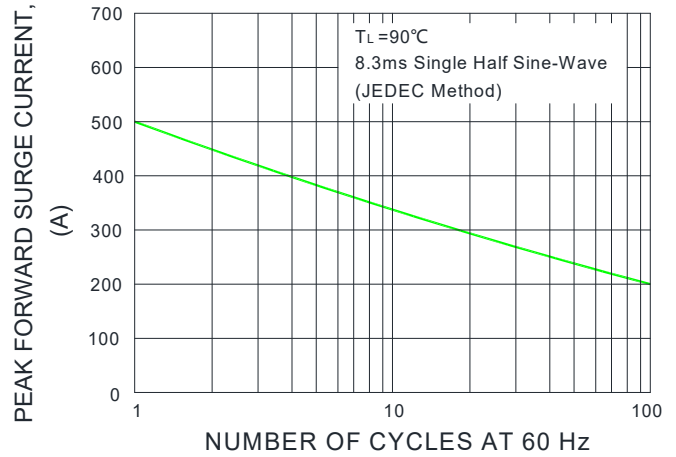


Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

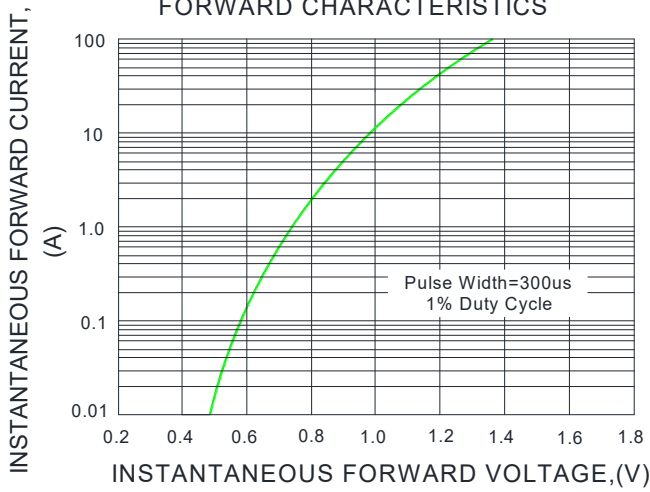
F1G.1-FORWARD CURRENT DERATING CURVE



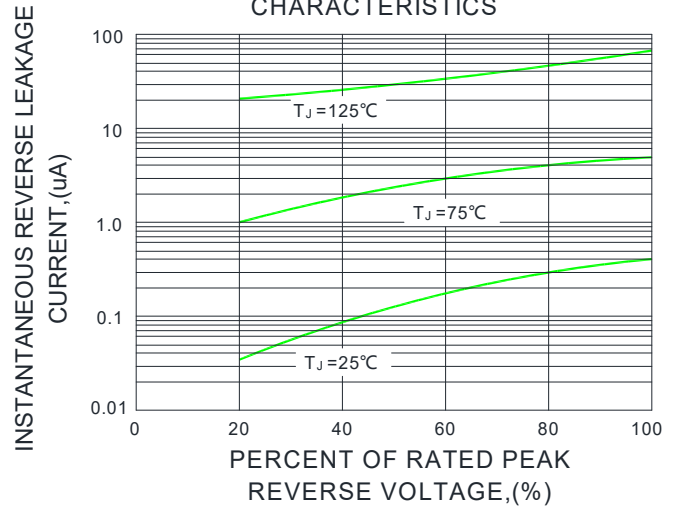
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



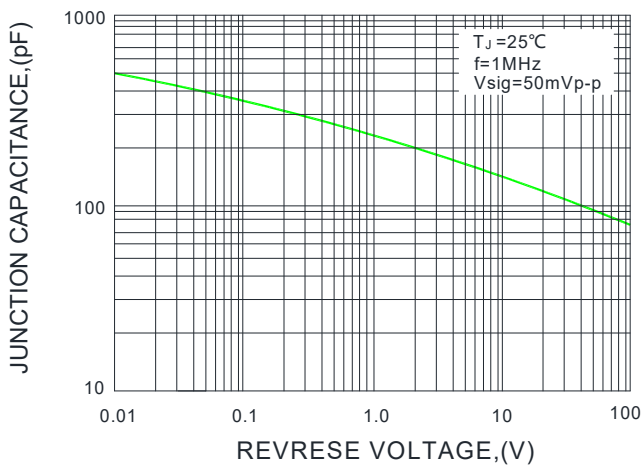
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



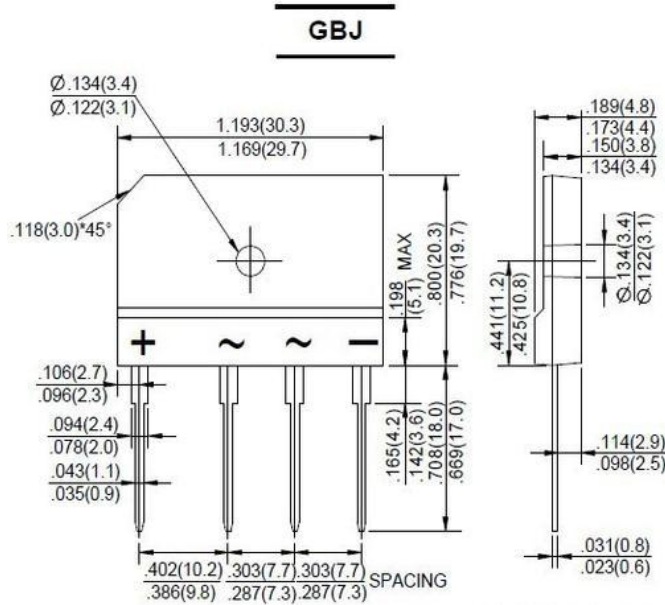


SINGLE-PHASE SILICON BRIDGE RECTIFIER

GBJ5006 THRU GBJ5016

VOLTAGE RANGE 600 to 1600 Volts
CURRENT 50.0 Ampere

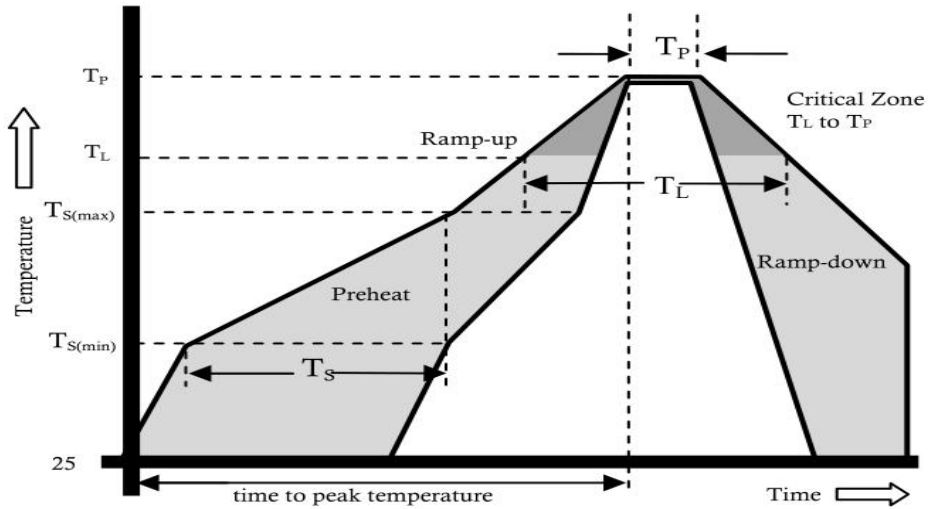
Package Outline Dimensions in inches (millimeters)



Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GBJ	B1	Approximate 3.96	20	1000	2000	TUBE

Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
$T_S(max)$ to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C

Disclaimer



SINGLE-PHASE SILICON BRIDGE RECTIFIER

GBJ5006 THRU GBJ5016

VOLTAGE RANGE	600 to 1600 Volts
CURRENT	50.0 Ampere

The information presented in this document is for reference only. Chongqing changjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Changjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.czlangjie.com](http://www.czlangjie.com) , or consult your nearest Langjie's sales office for further assistance.