TAIWAN SEMICONDUCTOR

The Smartest Choice

GBU401 - GBU407

Single Phase 4.0AMPS. Glass Passivated Bridge Rectifiers

GBU

Features



- ✧ UL Recoganized File # E-326243
- ✧ Ideal for printed circuit board
- ✧ Reliable low cost construction
- ✧ Plastic material has Underwriters laboratory flammability Classification 94V-0
- ✧ High case dielectric strength of 1500 VRMS
- ✧ Surge overload rating to 150 amperes peak
- ✧ High temperature soldering guaranteed: 260℃/10 seconds at 5 lbs.,(2.3kg) tension
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Case: Molded plastic body
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208
- ✧ Weight: 4 grams
- ✧ Mounting Torque : 5 in. lb. max

Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)
GBU401	GBU	20 / TUBE	C2	C2G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Type Number	Symbol	GBU 401	GBU 402	GBU 403	GBU 404	GBU 405	GBU 406	GBU 407	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	4							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A
Rating of fusing (t<8.3ms)	I^2T	93							A^2S
Maximum Instantaneous Forward Voltage (Note 1) @ 2 A @ 4 A	V_F	1.0 1.1							V
Maximum DC Reverse Current @T_A=25℃ at Rated DC Block Voltage @ T_A=125 ℃	I_R	5 500							uA
Typical Junction Capacitance per leg (Note 2)	Cj	100				45			pF
Typical Thermal Resistance	$R_{\theta jA}$ $R_{\theta jC}$	20 4							$^OC/W$
Operating Temperature Range	T_J	- 55 to + 150							^OC
Storage Temperature Range	T_{STG}	- 55 to + 150							^OC

Note 1 : Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2 : Measured at 1MHz and applied Reverse bias of 4.0V DC

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RATINGS AND CHARACTERISTIC CURVES (GBU401 THRU GBU407)

FIG.1 FORWARD CURRENT DERATING CURVE

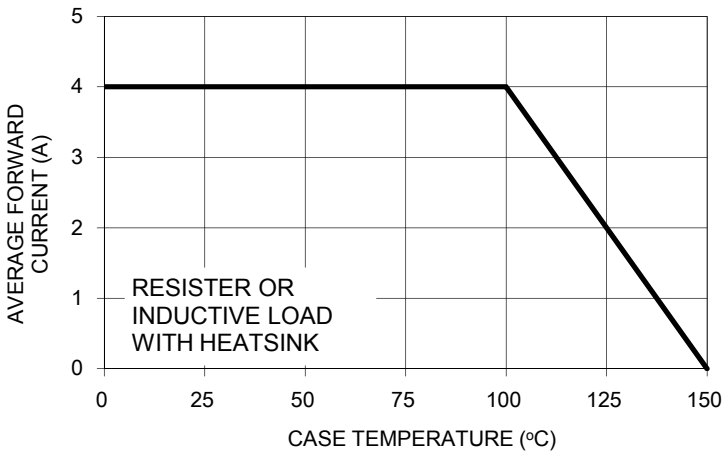


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

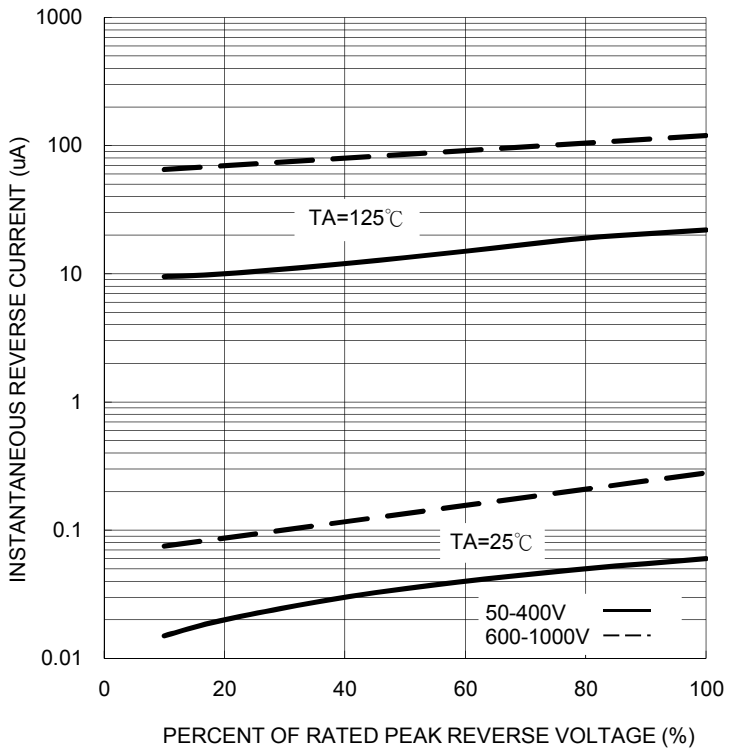


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

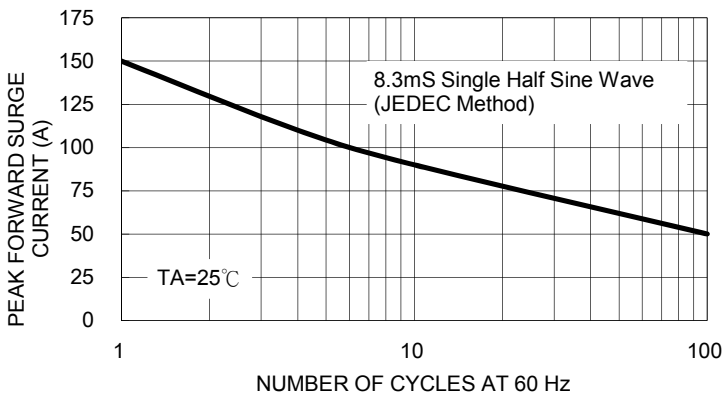


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

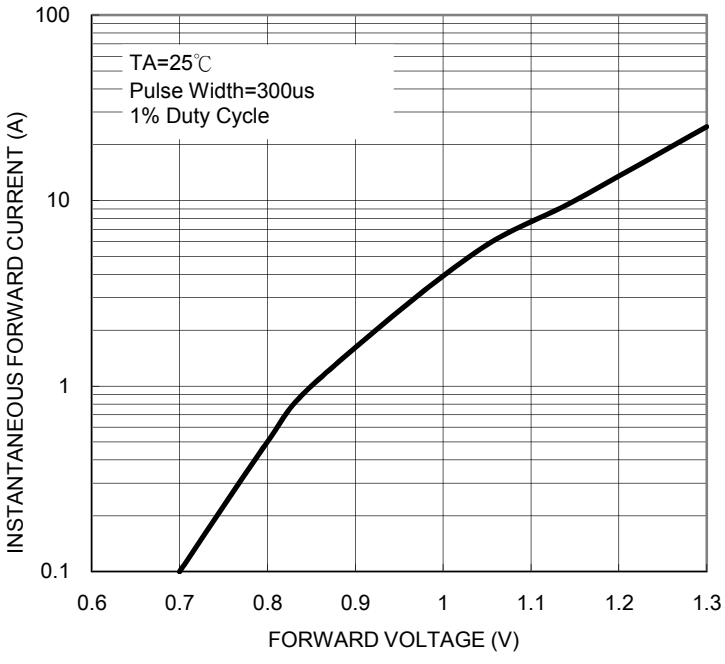
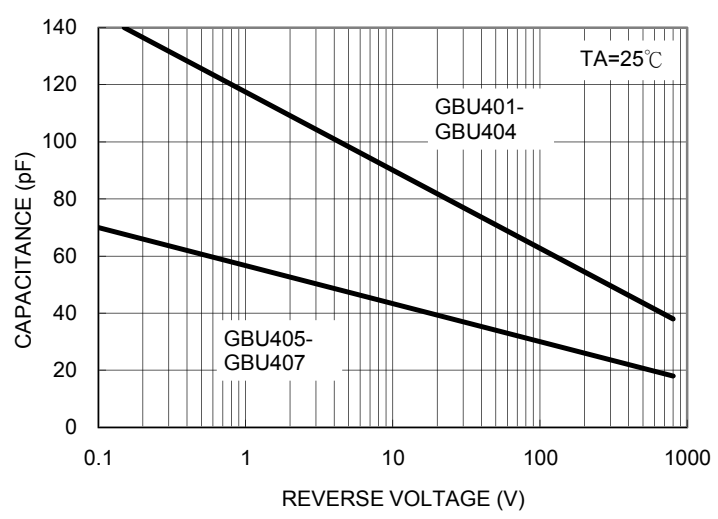


FIG. 5 TYPICAL JUNCTION CAPACITANCE



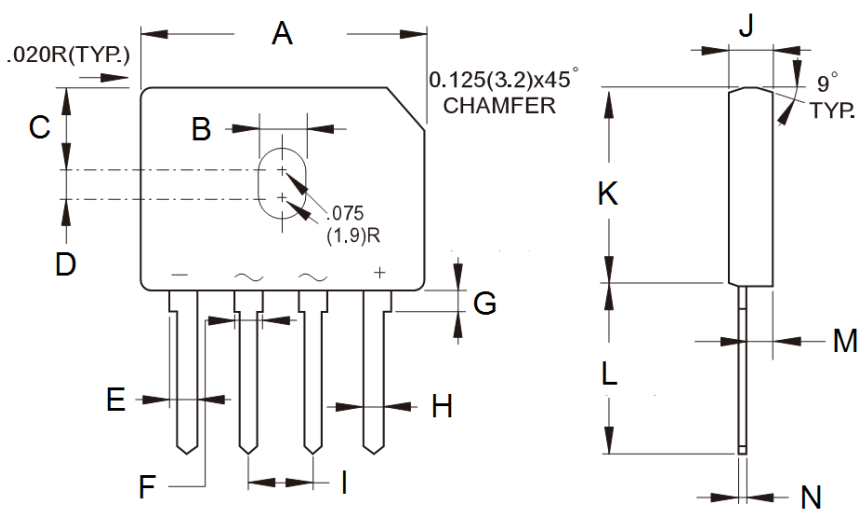
Version:F13

Ordering information

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
GBU40x	GBU	20 / TUBE	C2	C2G
	GBU	20 / TUBE	X0	X0G
	GBU	20 / TUBE	D2	D2G
	GBU	Forming	X2	X2G

Note: "x" is Device Code from "1" thru "7".

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	21.80	22.30	0.858	0.878
B	3.50	4.10	0.138	0.161
C	7.40	7.90	0.291	0.311
D	1.65	2.16	0.065	0.085
E	2.16	2.54	0.085	0.100
F	1.65	2.03	0.065	0.080
G	1.52	2.03	0.060	0.080
H	1.02	1.27	0.040	0.050
I	4.83	5.33	0.190	0.210
J	3.30	3.56	0.130	0.140
K	18.30	18.80	0.720	0.740
L	17.50	18.00	0.689	0.709
M	1.90	2.16	0.075	0.085
N	0.46	0.56	0.018	0.022

Marking Diagram



P/N = Specific Device Code
G = Green Compound
YWW = Date Code