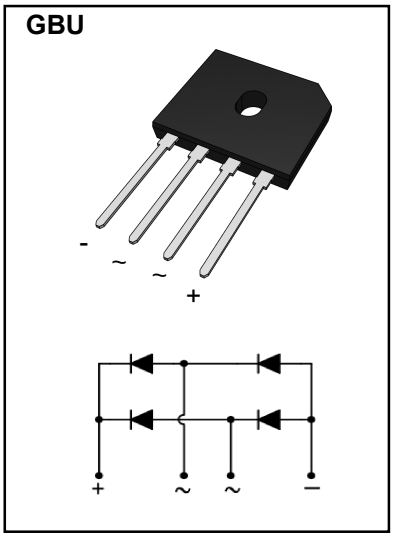
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

GBU Plastic-Encapsulate Bridge Rectifier

GBU4005 THRU GBU410 General Purpose Bridge Rectifier

PRIMARY CHARACTERISTICS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	4	A
V_{RWM}	50-1000	V
I_{FSM}	120	A
T_j	150	℃
V_F	1.1	V



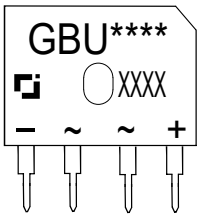
FEATURES

- Idea for printed circuit board
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260℃/10 seconds at terminals

Mechanical Data

- Case: GBU
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Polarity symbol marking on body

MARKING



GBU**** = Device code，****：From 4005 to 410

XXXX = Code

Typical Characteristics

Limiting Values (Absolute Maximum Rating)

Symbol	Item	Unit	GBU4						
			005	01	02	04	06	08	10
V_{RRM}	Peak Repetitive Reverse Voltage	V	50	100	200	400	600	800	1000
V_R	DC Blocking Voltage	V							
V_{RMS}	RMS Reverse Voltage	V	35	70	140	320	420	560	700
$I_{F(AV)}$	Average Forward Rectified Current @60Hz sine wave, R-load	A	4						
I_{FSM}	Non-Repetitive Surge Forward Current @8.3 ms single half sine-wave,1 cycle, Tj=25℃	A	120						
I^2t	Current squared time @1ms≤t≤8.3ms,Tj=25℃, Rating of per diode	A^2S	60						
T_{STG}	Storage Temperature range	℃	-55 to +150						
T_J	Operating junction temperature	℃	-55 to +150						

Electrical Characteristics(Ta=25℃ Unless otherwise specified)

Symbol	Item	Unit	Test Conditions		TYP.	Max.
V_F	Maximum instantaneous forward voltage drop per diode (Note 1)	V	IF=2A		0.9	1.1
IR	Peak reverse current at rated DC blocking voltage per diode(Note 2)	μA	$V_{RM}=V_{RRM}$	T_j=25℃		5
				T_j=125℃		500
C_{tot}	Total capacitance per Element (Note 3)	pF	VR=4V,f=1MHz		37	
$R_{\theta JC}$	Thermal resistance	℃/W	Between junction and case, With heatsink			3
$R_{\theta JA}$		℃/W	Between junction and ambient, Without heatsink			60

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: pulse width ≤ 40 ms

(3) Per element, measured at 1.0MHz and applied reverse voltage of 4.0V DC

Typical Characteristics

Figure 1. Current Derating

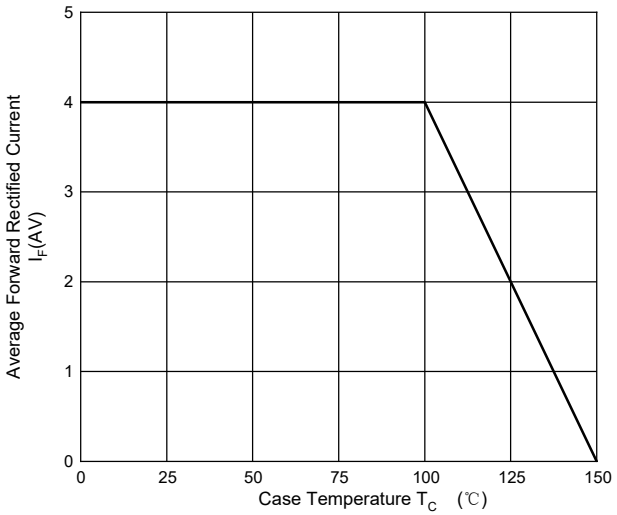


Figure 2. Maximum Non-Repetitive Forward Surge Current

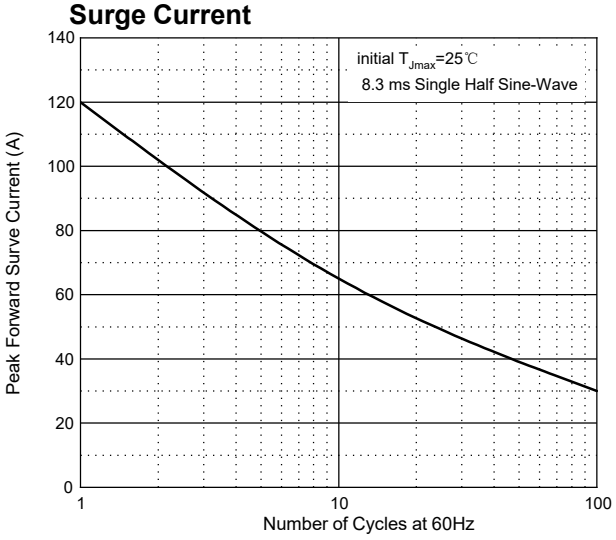


Figure 3. Forward Characteristics

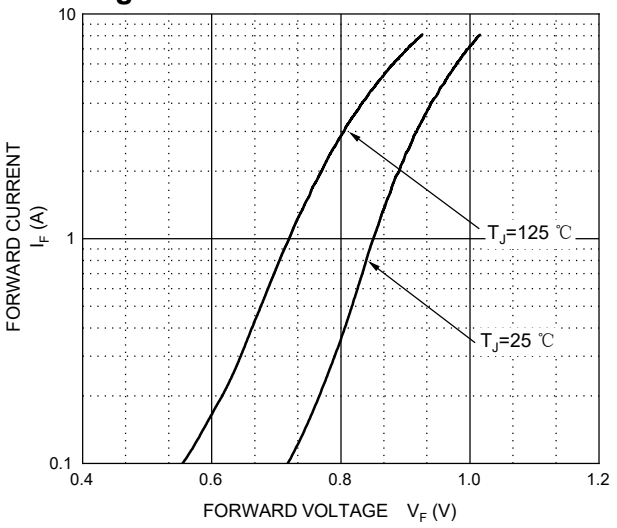
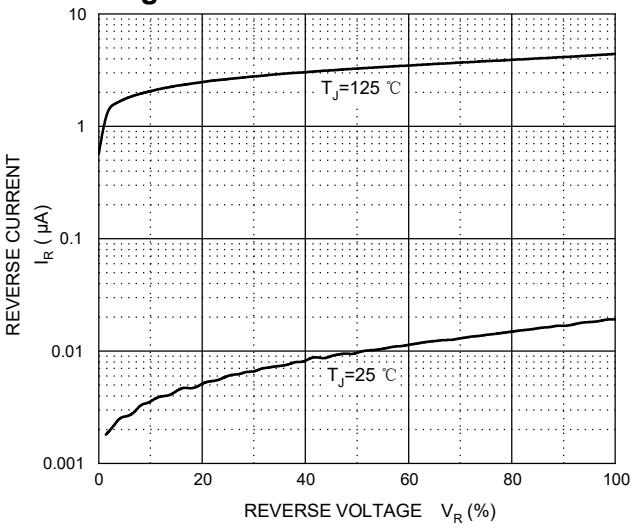
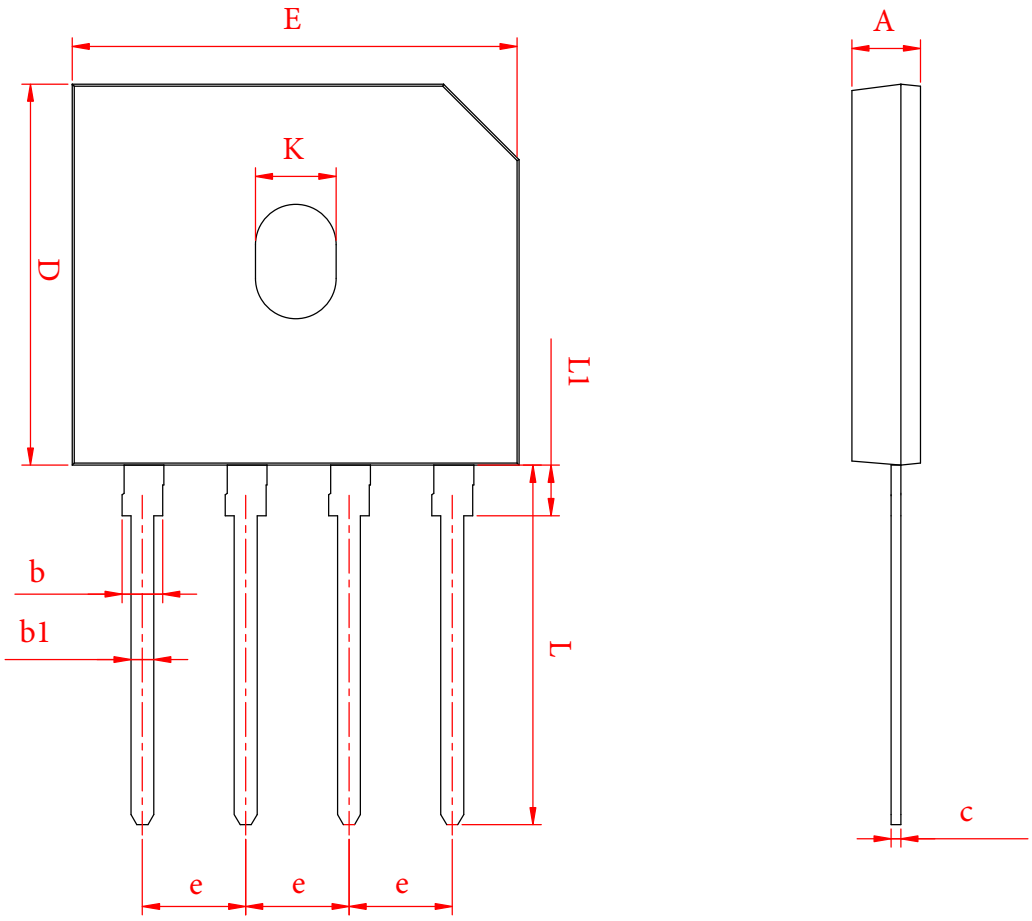


Figure 4. Reverse Characteristics



GBU Package Outline Dimensions



DIM	Unit:mm		Unit:inch	
	MIN	MAX	MIN	MAX
A	3.30	3.60	0.130	0.142
b	1.95	2.40	0.077	0.094
b1	1.00	1.20	0.039	0.047
c	0.45	0.55	0.018	0.022
D	18.30	18.80	0.720	0.740
e	4.80	5.30	0.189	0.209
E	21.80	22.20	0.858	0.874
L	17.50	18.00	0.689	0.709
L1	2.25	2.75	0.089	0.108
K	3.50	4.10	0.138	0.161

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