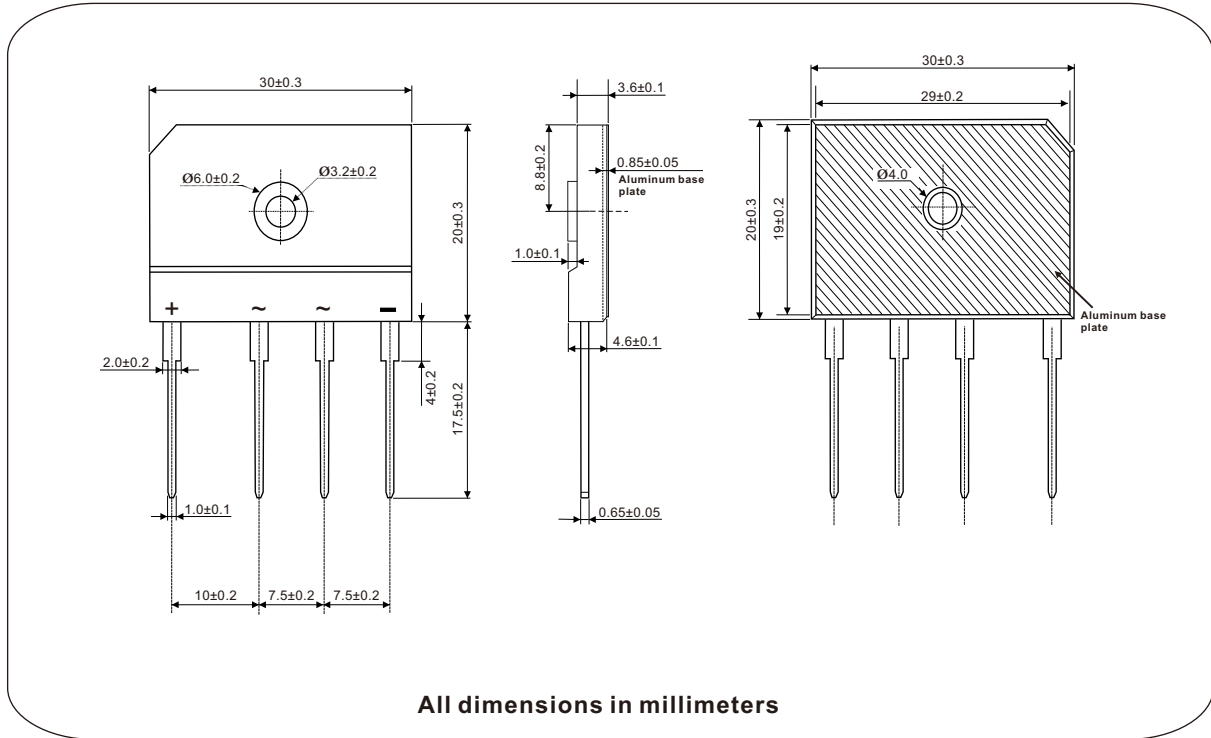


## Glass Passivated Single-Phase Bridge Rectifier, 50A

### GBJ5004H Thru GBJ5012H



### FEATURES

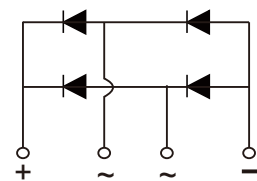
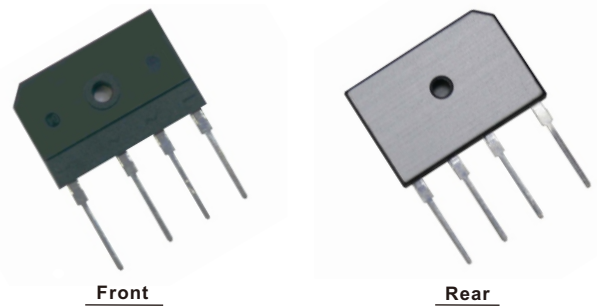
- UL recognition file number E320098
- Typical IR less than 2.0  $\mu\text{A}$
- High surge current capability
- Low thermal resistance
- Compliant to RoHS
- Isolation voltage up to 2500V

### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for big power supply, field supply for DC motor, industrial automation applications.

### ADVANTAGE

- International standard package  
Epoxy meets UL 94 V-O flammability rating
- Small volume, light weight
- Small thermal resistance
- High heat-conduction rate
- Low temperature rise
- High temperature soldering guaranteed :  
260°C/10 second, 2.3kg tension force
- Weight: 6.7g (0.24 ozs)



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	50A
$V_{RRM}$	400V to 1200V
$I_{FSM}$	450A
$I_R$	5 $\mu\text{A}$
$V_F$	1.10V
$T_{J \text{ max.}}$	150°C

## Nell High Power Products

MAJOR RATINGS AND CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	GBJ50..H					UNIT
		04	06	08	10	12	
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	600	800	1000	1200	V
Peak reverse non-repetitive voltage	$V_{RSM}$	500	700	900	1100	1300	V
Maximum DC blocking voltage	$V_{DC}$	400	600	800	1000	1200	V
Maximum average forward rectified output current, $T_c = 110^\circ\text{C}$	$I_{F(AV)}$	50					A
Peak forward surge current single sine-wave superimposed on rated load	$I_{FSM}$	450					A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	$I^2t$	840					$\text{A}^2\text{s}$
RMS isolation voltage from case to leads	$V_{ISO}$	2500					V
Operating junction storage temperature range	$T_J$	-40 to 150					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-40 to 150					$^\circ\text{C}$

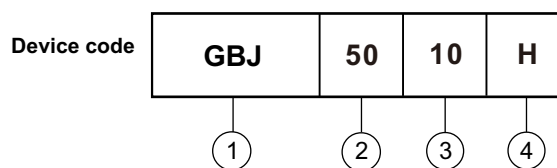
ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	GBJ50..H					UNIT
			04	06	08	10	12	
Maximum instantaneous forward drop per diode	$I_F = 25\text{A}$	$V_F$	1.10					V
Maximum reverse DC current at rated DC blocking voltage per diod	$T_A = 25^\circ\text{C}$	$I_R$	5					$\mu\text{A}$
	$T_A = 150^\circ\text{C}$		500					

THERMAL AND MECHANICAL ( $T_A = 25^\circ\text{C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	GBJ50..H					UNIT
			04	06	08	10	12	
Typical thermal resistance junction to case	Single-side heat dissipation, sine half wave	$R_{\theta JC}^{(1)}$	0.65					$^\circ\text{C}/\text{W}$
Mounting torque to heatsink M3 $\pm 10\%$	A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.		0.8					N·m
Approximate weight			6.7					g

Notes

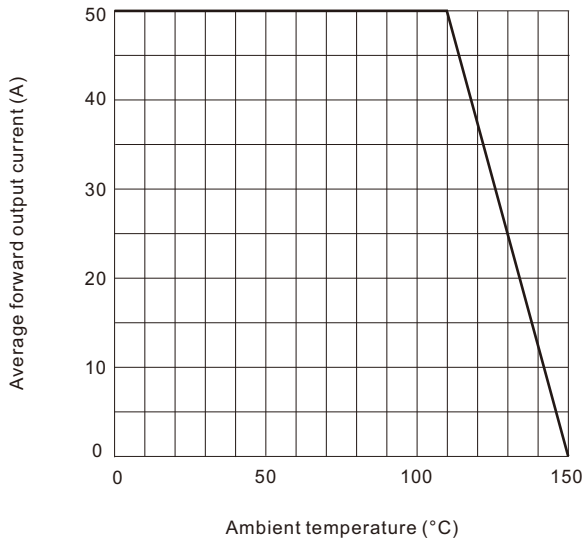
(1) With heatsink, single side heat dissipation, half sine wave.

### Ordering Information Tabel

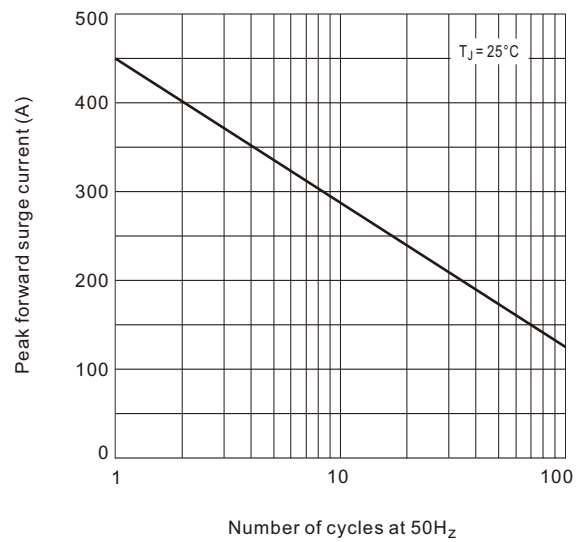


- 1 - Product type : "GBJ" Package, 1Ø Bridge
- 2 -  $I_{F(AV)}$  rating : "50" for 50A
- 3 - Voltage code : code x 100 =  $V_{RRM}$
- 4 - H: With Aluminum base plate (heatsink)

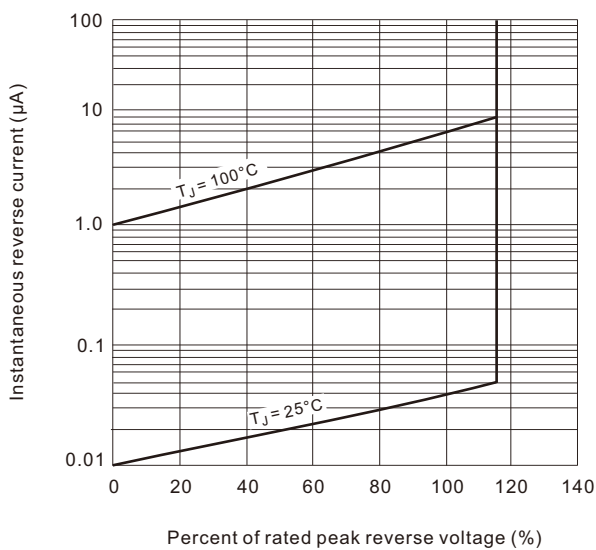
**Fig.1 Derating curve for output rectified current**



**Fig.2 Maximum non-repetitive peak forward surge current per bridge element**



**Fig.3 Typical reverse characteristics per bridge element**



**Fig.4 Typical forward characteristics per bridge element**

