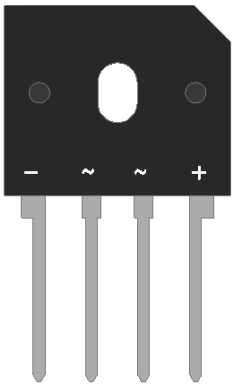
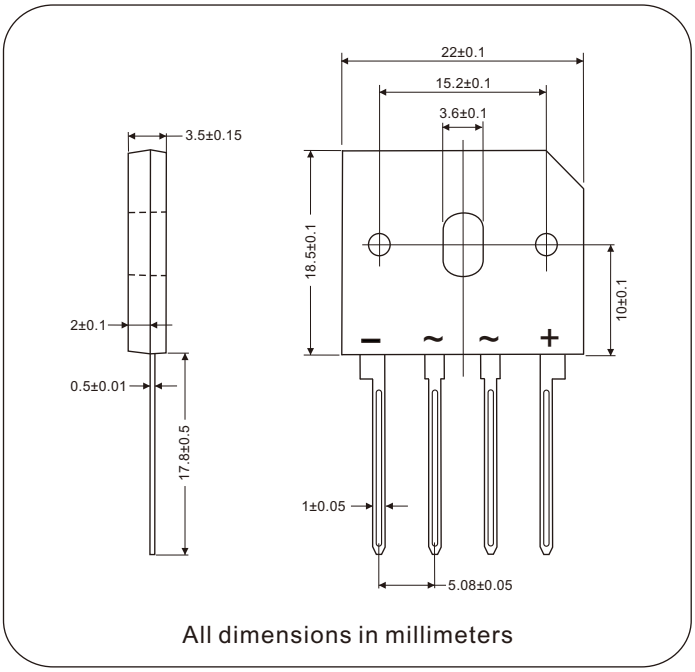
Avalanche Glass Passivated Single-Phase Bridge Rectifier

15A / 800V



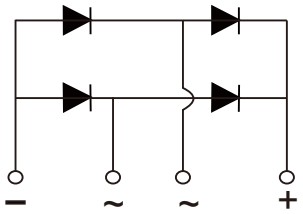


All dimensions in millimeters

FEATURES

- UL recognition file number E320098
- Typical IR less than 1.0 μA
- High surge current capability
- Glass passivated chip junction
- Low forward voltage drop
- Low thermal resistance
- Compliant to RoHS
- Isolation voltage up to 2500V
- Controlled avalanche series

RoHS COMPLIANT



TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, field supply for DC motor, home appliances, white-goods applications, power supply for Telecom, desktop PC and server switching mode power supply.

ADVANTAGE

- International standard package
  Epoxy meets UL 94 V-0 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: 4.0g (0.14 ozs)

PRIMARY CHARACTERRISTICS	
$I_{F(AV)}$	15A
V_{RRM}	800V
I_{FSM}	400A
I_R	0.20 μA, typical
V_F	0.92V max.
$T_{J\ max.}$	150°C

MAJOR RATINGS AND CHARACTERISTICS (T_A = 25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	800	V
Peak reverse non-repetitive voltage	V_{RSM}	900	V
Minimum avalanche breakdown voltage at 10 μA	V_{BR}	850	V
Maximum avalanche breakdown voltage at 10 μA	V_{BR}	1300	V
Maximum average forward rectified output current, T_c = 110°C	$I_{F(AV)}$	15	A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	400	A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	664	A^2s
RMS isolation voltage from case to leads	V_{ISO}	2500	V
Operating junction storage temperature range	T_J	-40 to 150	°C
Storage temperature range	T_{STG}	-40 to 150	°C

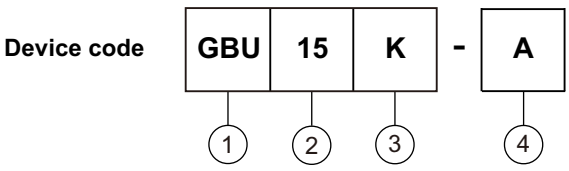
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE		UNIT
			TYP.	MAX.	
Maximum instantaneous forward drop per diode	I_F = 7.5A	V_F	0.88	0.92	V
Maximum reverse DC current at rated DC blocking voltage per diod	T_A = 25°C	I_R	0.20	2.0	μA
	T_A = 150°C		50	-	

THERMAL AND MECHANICAL (T_A = 25°C unless otherwise noted)				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Typical thermal resistance junction to case	Single-side heat dissipation, sine half wave	$R_{\theta JC}$(1)	1.00	°C/W
Mounting torque ± 10 % to heatsink M3	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			4.0	g

Notes

(1) With heatsink, single side heat dissipation, half sine wave. (100x100x1.6 mm copper plate heatsink)

Ordering Information Tabel



1 - Product type : "GBU" Package,1Ø Bridge

2 - $I_{F(AV)}$ rating : "15" for 15A

3 - Voltage code :K = 800V

4 - "A" for avalanche type, Minimum avalanche breakdown voltage = V_{RRM} + 50V
Maximum avalanche breakdown voltage = V_{RRM} + 500V

Fig.1 Derating curve for output rectified current

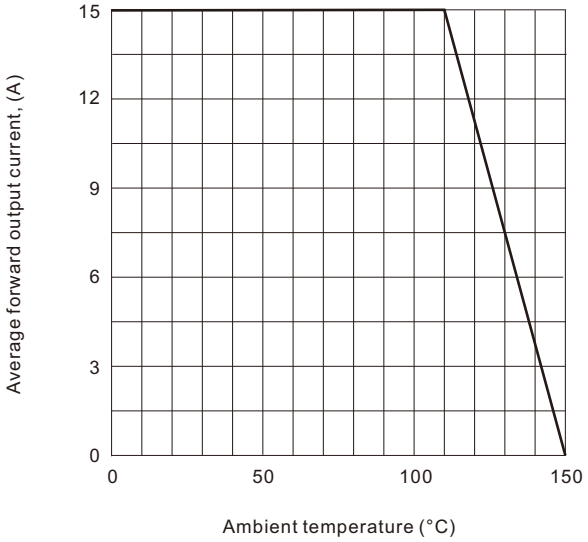


Fig.2 Maximum non-repetitive peak forward surge current per bridge element

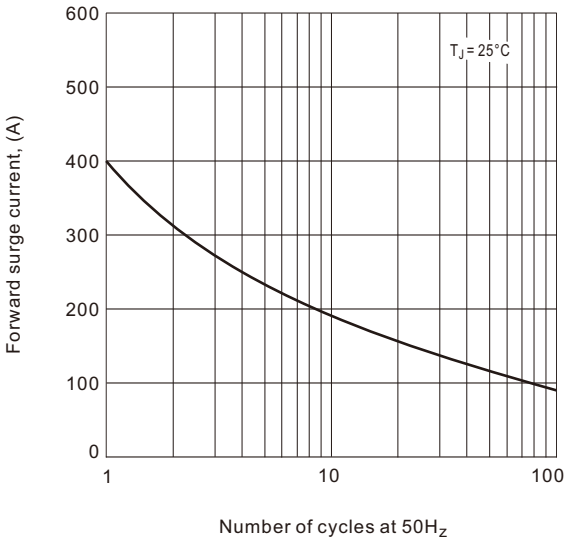


Fig.3 Typical reverse characteristics per bridge element

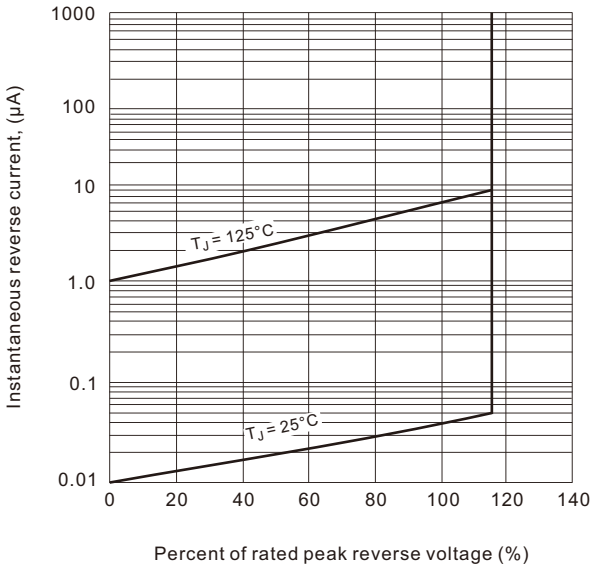


Fig.4 Typical forward characteristics per bridge element