

## Single Phase Glass Passivated Silicon Bridge Rectifier

$V_{RRM} = 600\text{ V} - 1000\text{ V}$

$I_O = 10\text{ A}$

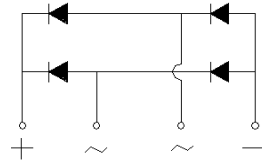
### Features

- Epoxy Resin material compliant with 94V-0 standards of UL UL Material Flammability Provisions
- Compliant with UL Provisions, UL Code: E303851
- Ideal for printed circuit boards
- High surge overload rating
- High temperature soldering guaranteed: 260°C/ 10 seconds, 9.5 mm lead length
- Not ESD Sensitive

### Mechanical Data

- Case: Epoxy resin body over passivated junctions
- Weight: 4.60 g
- Mounting position: Any

GBU Package



### Maximum ratings at $T_A = 25\text{ °C}$ , unless otherwise specified

| Parameter                       | Symbol    | Conditions | GBU10J     | GBU10K     | GBU10M     | Unit |
|---------------------------------|-----------|------------|------------|------------|------------|------|
| Repetitive peak reverse voltage | $V_{RRM}$ |            | 600        | 800        | 1000       | V    |
| RMS reverse voltage             | $V_{RMS}$ |            | 420        | 560        | 700        | V    |
| DC blocking voltage             | $V_{DC}$  |            | 600        | 800        | 1000       | V    |
| Operating temperature           | $T_j$     |            | -40 to 150 | -40 to 150 | -40 to 150 | °C   |
| Storage temperature             | $T_{stg}$ |            | -40 to 150 | -40 to 150 | -40 to 150 | °C   |

### Electrical characteristics at $T_A = 25\text{ °C}$ , unless otherwise specified

Single phase, half sine wave, 50 Hz, resistive load

For capacitive load derate current by 20%

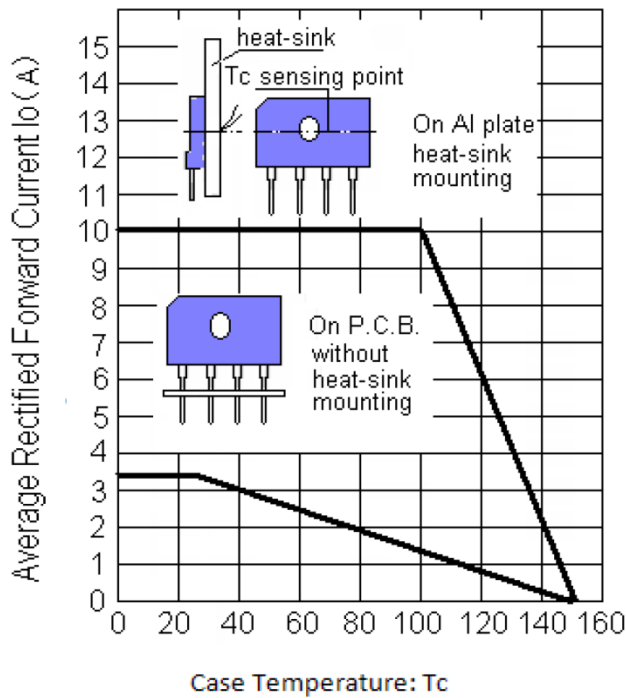
| Parameter  | Symbol                             | Conditions                               | GBU10J                       | GBU10K             | GBU10M             | Unit             |
|--|------------------------------------|--|------------------------------|--------------------|--------------------|------------------|
| Maximum forward rectified current                    | $I_O$                              | $T_C = 100\text{ °C}$                    | 10 <sup>(1)</sup>            | 10 <sup>(1)</sup>  | 10 <sup>(1)</sup>  | A                |
|  |                                    | $T_A = 25\text{ °C}$                     | 3.5 <sup>(2)</sup>           | 3.5 <sup>(2)</sup> | 3.5 <sup>(2)</sup> |                  |
| Peak forward surge current                           | $I_{FSM}$                          | $t_p = 10\text{ ms}, T_j = 25\text{ °C}$ | 225                          | 225                | 225                | A                |
| Maximum forward voltage drop                         | $V_F$                              | $I_F = 5\text{ A}$                       | 1.05                         | 1.05               | 1.05               | V                |
| Maximum reverse current at rated DC blocking voltage | $I_R$                              | $T_A = 25\text{ °C}$                     | 5                            | 5                  | 5                  | µA               |
|  |                                    | $T_A = 125\text{ °C}$                    | 500                          | 500                | 500                |                  |
| Insulation strength (lead wire to case)              | $V_{dis}$                          | AC voltage: 1 min leakage current < 1mA  | 2.5                          | 2.5                | 2.5                | kV               |
| Rating for fusing at $T_j = 25\text{ C}$             | $I^2t$                             | $1\text{ ms} < t_p < 10\text{ ms}$       | 80                           | 80                 | 80                 | A <sup>2</sup> s |
| Typical thermal resistance                           | $R_{\theta JA}$<br>$R_{\theta JC}$ |  | 23 <sup>(2)</sup>            | 23 <sup>(2)</sup>  | 23 <sup>(2)</sup>  | °C/W             |
|  |                                    |  | 5.0 <sup>(1)</sup>           | 5.0 <sup>(1)</sup> | 5.0 <sup>(1)</sup> |                  |
| Mounting Torque                                      | M                                  |  | 0.8 (0.5 N.m is recommended) |                    |                    | N.m              |

<sup>1</sup> - Device mounted on 65 mm x 35 mm x 1.5 mm heatsink

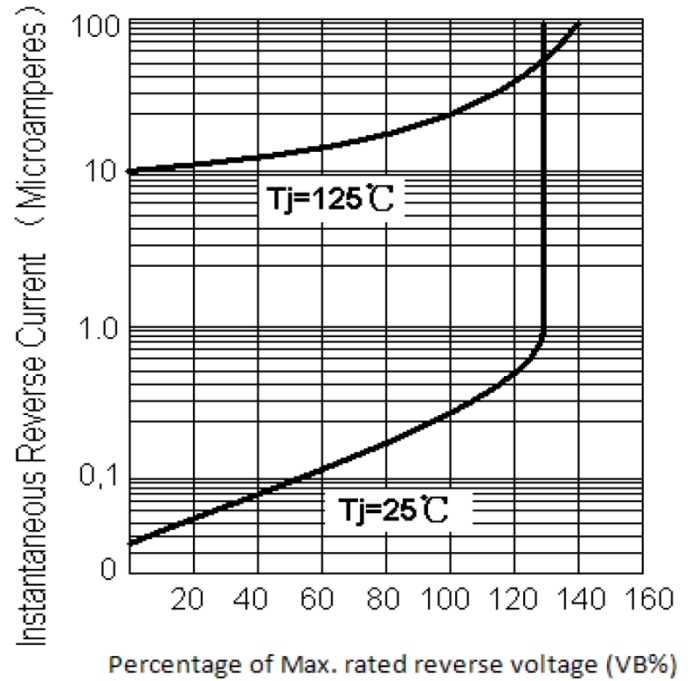
<sup>2</sup> - Device mounted on PCB without heatsink

<sup>3</sup> - Recommended mounted position is to bolt down device on a heatsink with silicon thermal compound for maximum heat transfer using M3 screw.

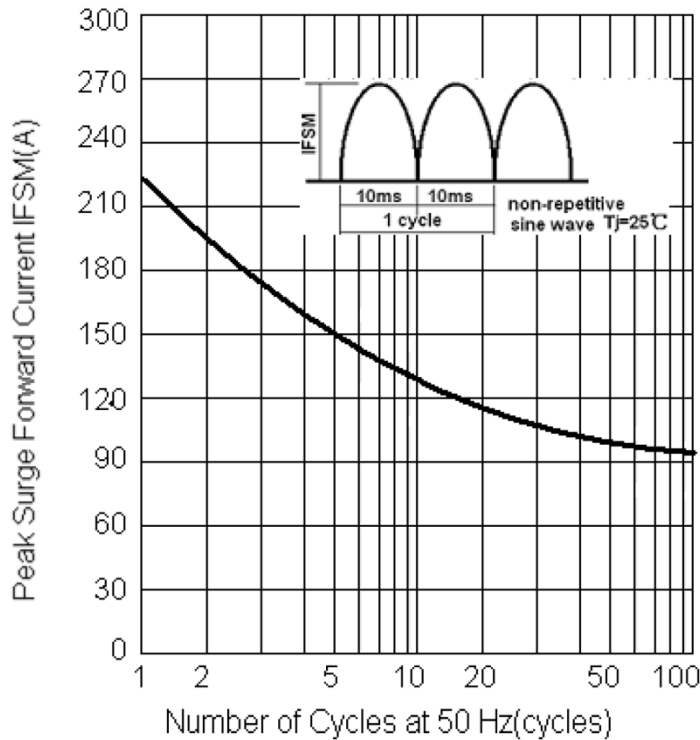
**Fig.1: Current Derating Curve**



**Fig.2: Typical Reverse Characteristics**



**Fig.3: Max. Surge Current**



**Fig.4: Rated Forward Features**

