

## Ultra Low VF Bridge Rectifier with Super Low Leakage Current

**Voltage**

**600 V**

**Current**

**25A**

**GBU-2**

### Features

- Oxide planar chip junction
- Low forward voltage drop (VF@0.74V)
- Low leakage current (IR@20uA)
- Lead free in compliance with EU RoHS 2.0
- Halogen-free according to IEC 61249 standard

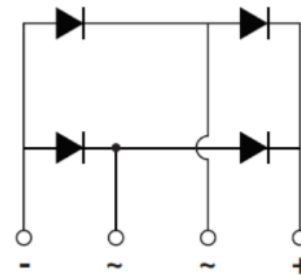


### Mechanical Data

- Case : GBU-2 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 3.8348 grams

### Application

- Computing Power / Desktop Power
- Game Console Power
- Server Power
- Air Conditioner out door power board
- High Power/High Efficiency Power
- Home Appliances Power Board



| Key Parameters     |                     |
|--------------------|---------------------|
| Parameter          | Value               |
| $V_{RRM}$          | <b>600V</b>         |
| $I_F(AV)$          | <b>25A</b>          |
| $I_{FSM}$          | <b>380A</b>         |
| $V_F@125^{\circ}C$ | <b>0.74V</b>        |
| $I_R$              | <b>1uA</b>          |
| $T_J \text{ max.}$ | <b>175^{\circ}C</b> |
| <b>Package</b>     | <b>GBU-2</b>        |

**Maximum Ratings and Thermal Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

| PARAMETER                                                                                  |                             | SYMBOL          | LIMIT   | UNITS                |
|--------------------------------------------------------------------------------------------|-----------------------------|-----------------|---------|----------------------|
| Maximum Repetitive Peak Reverse Voltage                                                    |                             | $V_{RRM}$       | 600     | V                    |
| Maximum RMS Voltage                                                                        |                             | $V_{RMS}$       | 420     | V                    |
| Maximum DC Blocking Voltage                                                                |                             | $V_{DC}$        | 600     | V                    |
| Maximum Average Forward Current                                                            | With heatsink               | $I_{F(AV)}$     | 25      | A                    |
|                                                                                            | Without heatsink            |                 | 5.2     |                      |
| Peak Forward Surge Current : 8.3 ms<br>Single Half Sine-Wave Superimposed<br>On Rated Load | @ $T_A = 25^\circ\text{C}$  | $I_{FSM}$       | 380     | A                    |
|                                                                                            | @ $T_A = 125^\circ\text{C}$ |                 | 304     |                      |
| Peak Forward Surge Current : 1.0 ms<br>Single Half Sine-Wave Superimposed<br>On Rated Load | @ $T_A = 25^\circ\text{C}$  | $I_{FSM}$       | 760     | A                    |
|                                                                                            | @ $T_A = 125^\circ\text{C}$ |                 | 608     |                      |
| $I^2 t$ rating for fusing ( $t = 8.3\text{ms}$ )                                           |                             | $I^2 t$         | 599     | $\text{A}^2\text{S}$ |
| Typical Junction Capacitance<br>Measured at 1 MHz And Applied $V_R = 4\text{ V}$           |                             | $C_J$           | 300     | pF                   |
| Typical Thermal Resistance (Note 1) (with heatsink)                                        |                             | $R_{\theta JA}$ | 6       | $^\circ\text{C/W}$   |
|                                                                                            |                             | $R_{\theta JL}$ | 3       |                      |
|                                                                                            |                             | $R_{\theta JC}$ | 1       |                      |
| Operating junction and storage temperature range                                           |                             | $T_J, T_{STG}$  | -55~175 | $^\circ\text{C}$     |
| Mounting torque @ Recommend torque:5Kg.cm                                                  |                             | Tor             | 8       | Kg.cm                |

**Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

| PARAMETER       | SYMBOL | TEST CONDITION                                 | MIN. | TYP. | MAX. | UNITS         |
|-----------------|--------|------------------------------------------------|------|------|------|---------------|
| Forward Voltage | $V_F$  | $I_F = 12.5\text{ A}, T_J = 25^\circ\text{C}$  | -    | 0.85 | 0.92 | V             |
|                 |        | $I_F = 12.5\text{ A}, T_J = 125^\circ\text{C}$ | -    | 0.74 | -    |               |
| Reverse Current | $I_R$  | $V_R = 600\text{ V}, T_J = 25^\circ\text{C}$   | -    | 0.2  | 1    | $\mu\text{A}$ |
|                 |        | $V_R = 600\text{ V}, T_J = 125^\circ\text{C}$  | -    | 20   | -    |               |

NOTES :

1. Device mounted on 100 mm \* 94 mm \* 26 mm Fin type heat sink .

TYPICAL CHARACTERISTIC CURVES

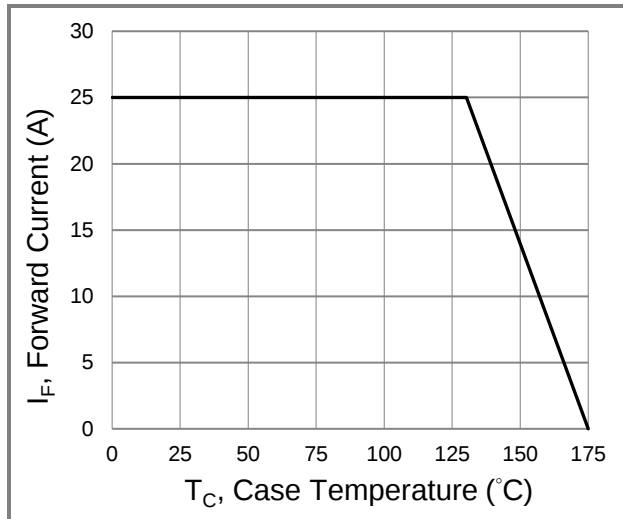


Fig.1 Forward Current Derating Curve

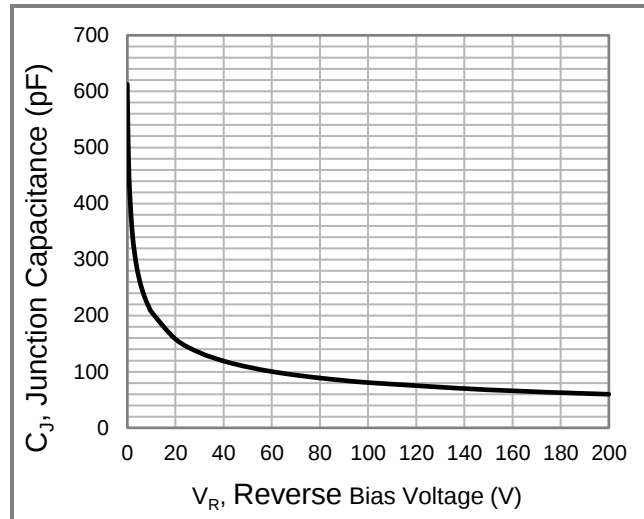


Fig.2 Typical Junction Capacitance

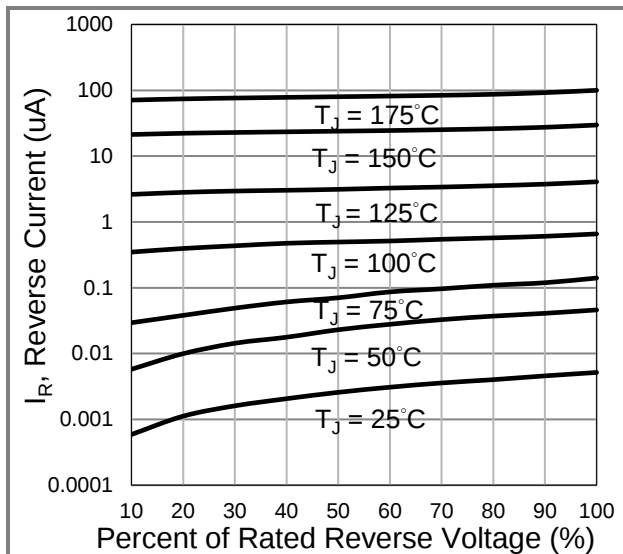


Fig.3 Typical Reverse Characteristics

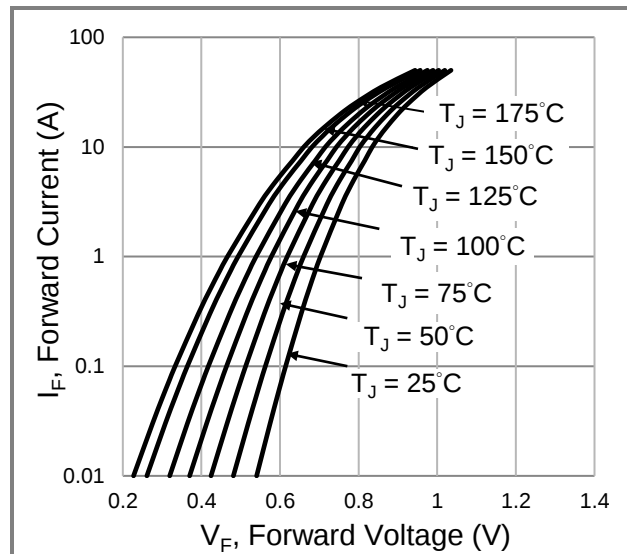
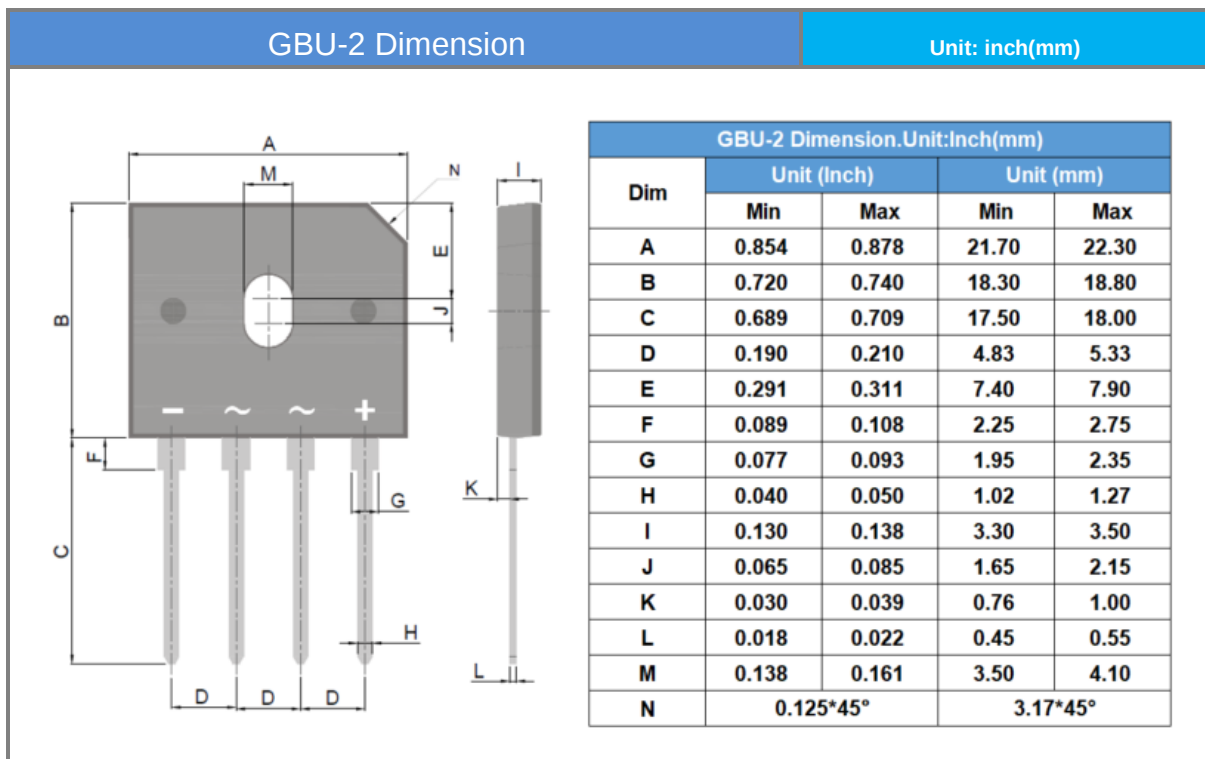


Fig.4 Typical Forward Characteristics

## Product and Packing Information

| Part No.    | Package Type | Packing Type  | Marking     |
|-------------|--------------|---------------|-------------|
| GBU2506HULV | GBU-2        | 20 pcs / tube | GBU2506HULV |

## Packaging Information



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