

PART OBSOLETE - EOL18

Bulletin I2717 rev. G 05/02

International
IR Rectifier

4GBU Series

4.0 Amps Single Phase Full Wave

Bridge Rectifier

Features

- Diode chips are glass passivated
- Suitable for Universal hole mounting
- Easy to assemble & install on P.C.B.
- High Surge Current Capability
- High Isolation between terminals and molded case ($1500 V_{RMS}$)
- Lead free terminals solderable as per MIL-STD-750 Method 2026
- Terminals suitable for high temperature soldering at 260°C for 8-10 secs
- UL E160375 approved

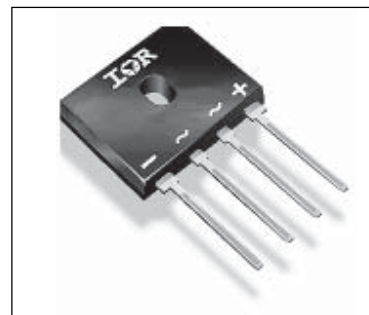
$$I_{O(AV)} = 4A$$
$$V_{RRM} = 50/800V$$

Description

These GBU Series of Single Phase Bridges consist of four glass passivated silicon junction connected as a Full Wave Bridge. These four junctions are encapsulated by plastic molding technique. These Bridges are mainly used in Switch Mode power supply and in industrial and consumer equipment.

Major Ratings and Characteristics

| Parameters | 4GBU | Units |
|-----------------|-------------|------------------|
| I_O | 4 | A |
| @ T_C | 100 | °C |
| I_{FSM} @50Hz | 150 | A |
| @60Hz | 158 | A |
| I^2t @50Hz | 113 | A ² s |
| @60Hz | 104 | A ² s |
| V_{RRM} range | 50 to 800 | V |
| T_J | - 55 to 150 | °C |



4GBU

ELECTRICAL SPECIFICATIONS

Voltage Ratings

| Type number | Voltage Code | V_{RRM} , max repetitive peak rev. voltage $T_J = T_J \text{ max.}$ V | V_{RMS} , max RMS voltage $T_J = T_J \text{ max.}$ V | I_{RRM} max. @ rated V_{RRM} $T_J = 25^\circ\text{C}$ μA | I_{RRM} max. @ rated V_{RRM} $T_J = 150^\circ\text{C}$ μA |
|-------------|--------------|---|--|--|---|
| 4GBU | 005 | 50 | 35 | 5 | 400 |
| 4GBU...F | 01 | 100 | 70 | 5 | 400 |
| | 02 | 200 | 140 | 5 | 400 |
| | 04 | 400 | 280 | 5 | 400 |
| | 06 | 600 | 420 | 5 | 400 |
| | 08 | 800 | 560 | 5 | 400 |

Forward Conduction

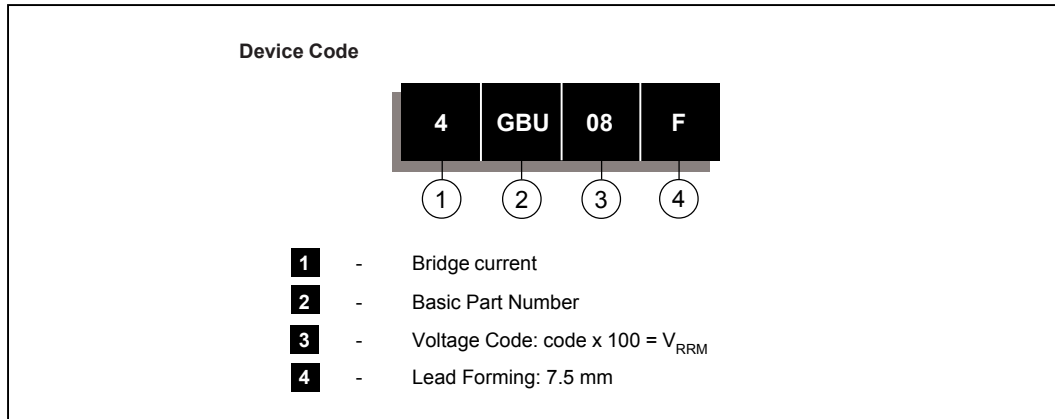
| Parameters | 4GBU | Unit | Conditions |
|---|-----------|----------------------|---|
| I_O Maximum DC output current | 4 | A | $T_C = 100^\circ\text{C}$, Resistive & inductive load $T_C = 100^\circ\text{C}$, Capacitive load |
| | 3.2 | | |
| I_{FSM} Maximum peak, one-cycle non-repetitive surge current, following any rated load condition and with rated V_{RRM} reapplied | 150 | | $t = 10\text{ms}$ |
| | 158 | | $t = 8.3\text{ms}$ |
| I^2t Maximum I^2t for fusing, initial $T_J = T_J \text{ max}$ | 113 | A^2s | $t = 10\text{ms}$ |
| | 104 | | $t = 8.3\text{ms}$ |
| V_{FM} Maximum peak forward voltage per diode | 1.0 | V | $T_J = 25^\circ\text{C}$, $I_{FM} = 4\text{A}$ |
| I_{RM} Typical peak reverse leakage current per diode | 5 | μA | $T_J = 25^\circ\text{C}$, 100% V_{RRM} |
| V_{RRM} Maximum repetitive peak reverse voltage range | 50 to 800 | V | |

Thermal and Mechanical Specifications

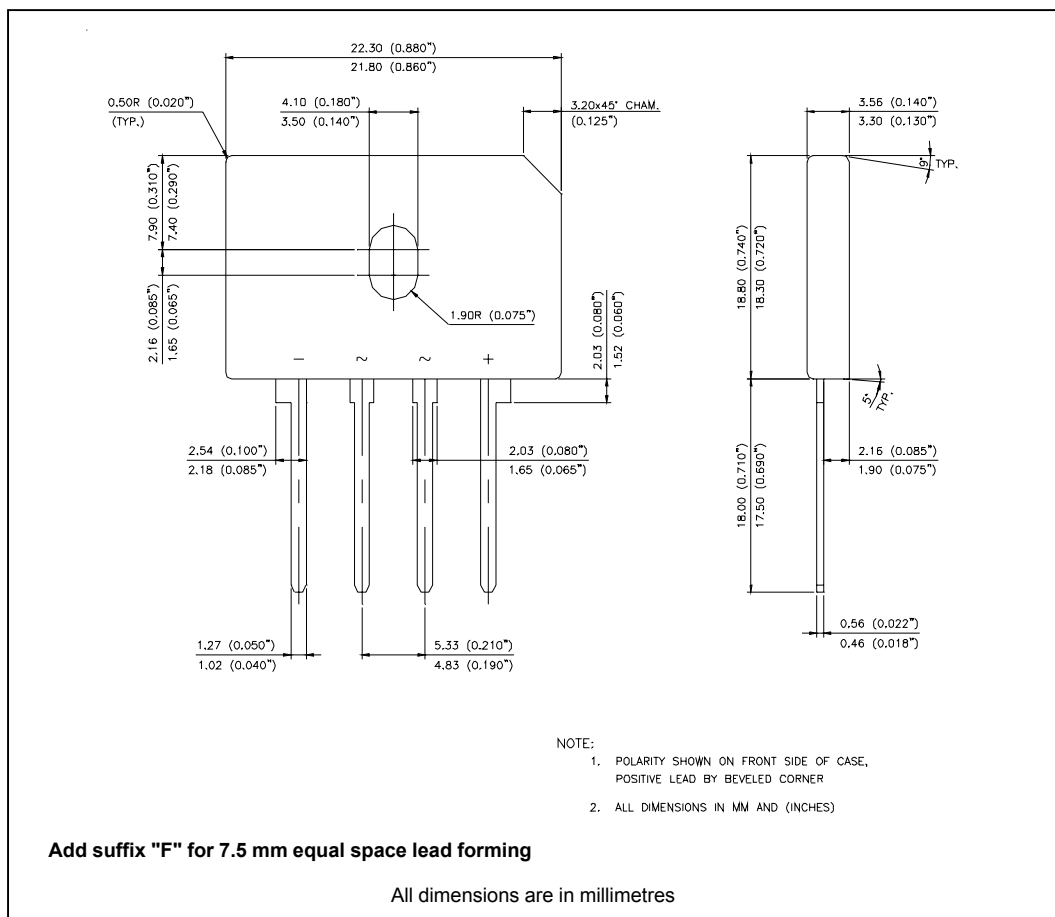
| Parameters | 4GBU | Unit | Conditions |
|---|------------|---------------------------|-------------------------------------|
| T_J Operating and storage temperature range | -55 to 150 | $^\circ\text{C}$ | |
| R_{thJC} Max. thermal resistance junction to case | 4.2 | $^\circ\text{C}/\text{W}$ | DC rated current through bridge (1) |
| R_{thJA} Thermal resistance, junction to ambient | 22 | $^\circ\text{C}/\text{W}$ | DC rated current through bridge (1) |
| W Approximate weight | 4(0.14) | g(oz) | |
| T Mounting Torque | 1.0 | Nm | Bridge to Heatsink |
| | 9.0 | Lb.in | |

Note (1): Devices mounted on 40x40x1.5mm aluminum plate; use silicon thermal compound for maximum heat transfer and bolt down using 3mm screw

Ordering Information Table



Outline Table



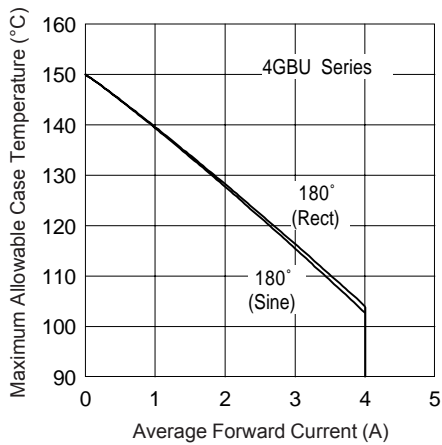


Fig. 1 - Current Ratings Characteristics

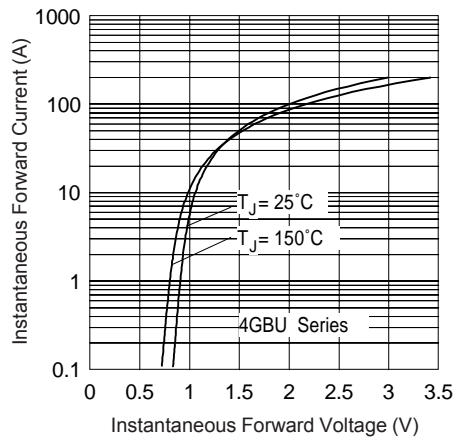


Fig. 2 - Forward Voltage Drop Characteristics

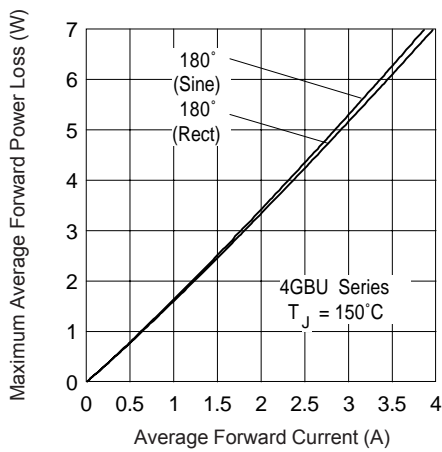


Fig. 3 - Total Power Loss Characteristics

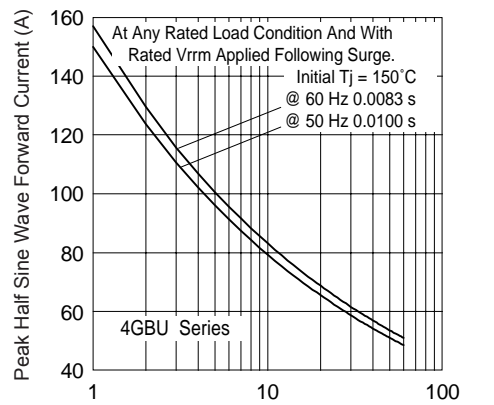


Fig. 4 - Maximum Non-Repetitive Surge Current

Data and specifications subject to change without notice.
This product has been designed and qualified for Multiple Level.
Qualification Standards can be found on IR's Web site.

International
IOR Rectifier

IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105
TAC Fax: (310) 252-7309
Visit us at www.irf.com for sales contact information. 05/02