

# PART OBSOLETE - EOL18

Bulletin I2718 rev. E 05/02

International  
**IRF** Rectifier

## 6GBU Series

### 6.0 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  $260^{\circ}\text{C}$  for 8-10 secs
- UL E160375 approved

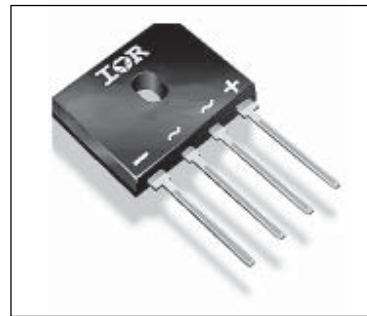
$$I_{O(AV)} = 6A$$
$$V_{RRM} = 50/ 800V$$

#### 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	6GBU	Units
$I_o$	6	A
@ $T_c$	100	$^{\circ}\text{C}$
$I_{FSM}$ @50Hz	175	A
@60Hz	182	A
$I^2t$ @50Hz	154	$\text{A}^2\text{s}$
@60Hz	138	$\text{A}^2\text{s}$
$V_{RRM}$ range	50 to 800	V
$T_J$	- 55 to 150	$^{\circ}\text{C}$



6GBU

**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 $V_{RRM}$ $T_J = 25^\circ\text{C}$ $\mu\text{A}$	$I_{RRM}$ max. @ rated $V_{RRM}$ $T_J = 150^\circ\text{C}$ $\mu\text{A}$
6GBU	005	50	35	5	400
	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**

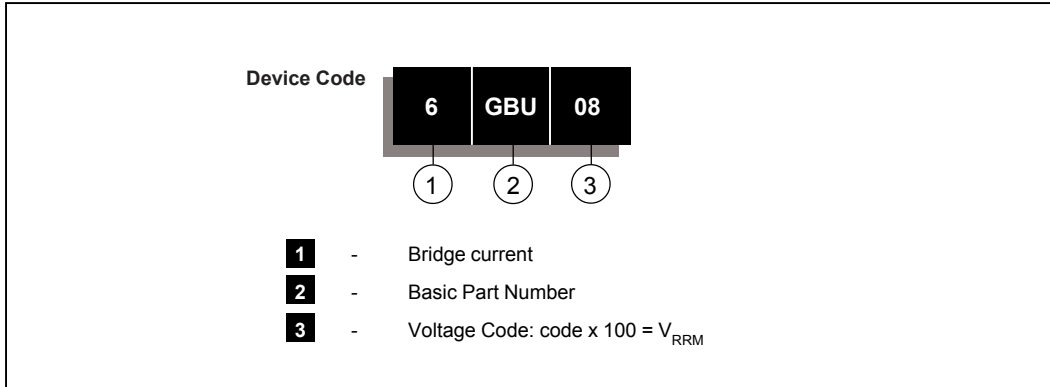
Parameters	6GBU	Unit	Conditions
$I_O$ Maximum DC output current	6.0	A	$T_C = 100^\circ\text{C}$ , Resistive & inductive load $T_C = 100^\circ\text{C}$ , Capacitive load
	4.8		
$I_{FSM}$ Maximum peak, one-cycle non-repetitive surge current, following any rated load condition and with rated $V_{RRM}$ reapplied	175		$t = 10\text{ms}$
	182		$t = 8.3\text{ms}$
$I^2t$ Maximum $I^2t$ for fusing, initial $T_J = T_J \text{ max}$	154	$A^2s$	$T_J = 150^\circ\text{C}$
	138		
$V_{FM}$ Maximum peak forward voltage per diode	1.0	V	$T_J = 25^\circ\text{C}$ , $I_{FM} = 6\text{A}$
$I_{RM}$ Typical peak reverse leakage current per diode	5.0	$\mu\text{A}$	$T_J = 25^\circ\text{C}$ , 100% $V_{RRM}$ $T_J = 150^\circ\text{C}$ , 100% $V_{RRM}$
	400		
$V_{RRM}$ Maximum repetitive peak reverse voltage range	50 to 800	V	

**Thermal and Mechanical Specifications**

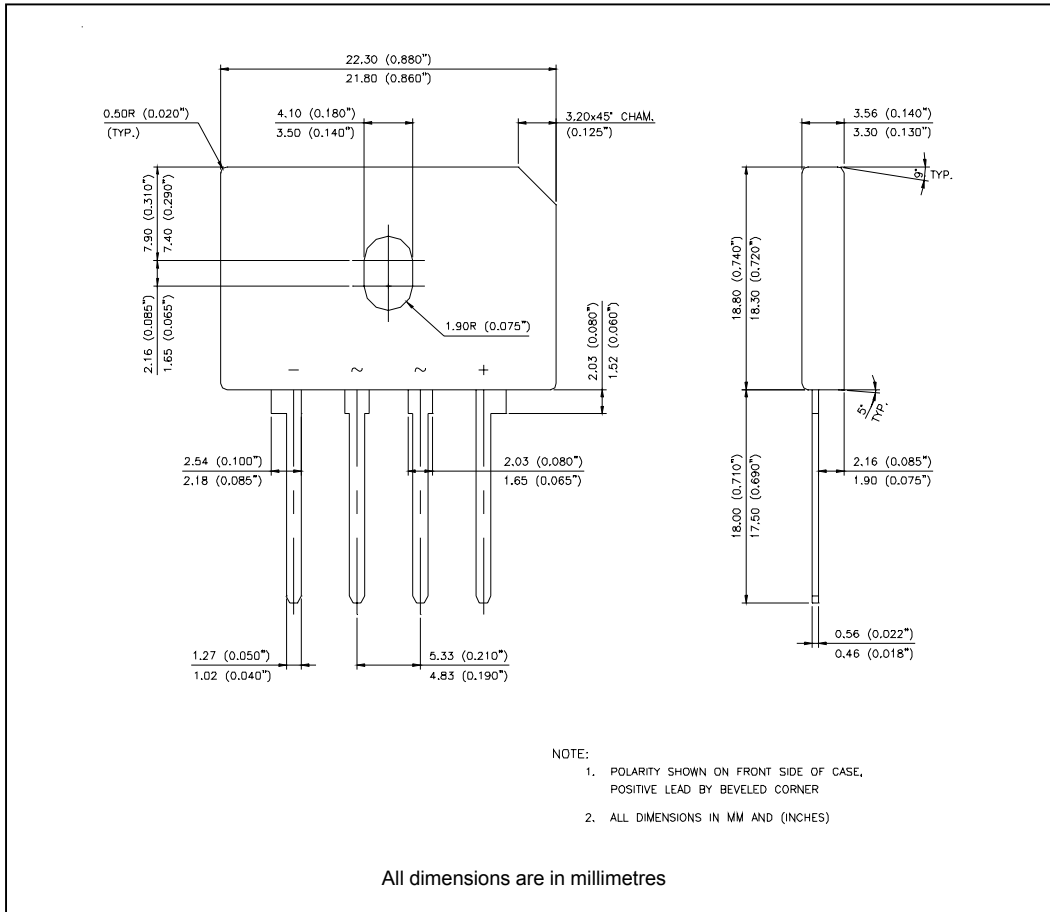
Parameters	6GBU	Unit	Conditions
$T_J$ Operating and storage temperature range	-55 to 150	$^\circ\text{C}$	
$R_{thJC}$ Max. thermal resistance junction to case	2.2	$^\circ\text{C}/\text{W}$	DC rated current through bridge (1)
$R_{thJA}$ Thermal resistance, junction to ambient	7.4	$^\circ\text{C}/\text{W}$	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): Bridge mounted on Aluminum heat sink of dim 65 x 35 x 1.5mm, use silicon thermal compound heat transfer and bolt down using 3mm screw

**Ordering Information Table**



**Outline Table**



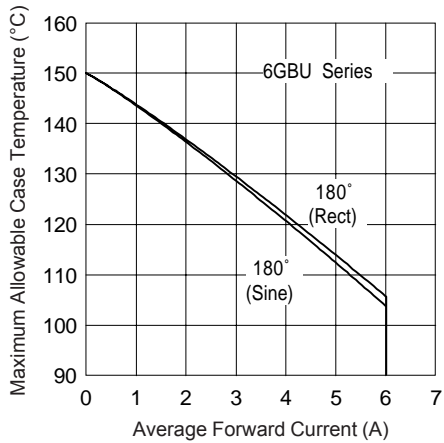


Fig. 1 - Current Ratings Characteristics

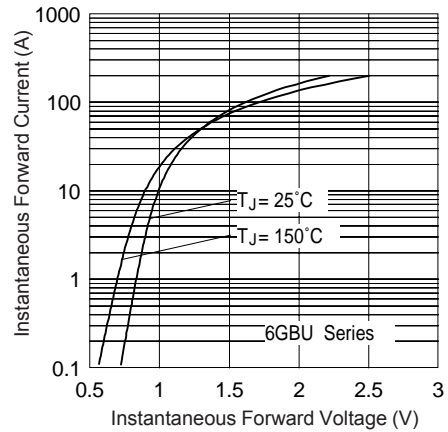


Fig. 2 - Forward Voltage Drop Characteristics

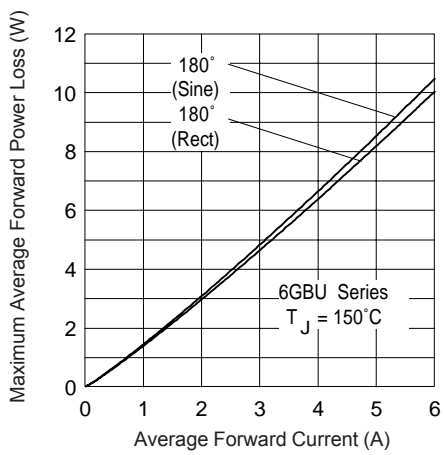


Fig. 3 - Total Power Loss Characteristics

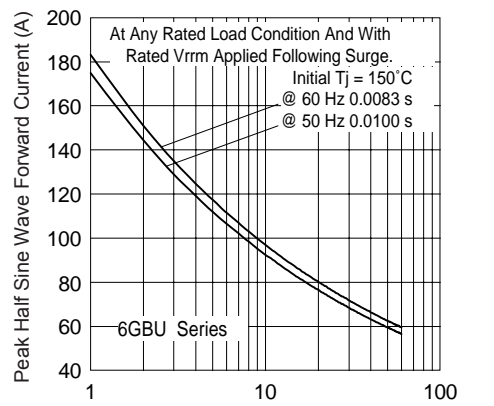


Fig. 4 - Maximum Non-Repetitive Surge Current

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  
**IR** 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](http://www.irf.com) for sales contact information. 05/02