

PART OBSOLETE - EOL18

Bulletin I2718 rev. E 05/02

International
IR 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°C for 8-10 secs
- UL E160375 approved

$$I_{O(AV)} = 6A$$

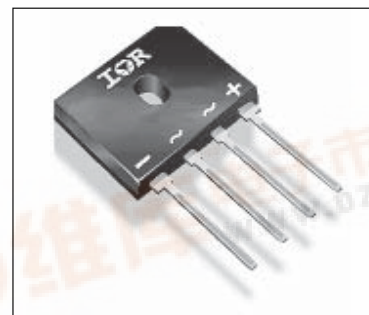
$$V_{RRM} = 50/800V$$

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	°C
I_{FSM}	175	A
@ 50Hz	182	A
@ 60Hz	154	A ² s
I^2t	138	A ² s
@ 50Hz	50 to 800	V
V_{RRM} range	-55 to 150	°C
T_J		



6GBU



ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} , max repetitive peak rev. voltage $T_J = T_{J,max}$ V	V_{RMS} , max RMS voltage $T_J = T_{J,max}$ 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
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
	4.8		$T_C = 100^\circ\text{C}$, Capacitive load
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 $T_J = T_{J,max}$	154	A^2s	$t = 10\text{ms}$
	138		$t = 8.3\text{ms}$
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	μA	$T_J = 25^\circ\text{C}$, 100% V_{RRM}
	400		$T_J = 150^\circ\text{C}$, 100% V_{RRM}
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

Device Code		
6	GBU	08
①	②	③
1	- Bridge current	
2	- Basic Part Number	
3	- Voltage Code: code x 100 = V_{RRM}	

Outline Table

The drawing shows the mechanical specifications of the 6GBU Series rectifier package. The top view includes dimensions for the overall width (22.30 mm / 0.880"), lead spacing (2.54 mm / 0.100"), and lead width (1.27 mm / 0.050"). The side view shows the package height (18.80 mm / 0.740") and lead length (18.00 mm / 0.710").

NOTE:

- POLARITY SHOWN ON FRONT SIDE OF CASE, POSITIVE LEAD BY BEVELED CORNER
- ALL DIMENSIONS IN MM AND (INCHES)

All dimensions are in millimetres

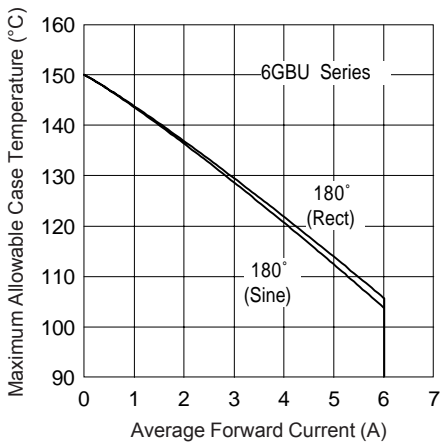


Fig. 1 - Current Ratings Characteristics

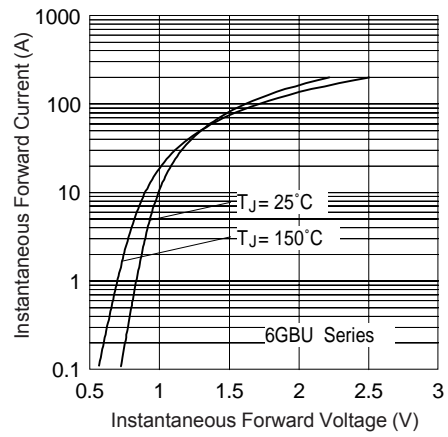


Fig. 2 - Forward Voltage Drop Characteristics

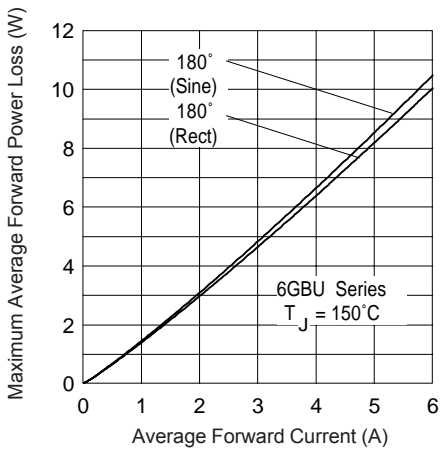


Fig. 3 - Total Power Loss Characteristics

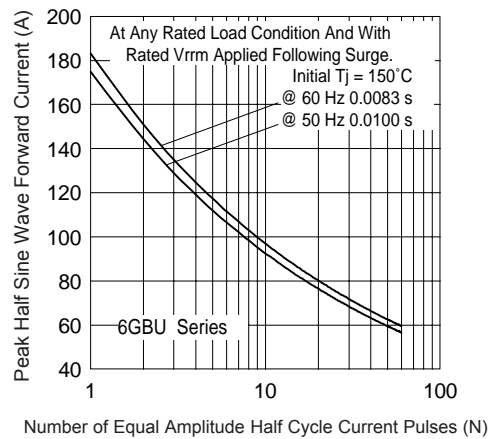


Fig. 4 - Maximum Non-Repetitive Surge Current

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

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