

International IOR Rectifier

IR25XB..

25.0 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 ($2500 V_{RMS}$)
- High Thermal Conductivity
- Lead free terminals solderable as per MIL-STD-750, Method 2026
- High Temperature soldering guaranteed at $260^{\circ}C/ 8-10secs$
- UL approval in Progress E215862

$$I_{O(AV)} = 25A$$

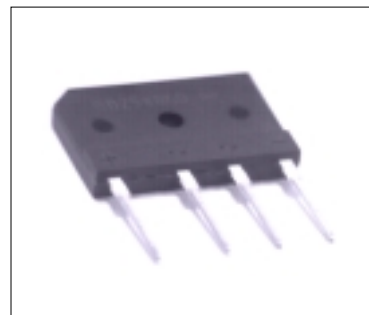
$$V_{RRM} = 200/ 800V$$

Description

These IRXB 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, Induction cooker, Airconditioner, Washing Machine and Microwave oven.

Major Ratings and Characteristics

Parameters	IR25XB..	Units
I_O	25	A
@ T_C	98	$^{\circ}C$
I_{FSM} @50Hz	350	A
@60Hz	365	A
I^2t @50Hz	610	A^2s
@60Hz	550	A^2s
V_{RRM} range	200 to 800	V
T_J	- 55 to 150	$^{\circ}C$



IR25XB..

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
IR25XB..	02	200	140	5	400
	04	400	280	5	400
	06	600	420	5	400
	08	800	560	5	400

Forward Conduction

Parameters	IR25XB..	Unit	Conditions
I_O Maximum DC output current	25	A	$T_C = 100^\circ\text{C}$, Resistive & inductive load
I_{FSM} Maximum peak, one-cycle non-repetitive surge current, following any rated load condition and with rated V_{RRM} reapplied	350		$t = 10\text{ms}$
	365	$t = 8.3\text{ms}$	
I^2t Maximum I^2t for fusing, initial $T_J = T_J \text{ max}$	610	A^2s	$t = 10\text{ms}$
	550		$t = 8.3\text{ms}$
V_{FM} Maximum peak forward voltage per diode	1.05	V	$T_J = 25^\circ\text{C}$, $I_{FM} = 12.5\text{A}$
I_{RM} Typical peak reverse leakage current t 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	200 to 800	V	

Thermal and Mechanical Specifications

Parameters	IR25XB..	Unit	Conditions
T_J Operating and storage temperature range	-55 to 150	$^\circ\text{C}$	
R_{thJC} Max. thermal resistance junction to case	1.0	$^\circ\text{C}/\text{W}$	At DC rated current (1)
R_{thJA} Thermal resistance, junction to ambient	22	$^\circ\text{C}/\text{W}$	At DC rated current (2)
W Approximate weight	7.4(0.26)	g(oz)	
T Mounting Torque	1.0	Nm	Bridge to Heatsink
	9.0	Lb.in	

Note (1): Bridge mounted on Aluminum heat sink, use silicon thermal compound for heat transfer and bolt down using 3mm screw

(2): Bridges mounted in free air without heatsink.

Ordering Information Table

Device Code

IR	25	XB	06
①	②	③	④

- 1** - International Rectifier
- 2** - Bridge Current - 25Amps
- 3** - 10-7.5mm spacing
- 4** - Voltage Code: code x 100 = V_{RRM}

Outline Table

The drawing shows the physical dimensions of the IR25XB.. rectifier case. The top view shows a rectangular case with a width of 30 ±0.3 mm and a length of 17.50 ±0.5 mm. The case has a central circular feature with a diameter of 3.2 ±0.1 mm. The mounting holes are spaced 10 ±0.2 mm apart, with 7.50 ±0.2 mm between the first and second holes, and 7.50 ±0.2 mm between the second and third holes. The case height is 11 ±0.2 mm. The side view shows a case with a total height of 17.50 ±0.5 mm and a mounting hole diameter of 2.70 mm. The case has a 3 x 45° chamfered edge. The dimensions are as follows:

- Top view: 30 ±0.3 mm (width), 17.50 ±0.5 mm (length), 3.2 ±0.1 mm (central hole diameter), 10 ±0.2 mm (hole spacing), 7.50 ±0.2 mm (hole spacing), 7.50 ±0.2 mm (hole spacing), 11 ±0.2 mm (case height), 3 x 45° (chamfer), 2.0 ±0.2 mm (lead length), 1.0 ±0.1 mm (lead length), 4.0 ±0.2 mm (lead length).
- Side view: 17.50 ±0.5 mm (total height), 2.70 mm (mounting hole diameter), 4.60 ±0.2 mm (case width), 3.60 ±0.2 mm (case width), 20 ±0.3 mm (case width), 6 mm (lead length), 5 mm (lead length), 0.70 mm (lead length).

Case Style: IRXB-5S

All dimensions are in millimeters

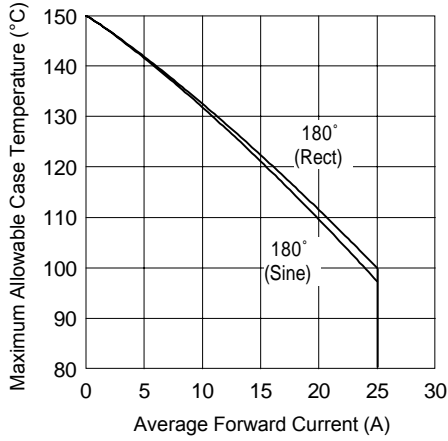


Fig. 1 - Current Ratings Characteristics

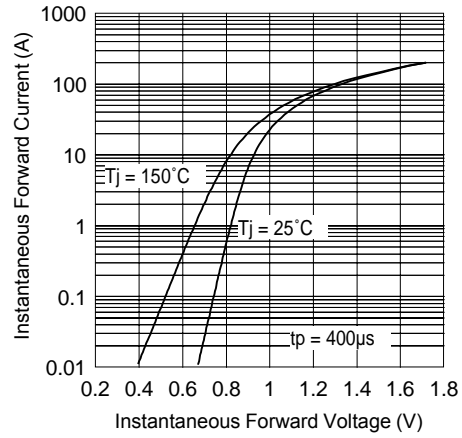


Fig. 2 - Forward Voltage Drop Characteristics

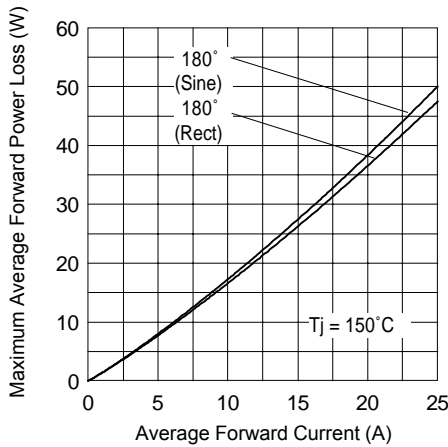


Fig. 3 - Total Power Loss Characteristics

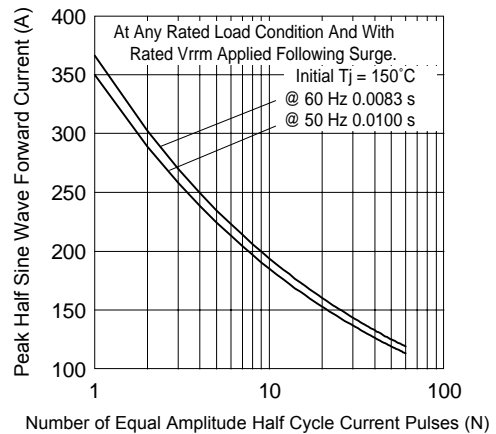


Fig. 4 - Maximum Non-Repetitive Surge Current