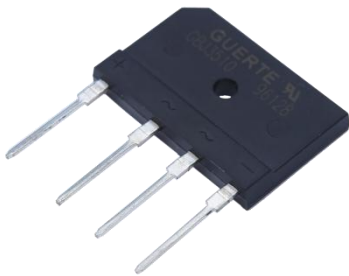


# Single Phase Rectifier Bridge

**V<sub>RRM</sub>** 200 to 1200V  
**I<sub>D</sub>** 50 Amp

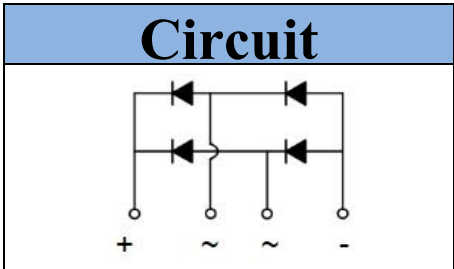


## Features

- Glass passivated chip
- Ideal for printed circuit boards
- High surge current capability
- High temperature soldering guaranteed:265°C/10 seconds

## Applications

- Single phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Industrial automation equipment
- Input rectifiers for inverter



## Module Type

Type	V <sub>RRM</sub>	V <sub>RSM</sub>
GBJ5002	200V	300V
GBJ5004	400V	500V
GBJ5006	600V	700V
GBJ5008	800V	900V
GBJ5010	1000V	1100V
GBJ5012	1200V	1300V

## Maximum Ratings

Symbol	Item	Conditions	Values	Unit
I <sub>D</sub>	Output Current	Single Phase,Sin Full Wave T <sub>c</sub> = 95°C	50	A
I <sub>FSM</sub>	Surge Forward Current	T <sub>j</sub> = 25°C, t = 50Hz(10ms), V <sub>R</sub> = 0V	500	A
I <sup>2</sup> t	Circuit Fusing Consideration	t = 10ms T <sub>j</sub> =25°C	1250	A <sup>2</sup> s
V <sub>ISO</sub>	Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	2500	V
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C
T <sub>stg</sub>	Storage Temperature		-40 to +150	°C
M <sub>s</sub>	Mounting Torque	(Recommended torque:0.65 N·m)	0.8	N·m
Weight	Module (Approximately)		7	g

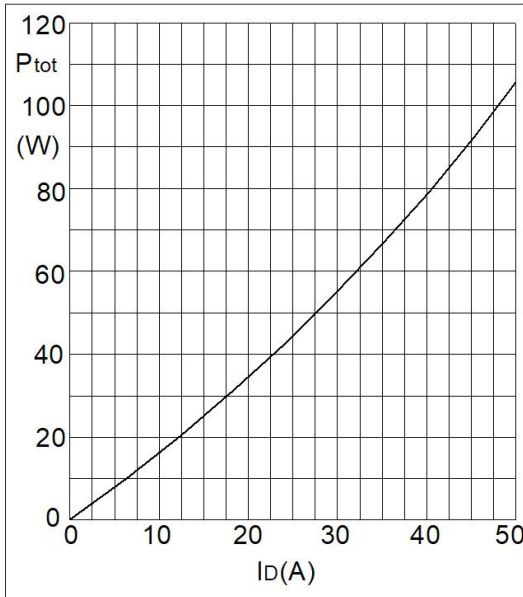
## Thermal Characteristics

Symbol	Item	Conditions	Values	Unit
R <sub>th(j-c)</sub>	Thermal Impedance, Max	Junction to Case(Per Total)	0.7	°C/W
		Junction to Case(Per Diode)	2.8	°C/W

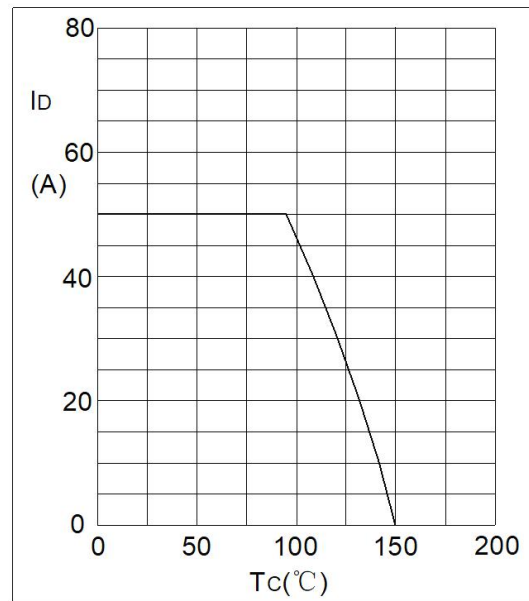
## Electrical Characteristics

Symbol	Item	Conditions	Values			Unit
			Min.	Typ.	Max.	
V <sub>FM</sub>	Forward Voltage Drop, Max	T <sub>j</sub> = 25°C I <sub>F</sub> = 25A	—	—	1.1	V
I <sub>RRM</sub>	Repetitive Peak Reverse Current, Max	T <sub>j</sub> = 25°C V <sub>R</sub> = V <sub>RRM</sub>	—	—	5	uA
		T <sub>j</sub> = 150°C V <sub>R</sub> = V <sub>RRM</sub>	—	—	0.5	mA
V <sub>T0</sub>	Threshold Voltage, for power loss calculation only	T <sub>j</sub> = 125°C	0.75			V
r <sub>T</sub>	Slope Resistance, for power loss calculation only	T <sub>j</sub> = 125°C	3.9			mΩ

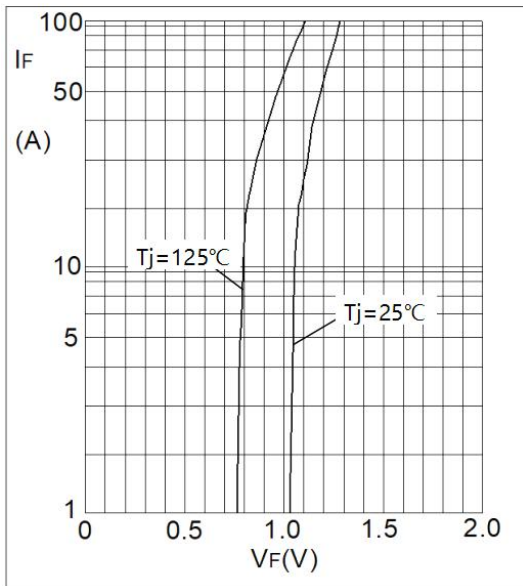
## Performance Curves



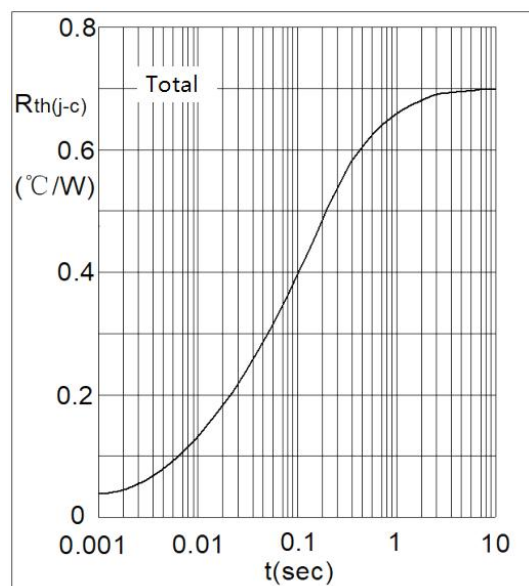
**Fig1. Power Dissipation**



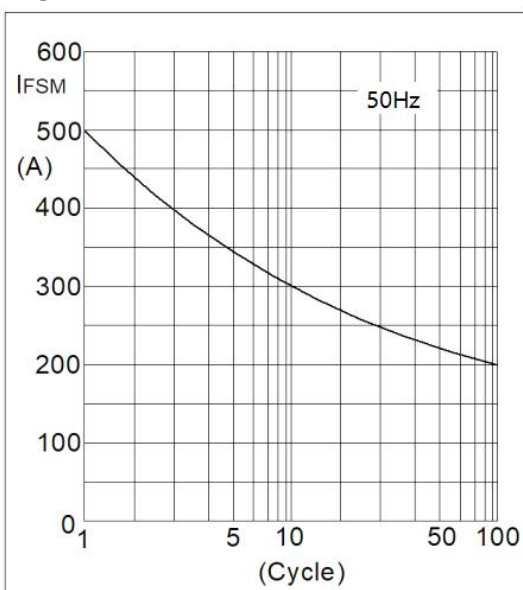
**Fig2. Forward Current Derating Curve**



**Fig3. Forward Characteristics**



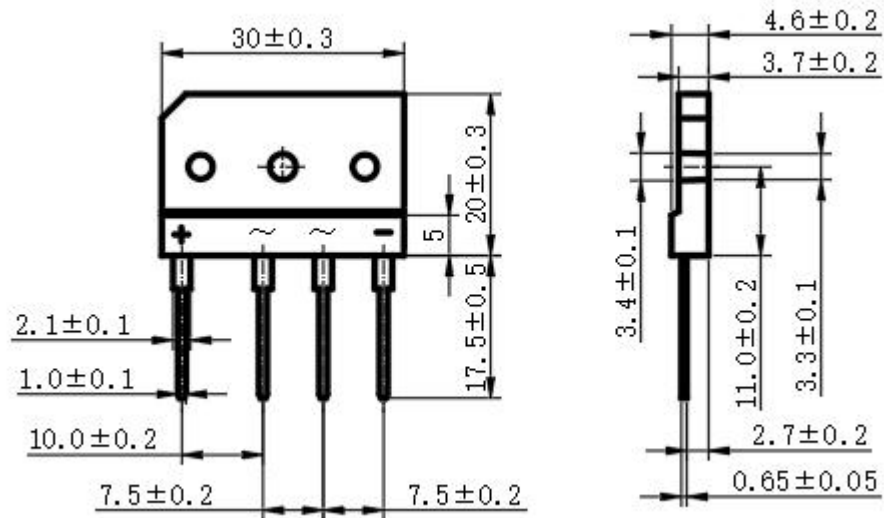
**Fig4. Transient Thermal impedance**



**Fig5. Max Non-Repetitive Forward Surge Current**

Package Outline Information

**CASE: GBJ**



Dimensions in mm

## **\*IMPORTANT INFORMATION AND WARNINGS**

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