

# Single Phase Rectifier Bridge

$V_{RRM}$  200 to 1200V  
 $I_D$  50 Amp

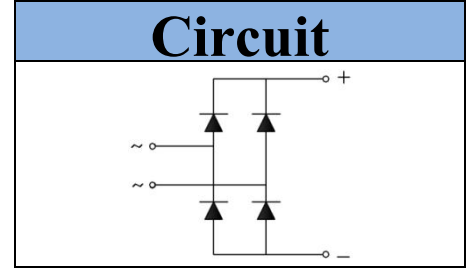


## Features

- 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	$V_{RRM}$	$V_{RSM}$
GBPC5002	200V	300V
GBPC5004	400V	500V
GBPC5006	600V	700V
GBPC5008	800V	900V
GBPC5010	1000V	1100V
GBPC5012	1200V	1300V

## Maximum Ratings

Symbol	Item	Conditions	Values	Unit
$I_D$	Output Current	Single Phase, Sin Full Wave $T_c = 55^\circ C$	50	A
$I_{FSM}$	Surge Forward Current	$T_j = 25^\circ C, t = 50Hz(10ms), V_R = 0V$	450	A
$I^2t$	Circuit Fusing Consideration	$t = 10ms T_j = 25^\circ C$	1012	A <sup>2</sup> s
$V_{ISO}$	Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	2000	V
$T_j$	Operating Junction Temperature		-40 to +150	°C
$T_{stg}$	Storage Temperature		-40 to +150	°C
$M_s$	Mounting Torque	To Heatsink(M5)	2.5~3	N·m
Weight	Module (Approximately)		14	g

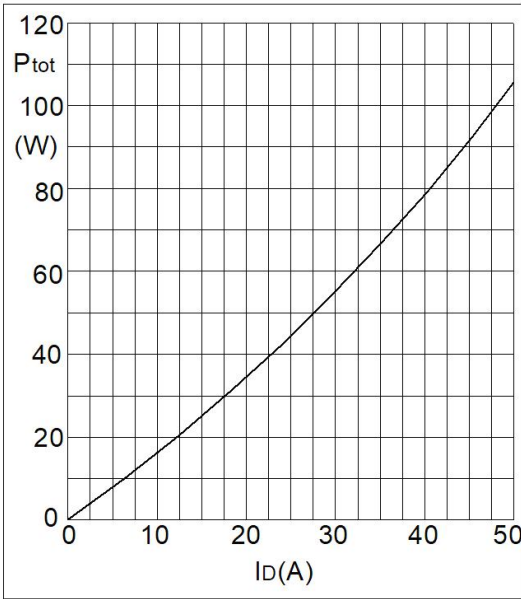
## Thermal Characteristics

Symbol	Item	Conditions	Values	Unit
$R_{th(j-c)}$	Thermal Impedance, Max	Junction to Case(Per Total)	0.9	°C/W
		Junction to Case(Per Diode)	3.6	°C/W

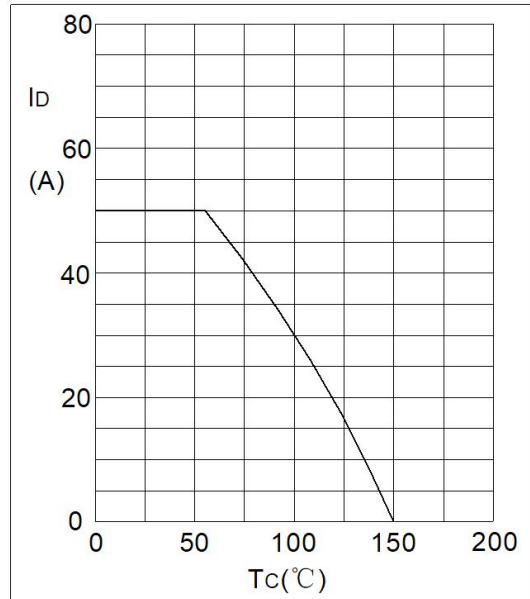
## Electrical Characteristics

Symbol	Item	Conditions	Values			Unit
			Min.	Typ.	Max.	
$V_{FM}$	Forward Voltage Drop, Max	$T_j = 25^\circ C I_F = 25A$	—	—	1.1	V
$I_{RRM}$	Repetitive Peak Reverse Current, Max	$T_j = 25^\circ C V_R = V_{RRM}$	—	—	5	uA
		$T_j = 150^\circ C V_R = V_{RRM}$	—	—	0.5	mA
$V_{T0}$	Threshold Voltage, for power loss calculation only	$T_j = 125^\circ C$	0.75			V
$r_T$	Slope Resistance, for power loss calculation only	$T_j = 125^\circ C$	3.9			mΩ

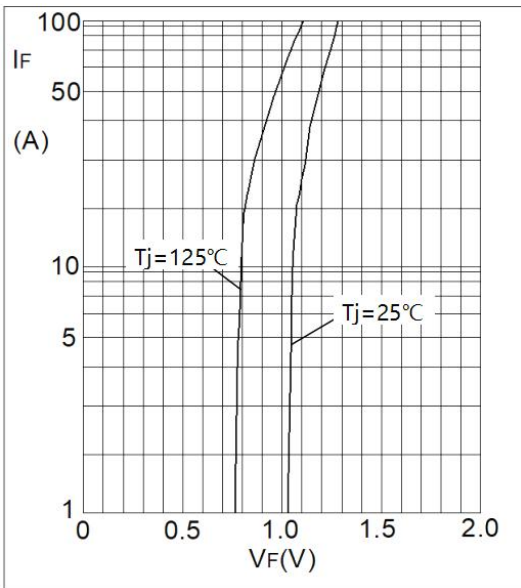
**Performance Curves**



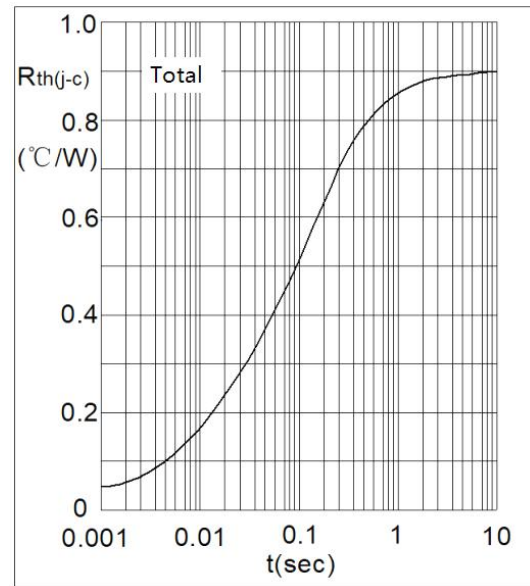
**Fig1. Power Dissipation**



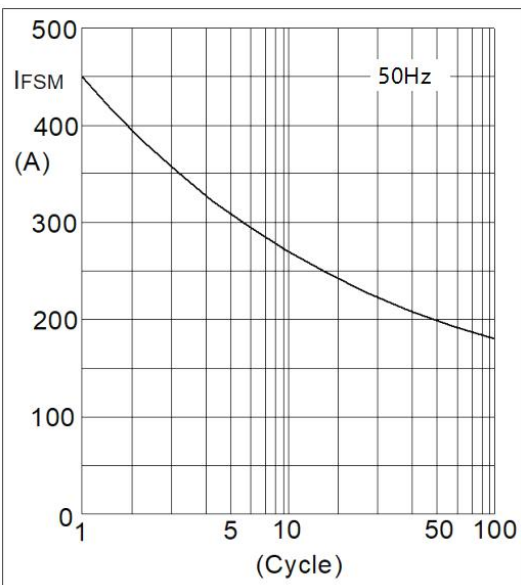
**Fig2. Forward Current Derating Curve**



**Fig3. Forward Characteristics**



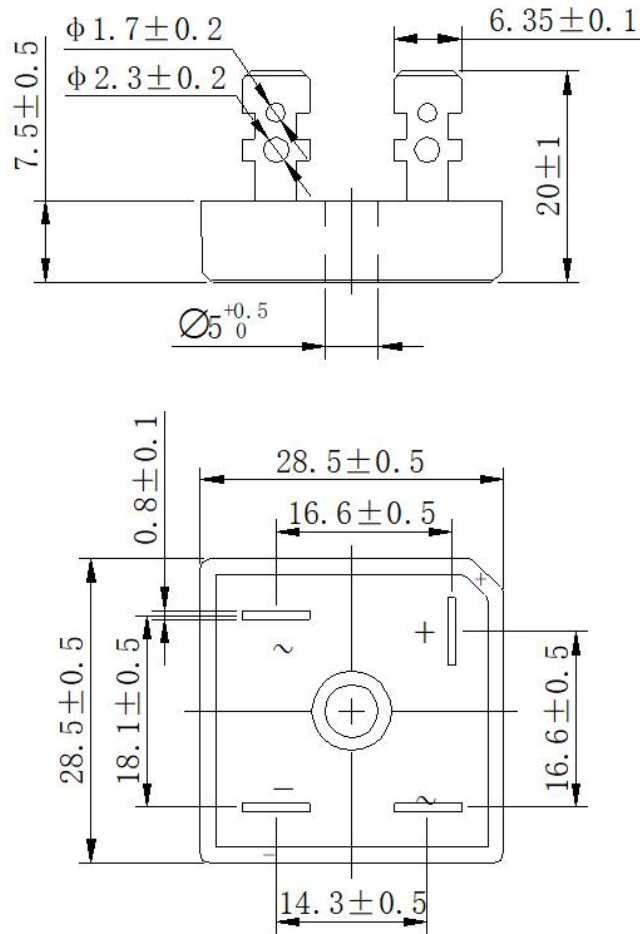
**Fig4. Transient Thermal impedance**



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

Package Outline Information

**CASE: GBPC**



**Dimensions in mm**

**\*IMPORTANT INFORMATION AND WARNINGS**

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