

### Single Phase Bridge Rectifier

#### Features

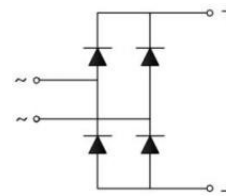
- Glass passivated chip
- Ideal for printed circuit boards
- High surge current capability
- Reverse Voltage : 200 to 1200V
- Forward Current : 50A
- High temperature soldering : 265 °C/10s at terminals



**GBPC**

#### Applications

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



#### Module Type

Type	VRRM	VRSM
GBPC5002	200V	300V
GBPC5004	400V	500V
GBPC5006	600V	700V
GBPC5008	800V	900V
GBPC5010	1000V	1100V
GBPC5012	1200V	1300V

#### Maximum Ratings

Item	Conditions	Symbol	Values	Unit
Output Current	Single Phase, Sin Full Wave $T_c=55^\circ\text{C}$	$I_D$	50	A
Surge Forward Current	$T_j=25^\circ\text{C}$ , $t=50\text{Hz}(10\text{ms})$ , $V_R=0\text{V}$	$I_{FSM}$	450	A
Circuit Fusing Consideration	$t=10\text{ms}$ $T_j=25^\circ\text{C}$	$I^2t$	1012	$\text{A}^2\text{s}$
Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	$V_{ISO}$	2000	V
Operating Junction Temperature		$T_j$	-40 to +150	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 to +125	$^\circ\text{C}$
Mounting Torque	To Heatsink(M5)	$M_s$	2.5~3	N·m
Module (Approximately)		Weight	14	g

**Thermal Characteristics**

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

**Electrical Characteristics**

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

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

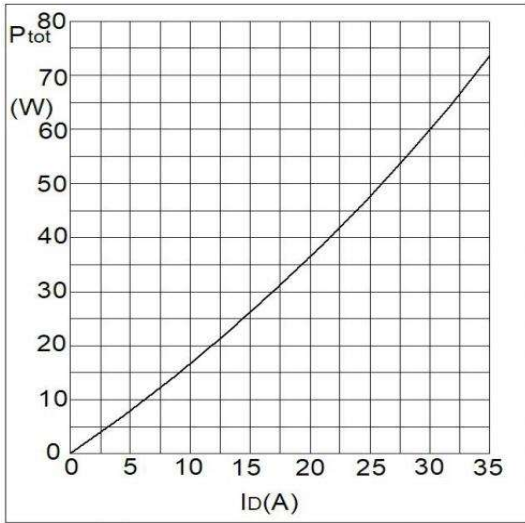


Fig1. Power Dissipation

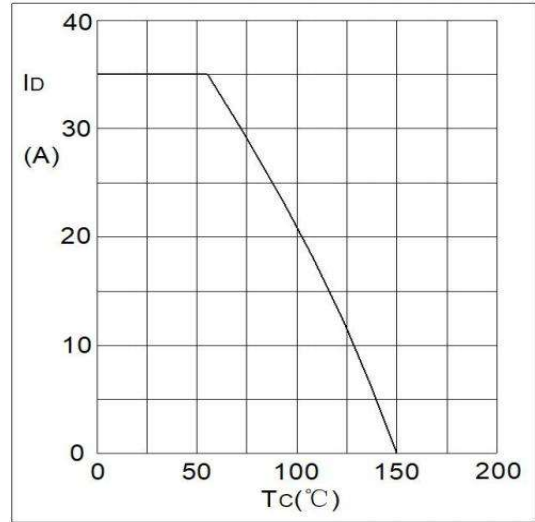


Fig2. Forward Current Derating Curve

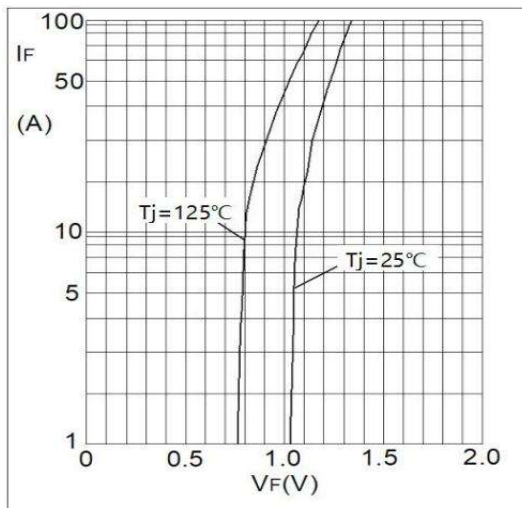


Fig3. Forward Characteristics

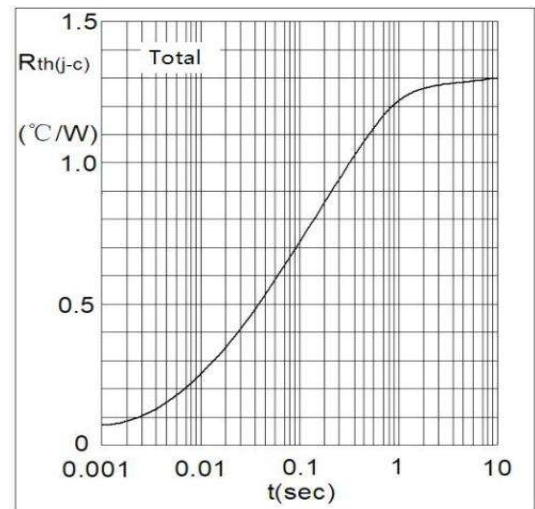


Fig4. Transient Thermal Impedance

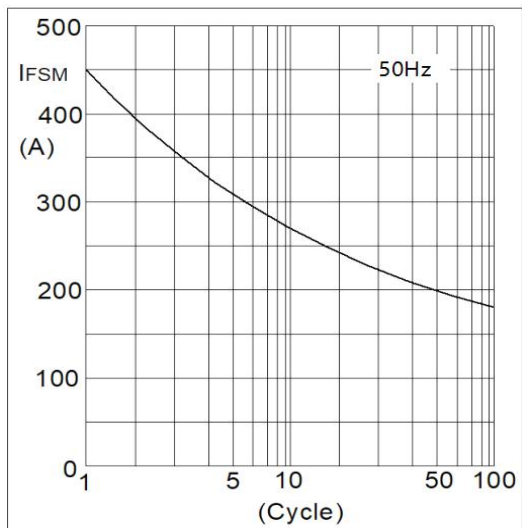
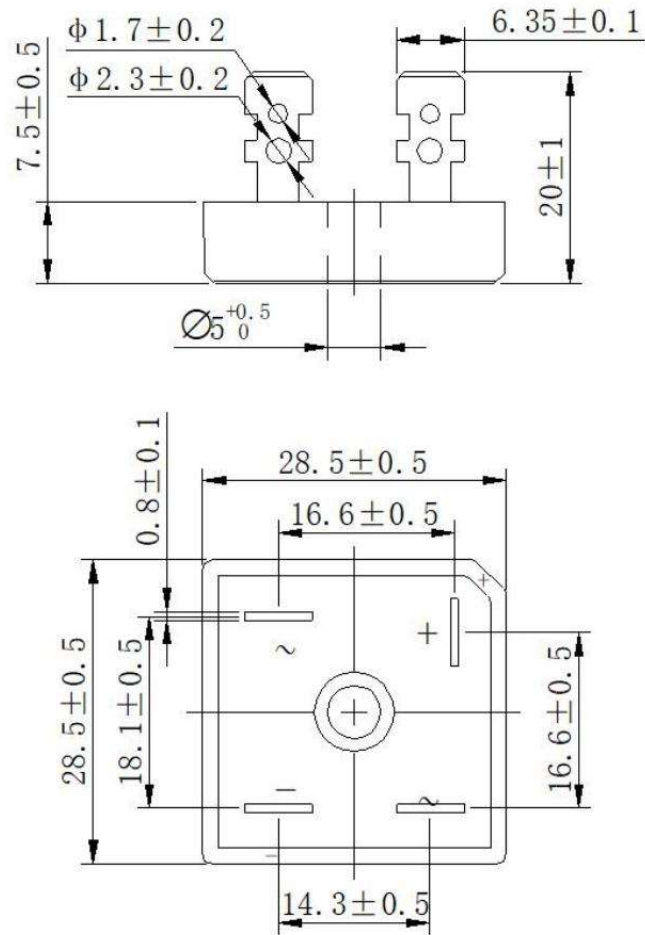


Fig5. Max Non-Repetitive Forward Surge Current

### Package Outlines (Dimensions in mm)

Plastic surface mounted package(GBPC)



**\*Important Usage Information and Disclaimer**

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