

## Single Phase Bridge Rectifier

### Features

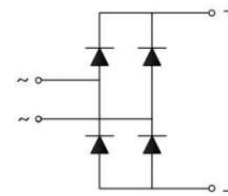
- Very low forward voltage drop
- High surge current capability
- Low thermal resistance
- High thermal conductivity
- Reverse Voltage : 600 to 1200V
- Forward Current : 25A



**BR**

### Applications

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



### Module Type

Type	VRRM	VRSM
BR2506	600V	700V
BR2508	800V	900V
BR2510	1000V	1100V
BR2512	1200V	1300V

### Maximum Ratings

Item	Conditions	Symbol	Values	Unit
Output Current	Single Phase, Sin Full Wave $T_c=75^{\circ}\text{C}$	$I_D$	25	A
Surge Forward Current	$T_j=25^{\circ}\text{C}$ , $t=50\text{Hz}$ ( 10ms), $V_R=0\text{V}$	$I_{FSM}$	300	A
Circuit Fusing Consideration	$t=10\text{ms}$ $T_j=25^{\circ}\text{C}$	$I^2t$	450	$\text{A}^2\text{s}$
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	20	g

**Thermal Characteristics**

Item	Conditions	Symbol	Values	Unit
Thermal Impedance, Max	Junction to Case(Per Total)	$R_{th(j-c)}$	1.6	$^{\circ}\text{C}/\text{W}$
	Junction to Case(Per Diode)		6.4	$^{\circ}\text{C}/\text{W}$

**Electrical Characteristics**

Item	Conditions	Symbol	Values			Unit
			Min	Typ	Max	
Forward Voltage Drop, Max	$T_j = 25^{\circ}\text{C}$ , $I_F = 12.5\text{A}$	$V_{FM}$	-	-	1.1	V
Repetitive Peak Reverse Current, Max	$T_j = 25^{\circ}\text{C}$ , $V_R = V_{RRM}$	$I_{RRM}$	-	-	0.1	mA
	$T_j = 150^{\circ}\text{C}$ , $V_R = V_{RRM}$		-	-	3	
Threshold Voltage, for power loss calculation only	$T_j = 125^{\circ}\text{C}$	$V_{T0}$	0.75			V
Slope Resistance, for power loss calculation only	$T_j = 125^{\circ}\text{C}$	$r_T$	5.1			m $\Omega$

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

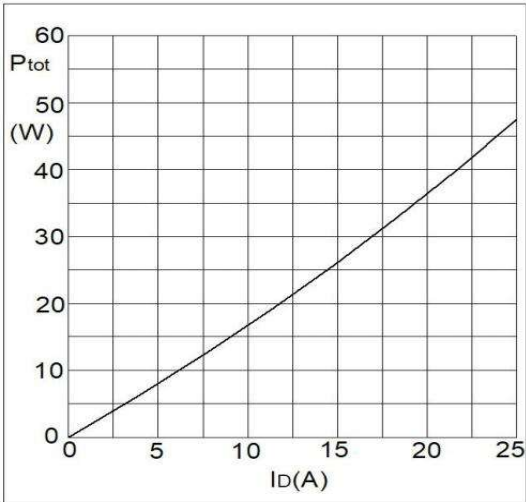


Fig1. Power Dissipation

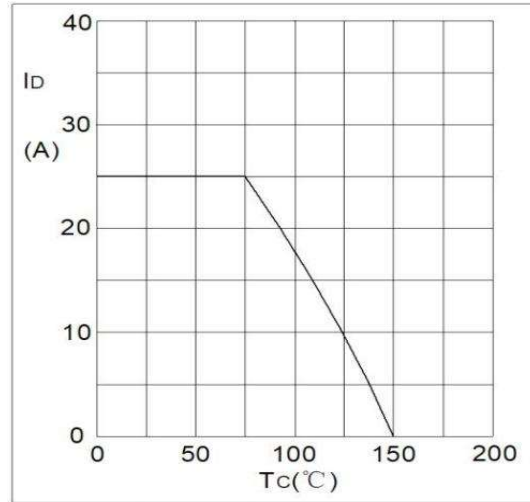


Fig2. Forward Current Derating Curve

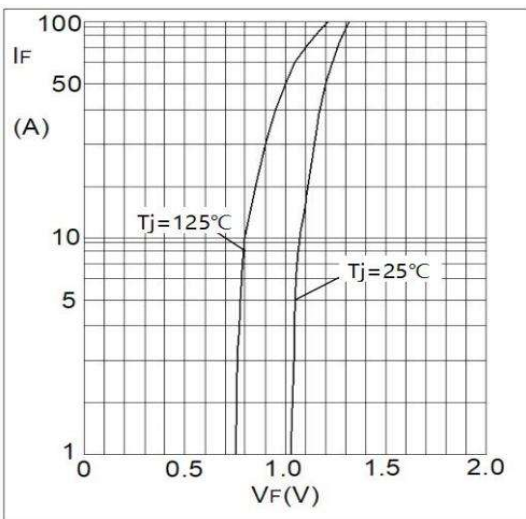


Fig3. Forward Characteristics

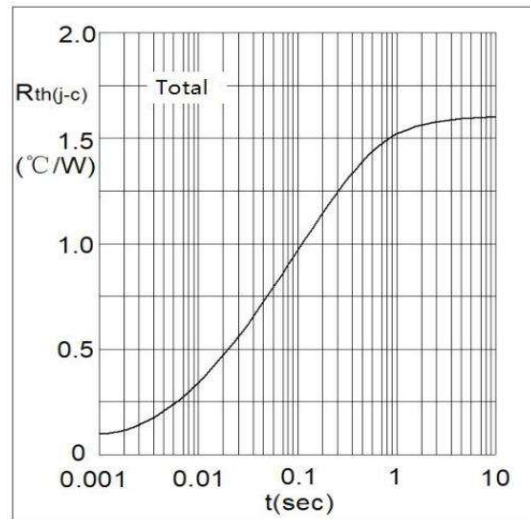


Fig4. Transient Thermal Impedance

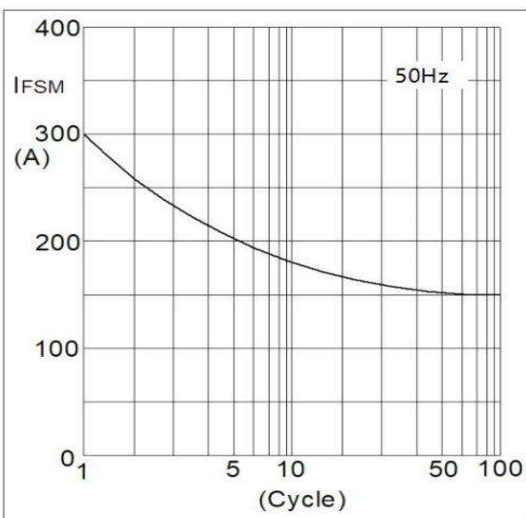
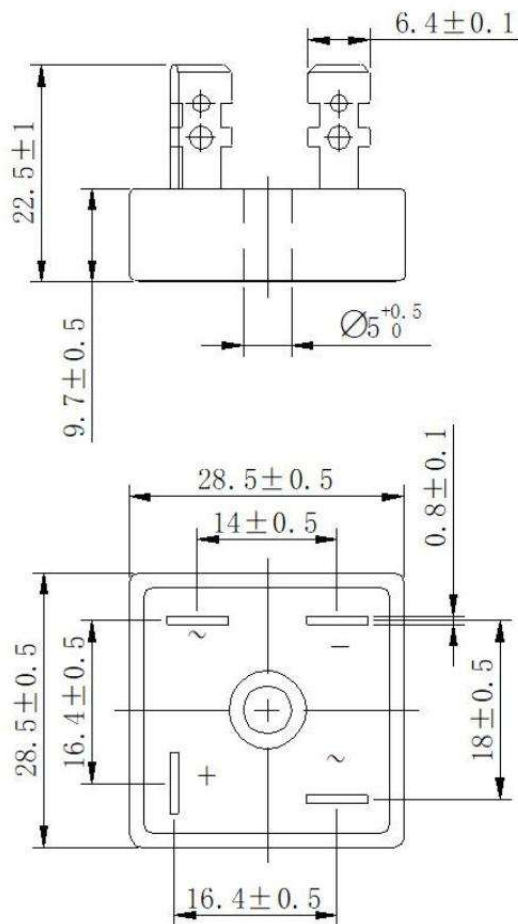


Fig5. Max Non-Repetitive Forward Surge Current

### Package Outlines (Dimensions in mm)

Plastic surface mounted package(BR)



**\*Important Usage Information and Disclaimer**

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