

Single Phase Bridge Rectifier

Features

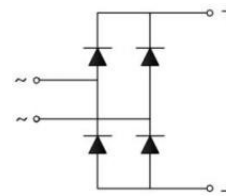
- Very low forward voltage drop
- High surge current capability
- Low thermal resistance
- High thermal conductivity
- Reverse Voltage : 600 to 1200V
- Forward Current : 35A



BR-L

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
BR3506L	600V	700V
BR3508L	800V	900V
BR3510L	1000V	1100V
BR3512L	1200V	1300V

Maximum Ratings

Item	Conditions	Symbol	Values	Unit
Output Current	Single Phase, Sin Full Wave $T_c=75^{\circ}\text{C}$	I_D	35	A
Surge Forward Current	$T_j=25^{\circ}\text{C}$, $t=50\text{Hz}$ (10ms), $V_R=0\text{V}$	I_{FSM}	400	A
Circuit Fusing Consideration	$t=10\text{ms}$ $T_j=25^{\circ}\text{C}$	I^2t	800	A^2s
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	18	g

Thermal Characteristics

Item	Conditions	Symbol	Values	Unit
Thermal Impedance, Max	Junction to Case(Per Total)	$R_{th(j-c)}$	1.1	$^{\circ}\text{C}/\text{W}$
	Junction to Case(Per Diode)		4.4	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics

Item	Conditions	Symbol	Values			Unit
			Min	Typ	Max	
Forward Voltage Drop, Max	$T_j = 25^{\circ}\text{C}$, $I_F = 17.5\text{A}$	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	4.0			m Ω

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

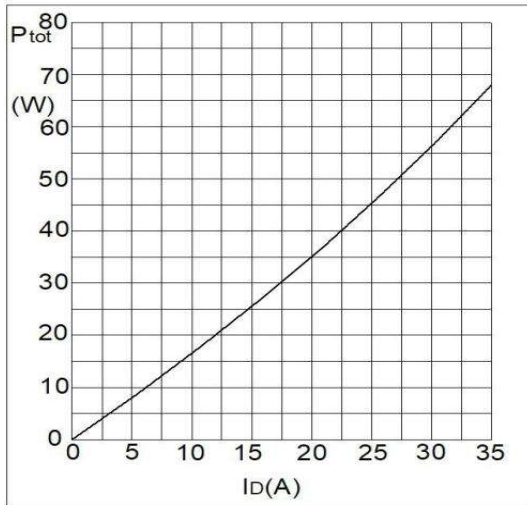


Fig1. Power Dissipation

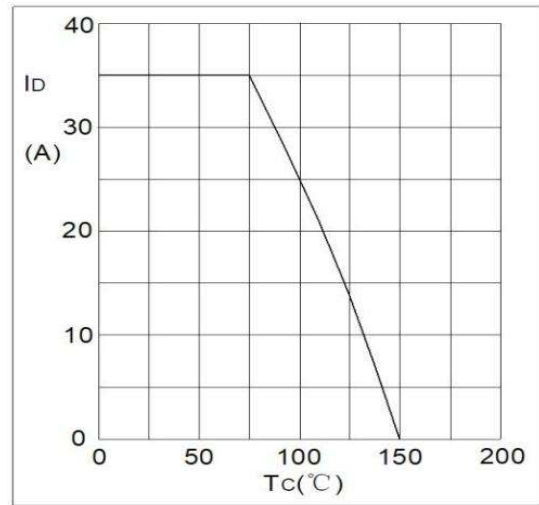


Fig2. Forward Current Derating Curve

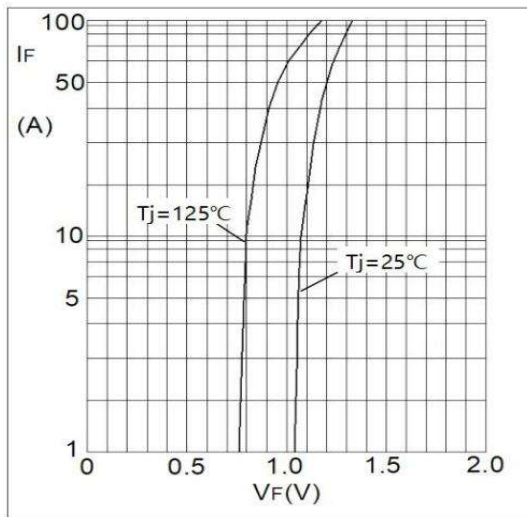


Fig3. Forward Characteristics

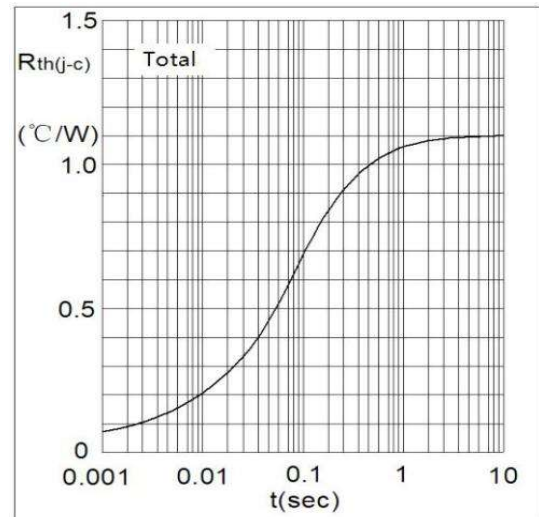


Fig4. Transient Thermal Impedance

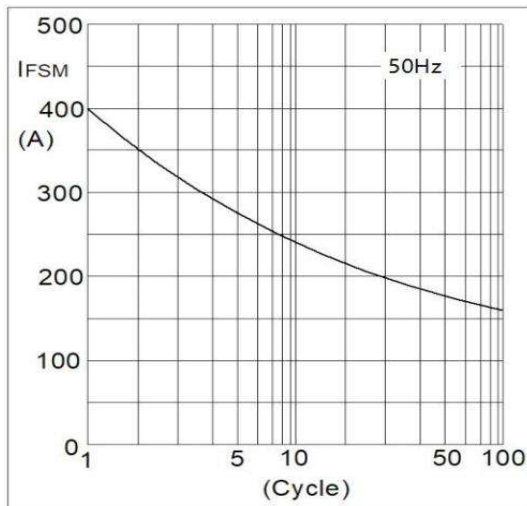
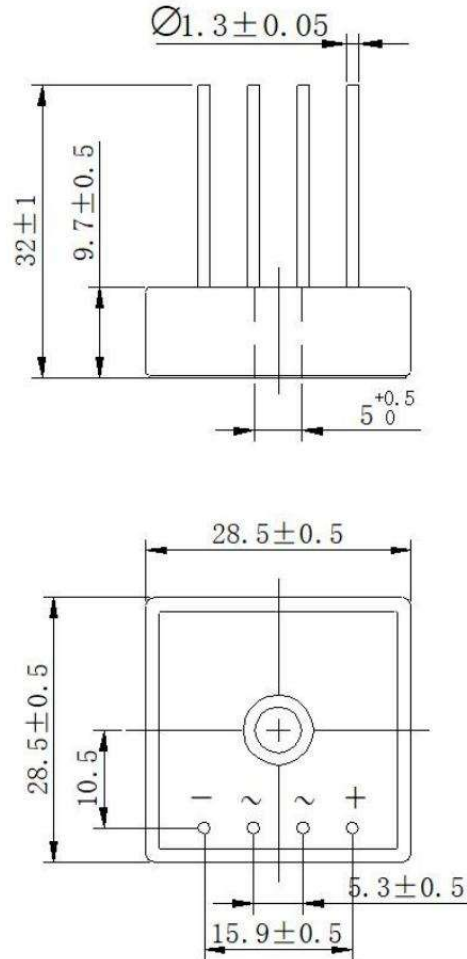


Fig5. Max Non-Repetitive Forward Surge Current

Package Outlines (Dimensions in mm)

Plastic surface mounted package(BR-L)



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