Single Phase Bridge Rectifier

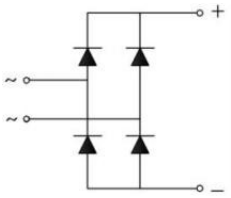
Features

- Very low forward voltage drop
- High surge current capability
- Low thermal resistance
- High thermal conductivity
- Reverse Voltage : 600 to 1200V
- Forward Current : 60A

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
BR6006	600V	700V
BR6008	800V	900V
BR6010	1000V	1100V
BR6012	1200V	1300V

Maximum Ratings

Item	Conditions	Symbol	Values	Unit
Output Current	Single Phase, Sin Full Wave T_c=78℃	I_D	60	A
Surge Forward Current	T_j=25℃, t=50Hz(10ms), V_R=0V	I_{FSM}	600	A
Circuit Fusing Consideration	t=10ms T_j=25℃	I^2t	1800	A^2s
Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	V_{ISO}	2000	V
Operating Junction Temperature		T_j	-40 to +150	℃
Storage Temperature		T_{stg}	-40 to +125	℃
Mounting Torque	To Heatsink(M5)	M_s	2.5~3	N·m
Module (Approximately)		Weight	26	g

Thermal Characteristics

Item	Conditions	Symbol	Values	Unit
Thermal Impedance, Max	Junction to Case(Per Total)	$R_{th(j-c)}$	0.65	℃/W
	Junction to Case(Per Diode)		2.6	℃/W

Electrical Characteristics

Item	Conditions	Symbol	Values			Unit
			Min	Typ	Max	
Forward Voltage Drop, Max	T_j = 25℃, I_F = 30A	V_{FM}	-	-	1.1	V
Repetitive Peak Reverse Current, Max	T_j = 25℃, $V_R = V_{RRM}$	I_{RRM}	-	-	0.1	mA
	T_j = 150℃, $V_R = V_{RRM}$		-	-	3	
Threshold Voltage, for power loss calculation only	T_j = 125℃	V_{T0}	0.75			V
Slope Resistance, for power loss calculation only	T_j = 125℃	r_T	2.22			mΩ

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

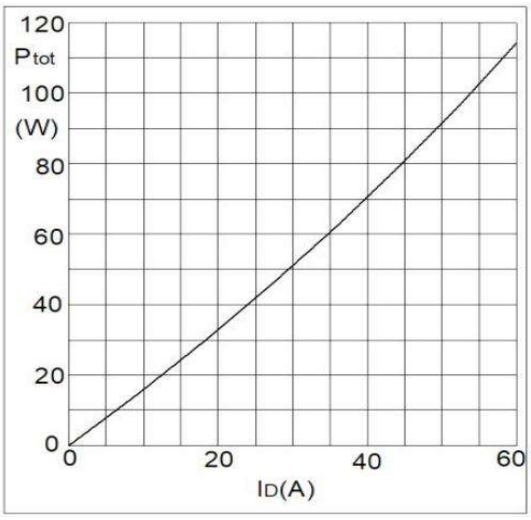


Fig1. Power Dissipation

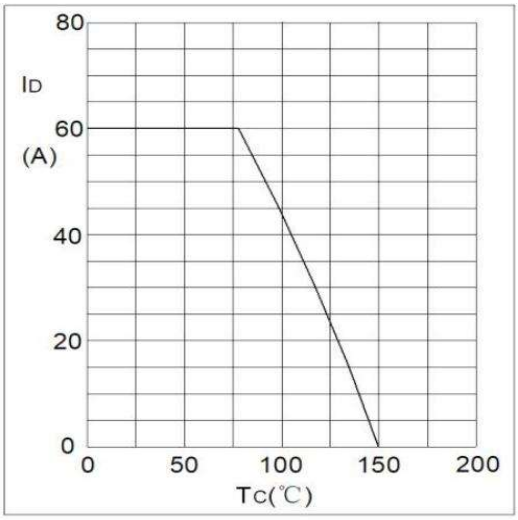


Fig2. Forward Current Derating Curve

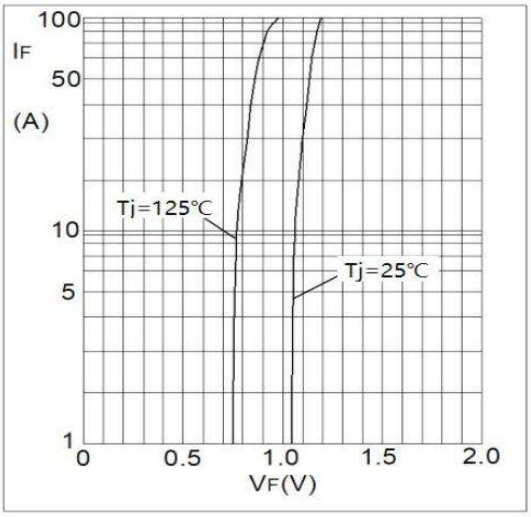


Fig3. Forward Characteristics

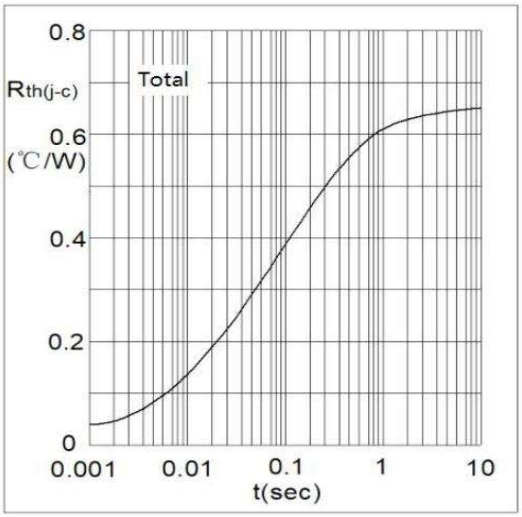


Fig4. Transient Thermal Impedance

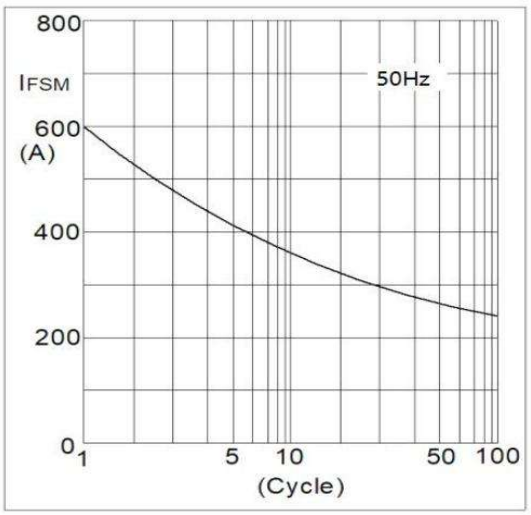
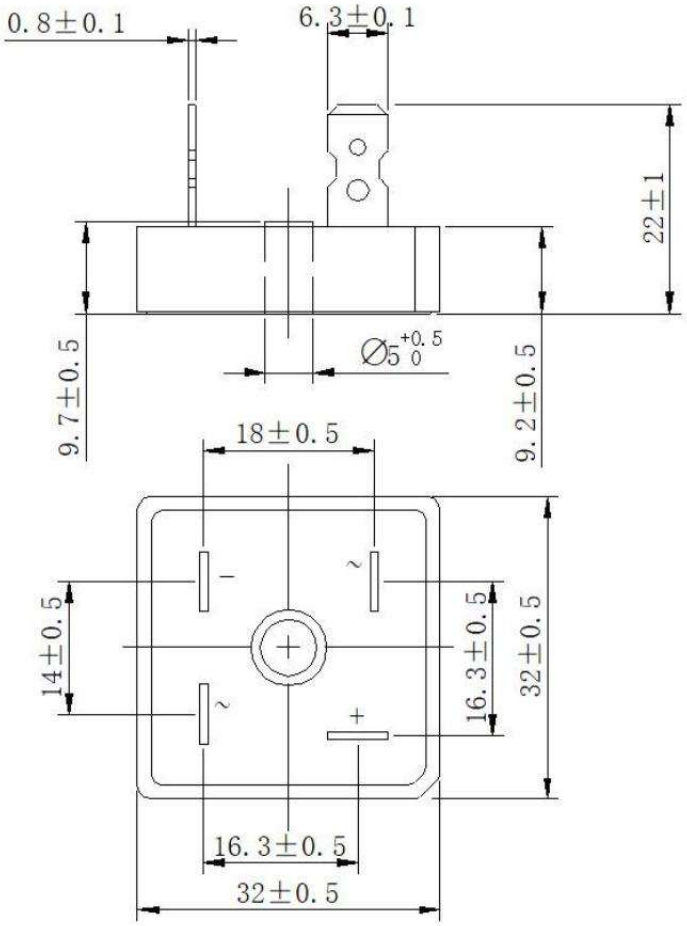


Fig5. Max Non-Repetitive Forward Surge Current

Package Outlines (Dimensions in mm)

Plastic surface mounted package(BR-4)



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