Single Phase Bridge Rectifier

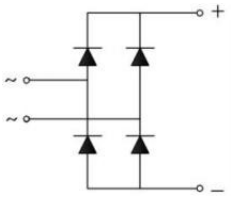
Features

- Very low forward voltage drop
- High surge current capability
- Low thermal resistance
- High thermal conductivity
- Reverse Voltage : 1400 to 1600V
- Forward Current : 75A

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
BR7514 BR7516	1400V 1600V	1500V 1700V

Maximum Ratings

Item	Conditions	Symbol	Values	Unit
Output Current	Single Phase, Sin Full Wave T_c=78℃	I_D	75	A
Surge Forward Current	T_j=25℃, t=50Hz(10ms), V_R=0V	I_{FSM}	750	A
Circuit Fusing Consideration	t=10ms T_j=25℃	I^2t	2812	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	34	g

Thermal Characteristics

Item	Conditions	Symbol	Values	Unit
Thermal Impedance, Max	Junction to Case(Per Total)	$R_{th(j-c)}$	0.5	℃/W
	Junction to Case(Per Diode)		2.0	℃/W

Electrical Characteristics

Item	Conditions	Symbol	Values			Unit
			Min	Typ	Max	
Forward Voltage Drop, Max	T_j = 25℃, I_F = 37.5A	V_{FM}	-	-	1.18	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	1.75			mΩ

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

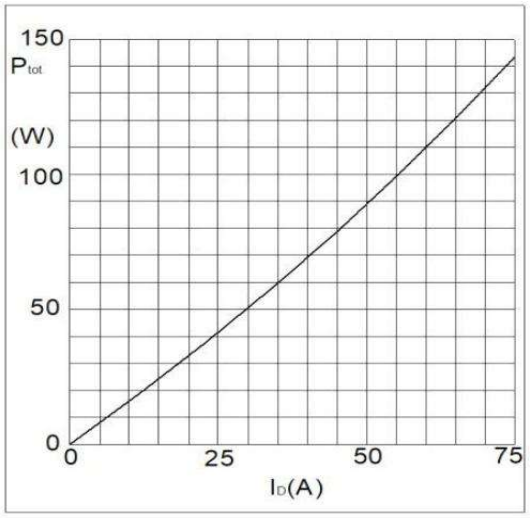


Fig1. Power Dissipation

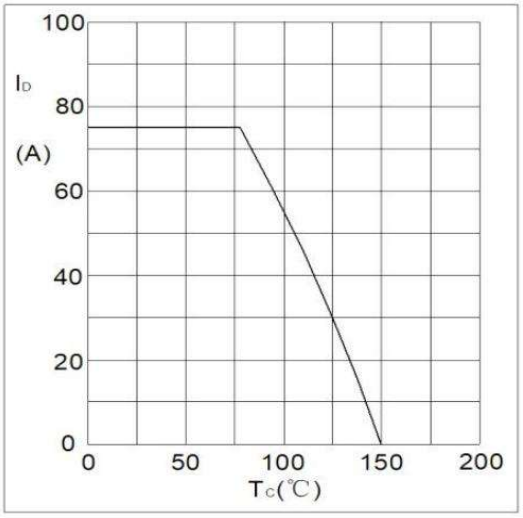


Fig2. Forward Current Derating Curve

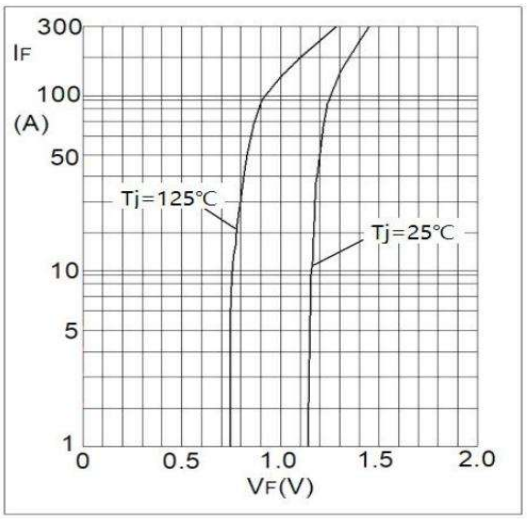


Fig3. Forward Characteristics

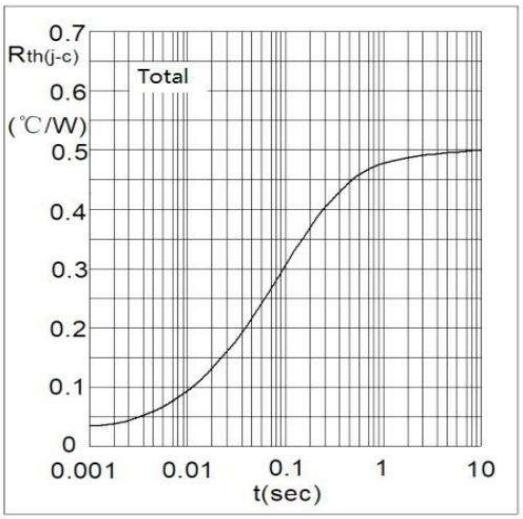


Fig4. Transient Thermal Impedance

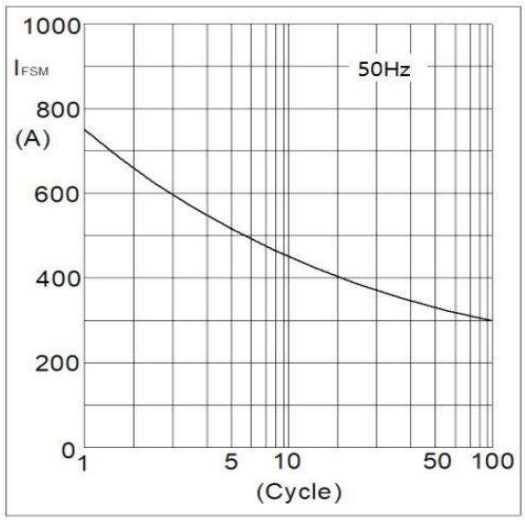
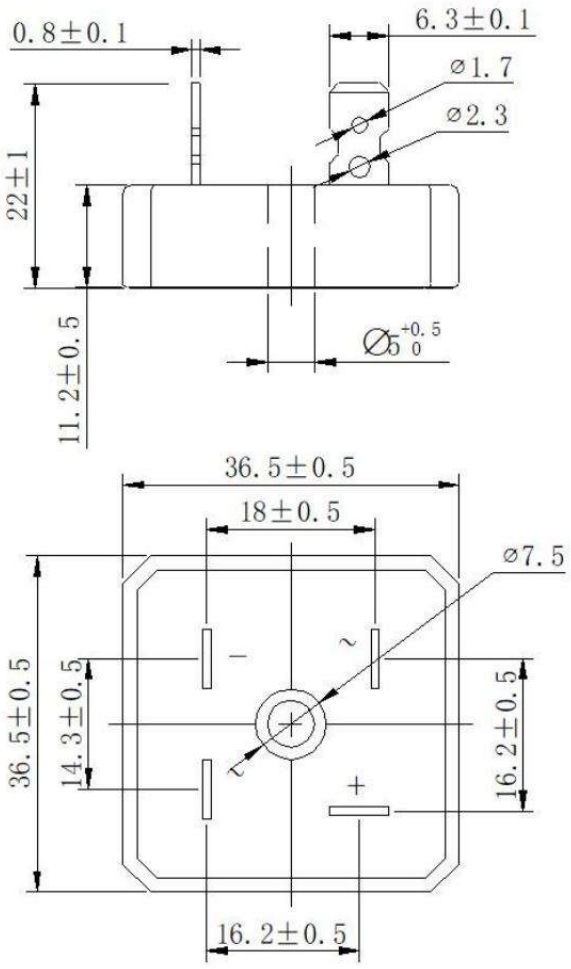


Fig5. Max Non-Repetitive Forward Surge Current

Package Outlines (Dimensions in mm)

Plastic surface mounted package(BR)



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