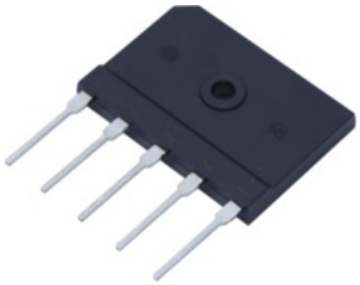
Three Phase Bridge Rectifier

Features

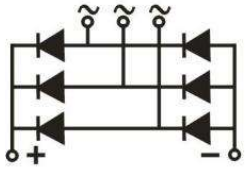
- Glass passivated chip
- Ideal for printed circuit boards
- High surge current capability
- Reverse Voltage : 800 to 1600V
- Forward Current : 50A
- High temperature soldering guaranteed:265℃/10 seconds



SGBJ

Applications

- Inverter for AC or DC motor control
- Current stabilized power supply
- Input rectifiers for variable frequency drives
- Input rectifiers for PWM inverter



Module Type

Type	VRRM	VRSM
SGBJ5008	800V	900V
SGBJ5010	1000V	1100V
SGBJ5012	1200V	1300V
SGBJ5016	1600V	1700V

Maximum Ratings

Item	Conditions	Symbol	Values	Unit
Output Current	Three Phase, Full Wave T_c=95℃	I_D	50	A
Surge Forward Current	T_j=25℃, t=50Hz(10ms), V_R=0V	I_{FSM}	500	A
Circuit Fusing Consideration	t=10ms T_j=25℃	I^2t	1250	A^2s
Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	V_{ISO}	2500	V
Operating Junction Temperature		T_j	-40 to +150	℃
Storage Temperature		T_{stg}	-40 to +125	℃
Mounting Torque	(Recommended torque:0.65 N·m)	M_s	0.8	N·m
Module (Approximately)		Weight	10	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)		3	℃/W

Electrical Characteristics

Item	Conditions	Symbol	Values			Unit
			Min	Typ	Max	
Forward Voltage Drop, Max	T_j = 25℃, I_F = 17.5A	V_{FM}	-	-	1.18	V
Repetitive Peak Reverse Current, Max	T_j = 25℃, $V_R = V_{RRM}$	I_{RRM}	-	-	5	uA
	T_j = 150℃, $V_R = V_{RRM}$		-	-	3	mA
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	7			mΩ

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

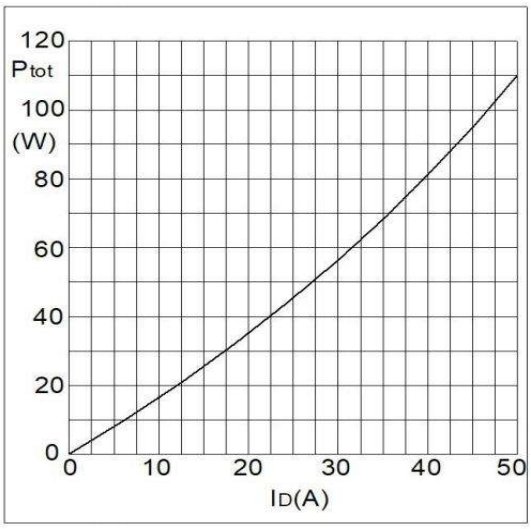


Fig1. Power Dissipation

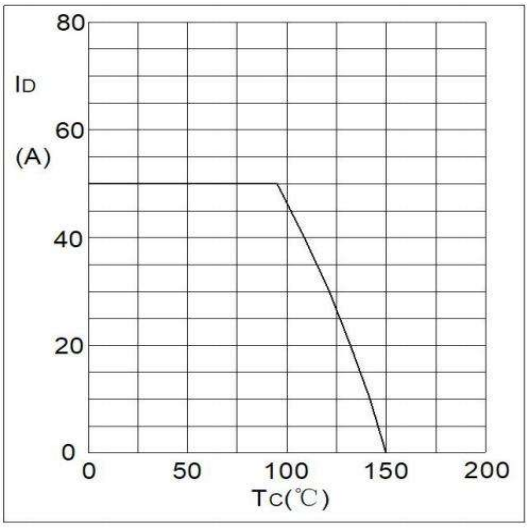


Fig2. Forward Current Derating Curve

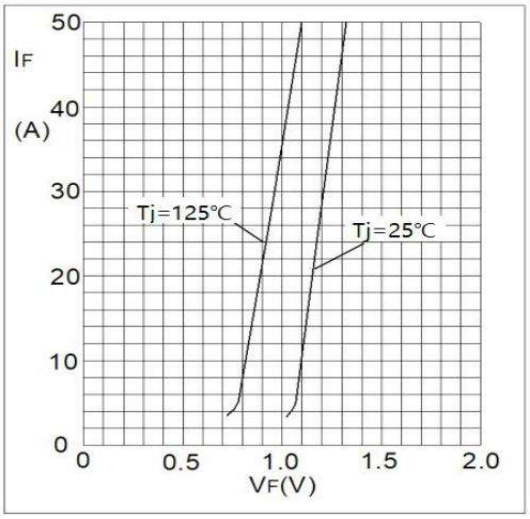


Fig3. Forward Characteristics

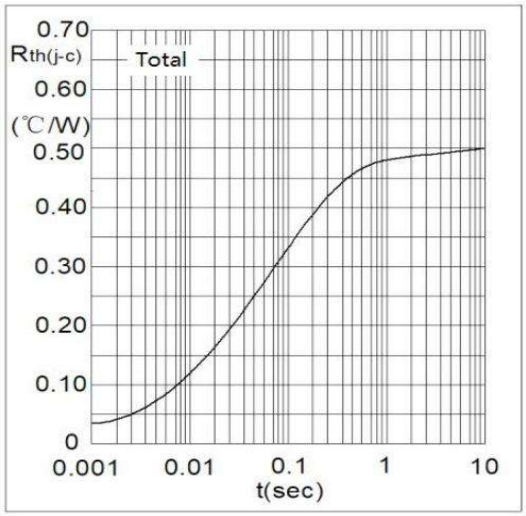


Fig4. Transient Thermal Impedance

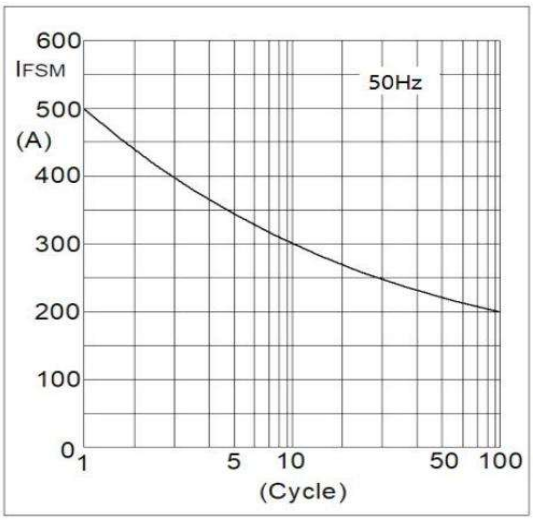
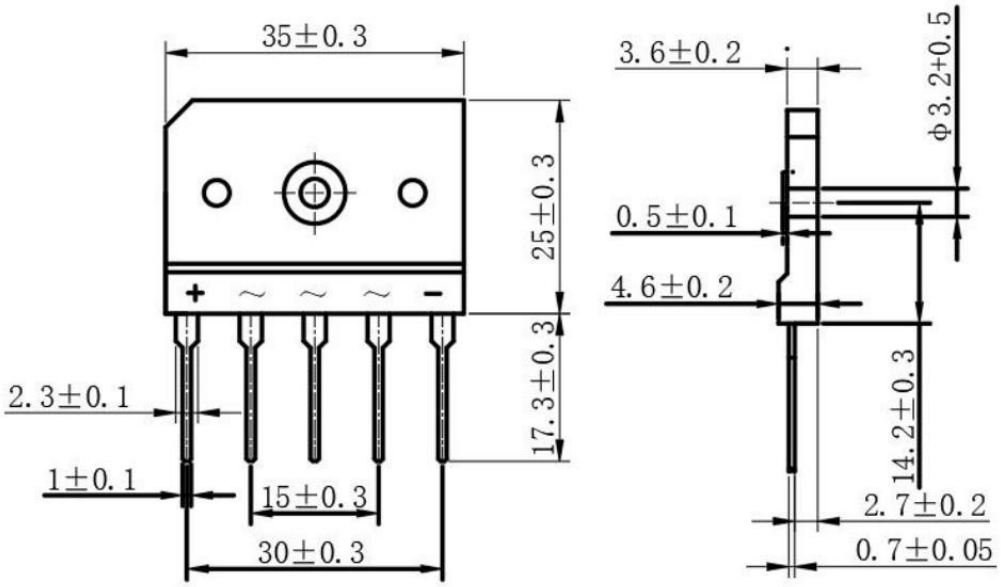


Fig5. Max Non-Repetitive Forward Surge Current

Package Outlines (Dimensions in mm)

Plastic surface mounted package(SGBJ)



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