

Glass Passivated Three Phase Rectifier Bridge

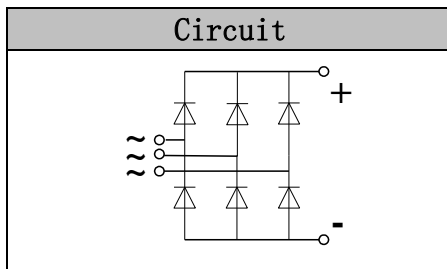
VRRM 2000V
ID 52A

Applications

- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers
- Input rectifiers for variable frequency drives

Features

- Three phase bridge rectifier
- Blocking voltage:2000V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip



Module Type

TYPE	VRRM	VRSM
MD52S20N5	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave $T_c=100^\circ\text{C}$	52	A
I_{FSM}	$t=10\text{ms}$ $T_a = 25^\circ\text{C}$	370	A
i^2t	$t=10\text{ms}$ $T_a = 25^\circ\text{C}$	685	A^2s
V_{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to +150	$^\circ\text{C}$
T_{stg}		-40 to +125	$^\circ\text{C}$
M_t	To terminals(M4)	$2 \pm 15\%$	Nm
M_s	To heatsink(M4)	$2 \pm 15\%$	Nm
Weight	Module (Approximately)	30	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per Diode	0.97	$^\circ\text{C/W}$
$R_{th(j-c)}$	Per Module	0.17	$^\circ\text{C/W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^\circ\text{C}$ $I_F = 35\text{A}$	—	1.5	1.75	V
I_{RD}	$T_{vj}=25^\circ\text{C}$ $VRD=VRRM$	—	—	0.3	mA
	$T_{vj}=150^\circ\text{C}$ $VRD=VRRM$	—	—	5	mA



Performance Curves

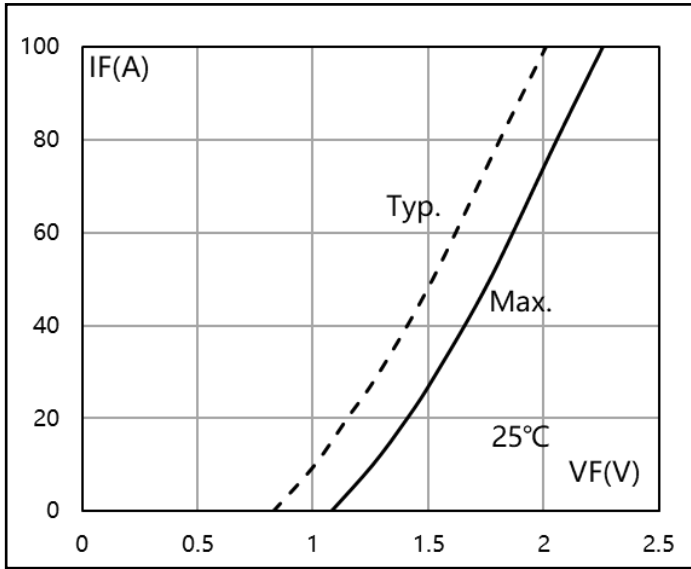


Fig1. Forward Characteristics

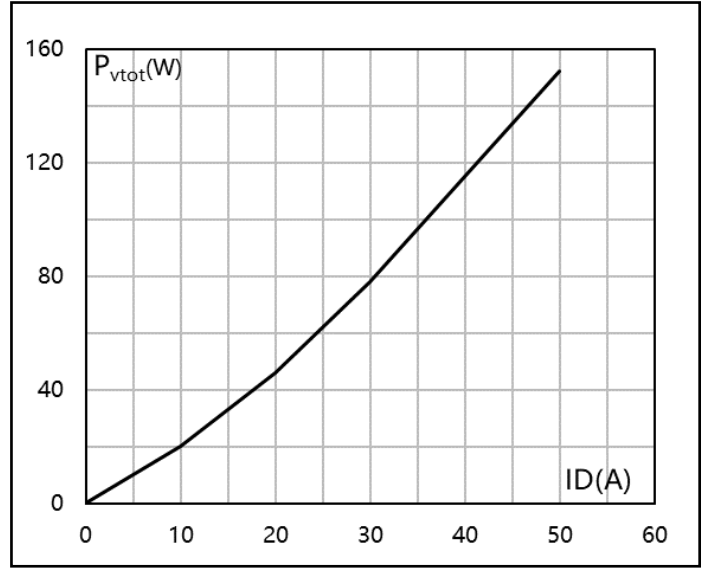


Fig2. Power dissipation

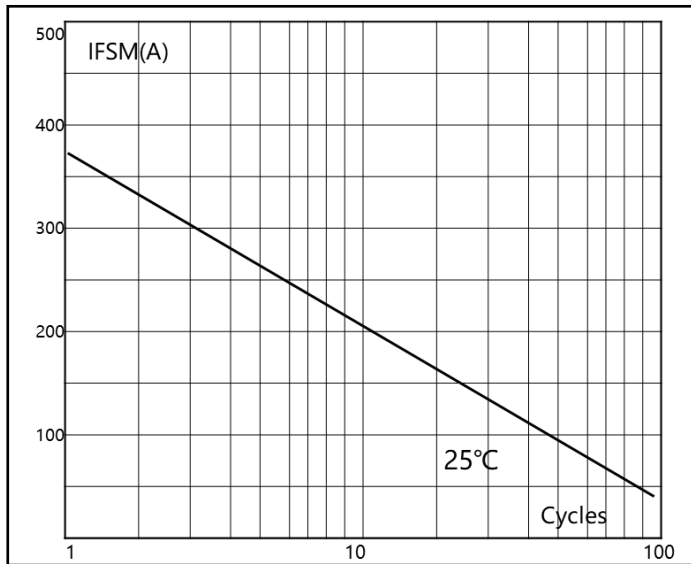


Fig3. Max Non-Repetitive Forward Surge Current

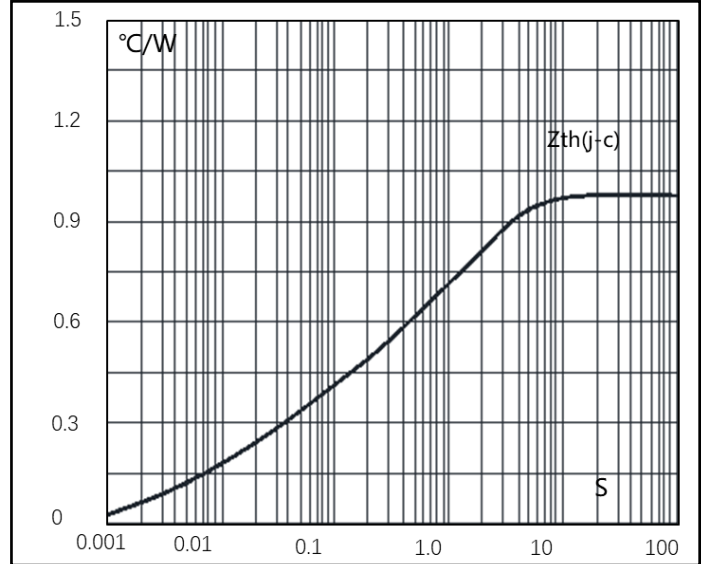


Fig4. Transient thermal impedance

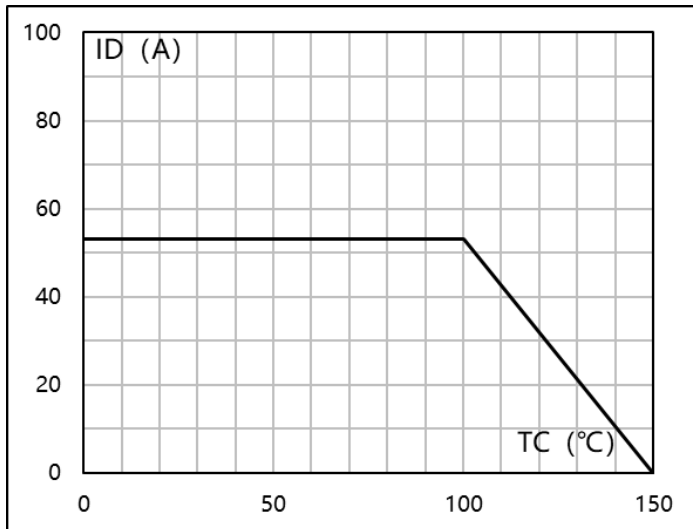
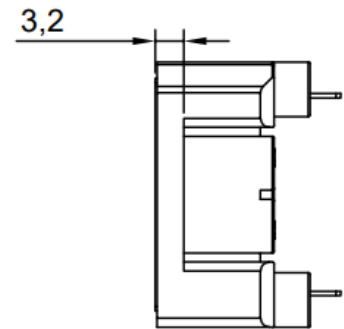
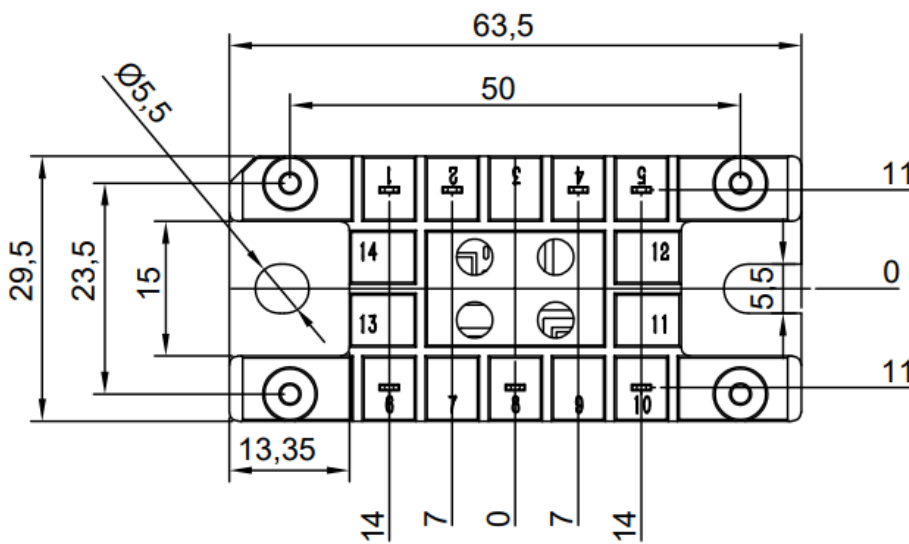
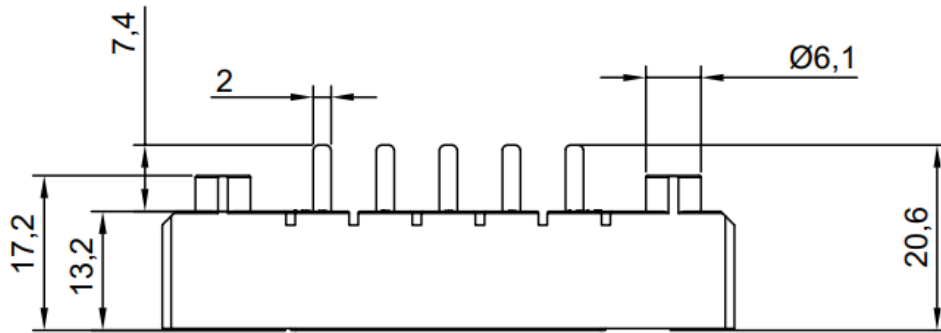


Fig5. Forward Current Derating Curve

Package Outline Information

CASE: N5



Dimensions in mm