



Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 2000 V

I_D 83 A

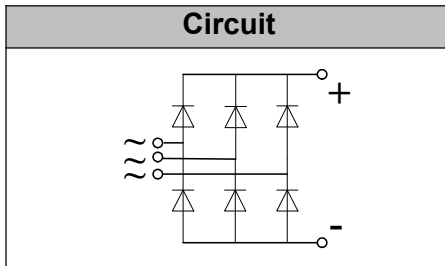
Applications

- 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
- Isolated heatsink using DBC technology
- Glass passivated chip

Circuit



Module Type

TYPE	VRRM	VRSM
MD83S20N5	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
I _D	Three phase, full wave T _c =90°C	83	A
I _{FSM}	t=10mS Ta =25°C	750	A
i ² t	t=10mS Ta =25°C	2800	A ² s
V _{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T _{vj}		-40 to +150	°C
T _{stg}		-40 to +125	°C
Ms	To heatsink(M4)	2±15%	Nm
Weight	Module (Approximately)	30	g

Thermal Characteristics

Symbol	Conditions	Values	Units
R _{th(j-c)}	Per Diode	0.6	°C/W
R _{th(j-c)}	Per Module	0.1	°C/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V _{FM}	T=25°C I _F =83A	—	1.7	2.0	V
I _{RD}	T _{vj} =25°C VRD=VRRM T _{vj} =150°C VRD=VRRM	—	—	0.3 5	mA mA

Performance Curves

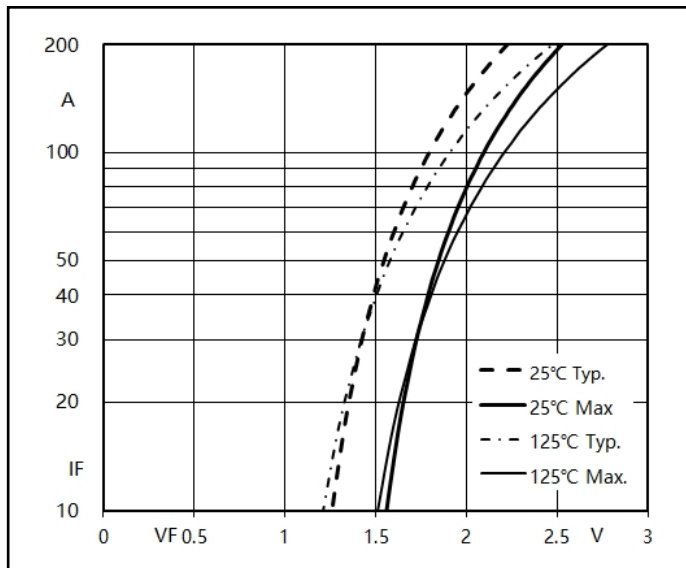


Fig1. Forward Characteristics

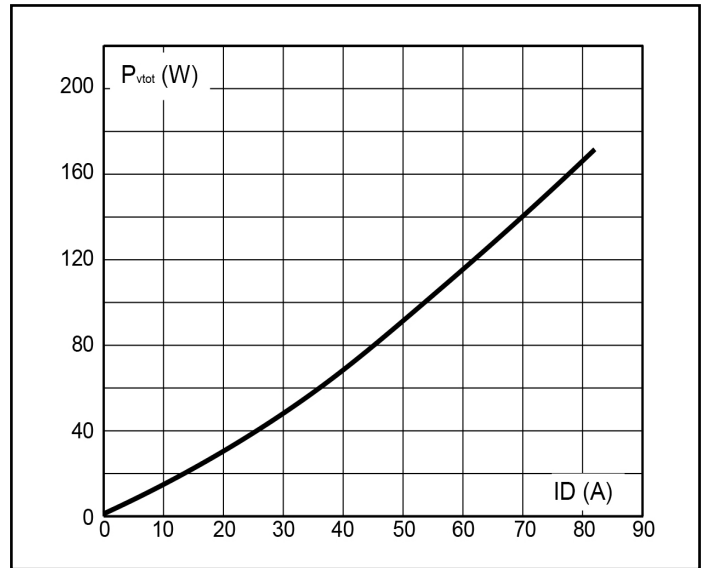


Fig2. Power dissipation

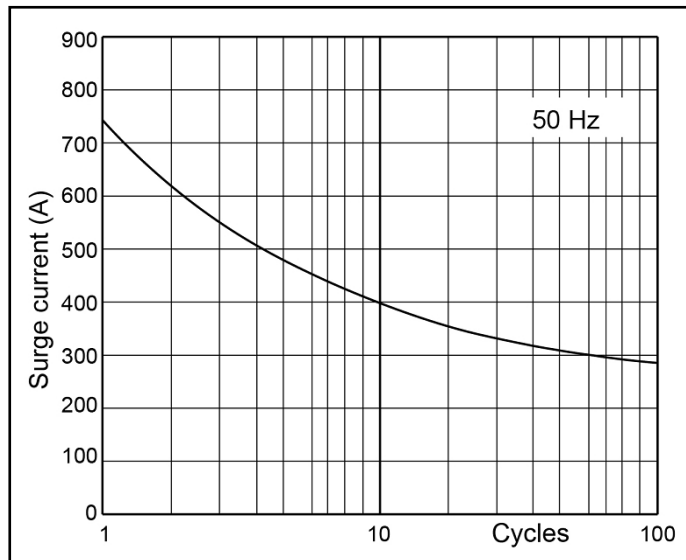


Fig3. Max Non-Repetitive Forward Surge Current

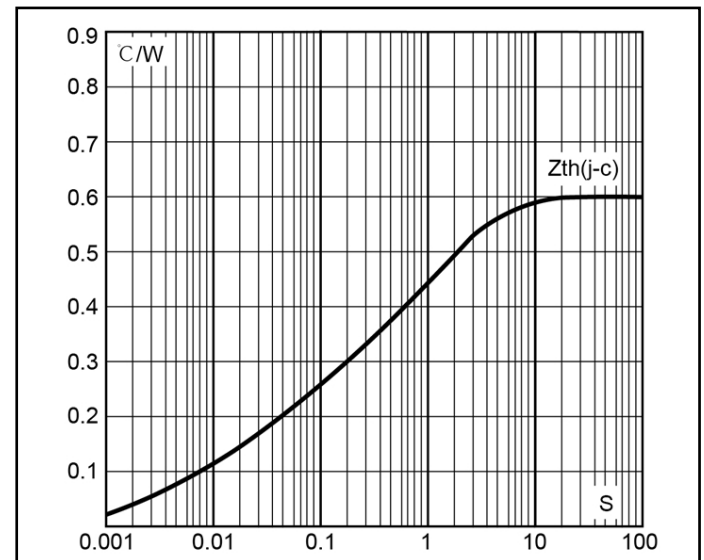


Fig4. Transient thermal impedance

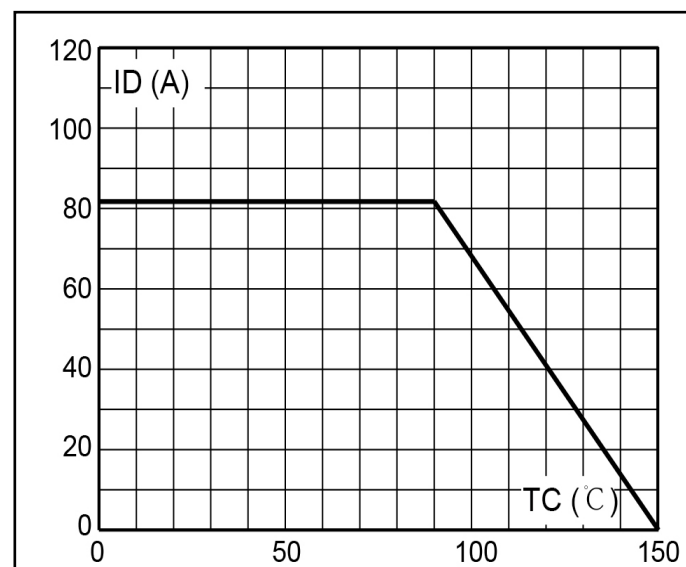
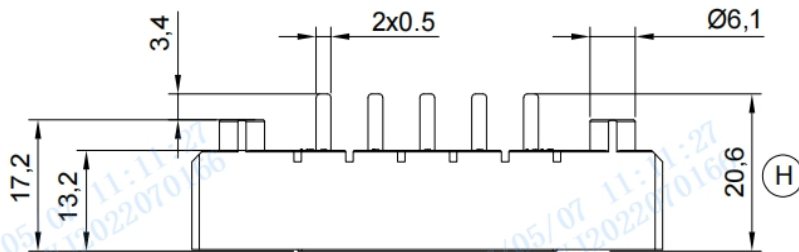


Fig5. Forward Current Derating Curve

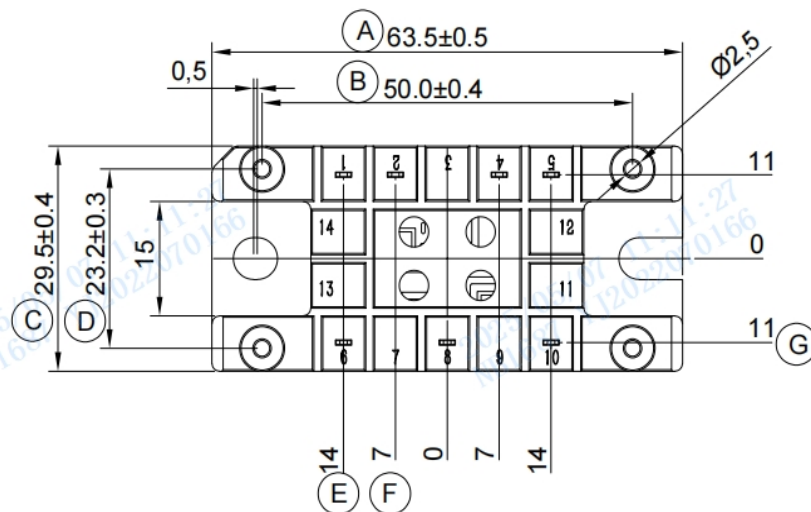


Package Outline Information

CASE: N5



Dim	Min	Max
A	63.0	64.0
B	49.6	50.4
C	29.1	29.9
D	22.9	23.5
E	13.8	14.2
F	6.8	7.2
G	10.8	11.2
H	20.2	21.0



Dimensions in mm

Packing Standard

Item	Length: A(mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	385	276	26	24
Outer Carton	395	280	260	192



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