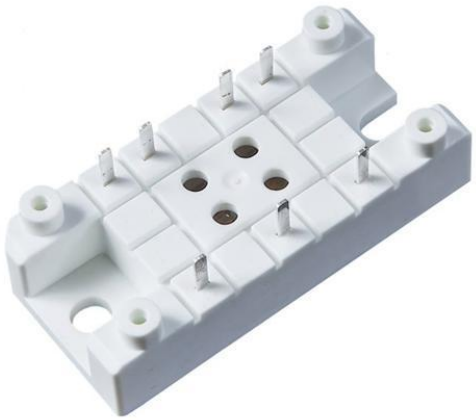
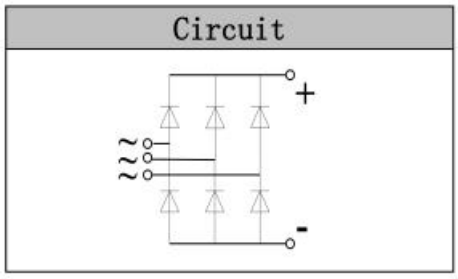


Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 800 to 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:800 to 2000V
- Isolated heatsink using DBC technology
- Glass passivated chip

Module Type

TYPE	VRRM	VRSM
MD83S08N5	800V	900V
MD83S12N5	1200V	1300V
MD83S16N5	1600V	1700V
MD83S18N5	1800V	1900V
MD83S20N5	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=90℃	83	A
I_{FSM}	t=10ms T_J=25℃	750	A
I^2t	t=10ms T_J=25℃	2800	A^2s
V_{ISO}	AC 50Hz/60Hz; R.M.S; 1min	3000	V
T_J		-40 to +150	℃
Tstg		-40 to +125	℃
Ms	To Heatsink(M4)	2±15%	Nm
Weight		30	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Junction to Case(Per Diode)	0.8	℃/W
Rth(j-c)	Junction to Case(Per Module)	0.13	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T_J=25℃ I_F=83A	—	1.7	2.0	V
I_{RD}	T_J=150℃ V_R=V_{RRM}	—	—	5	mA
r_F	T_J=125℃		3.5		mΩ
VF0			0.75		V

Performance Curves

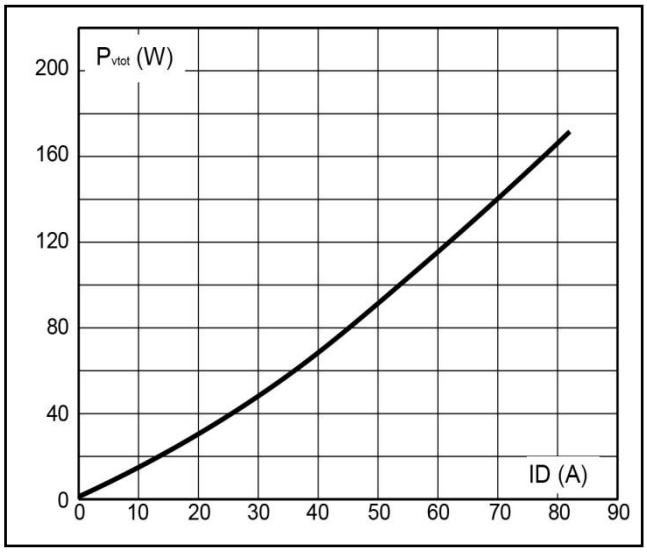


Fig1. Power dissipation

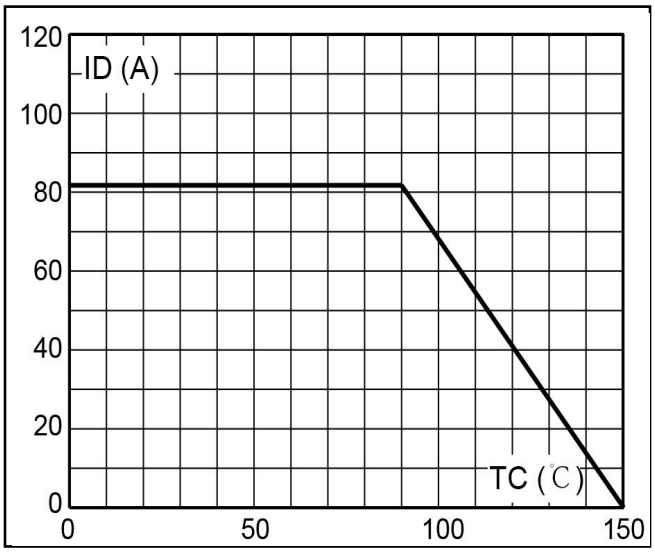


Fig2. Forward Current Derating Curve

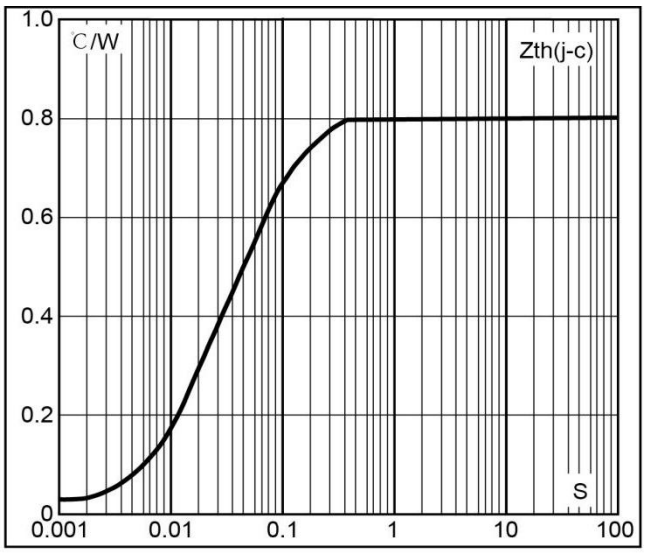


Fig3. Transient thermal impedance

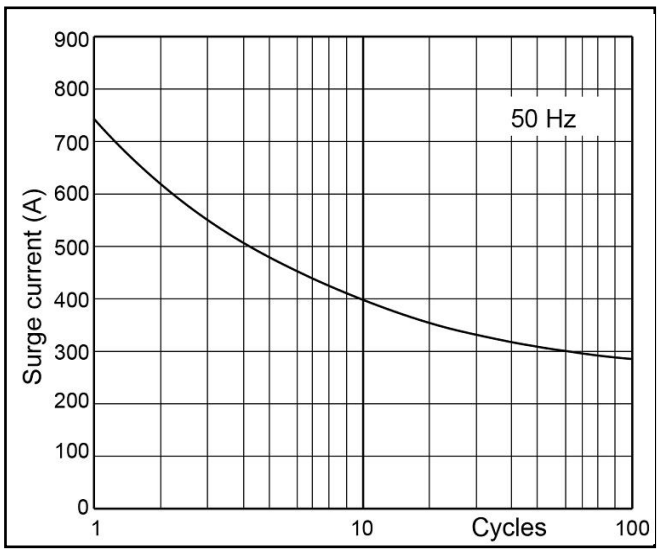


Fig4. Max Non-Repetitive Forward Surge

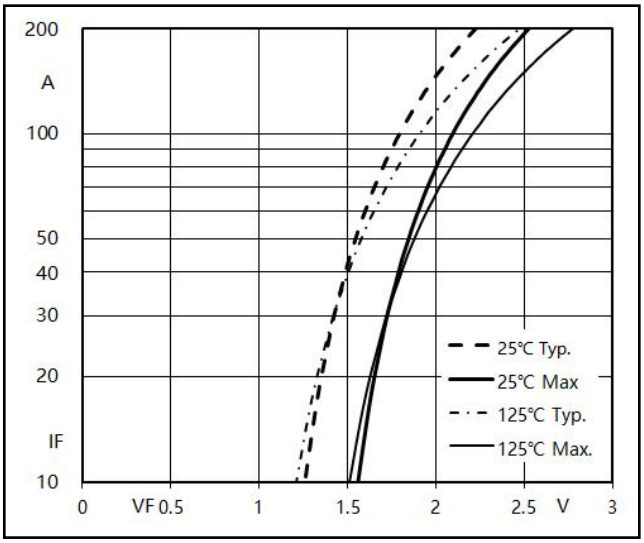
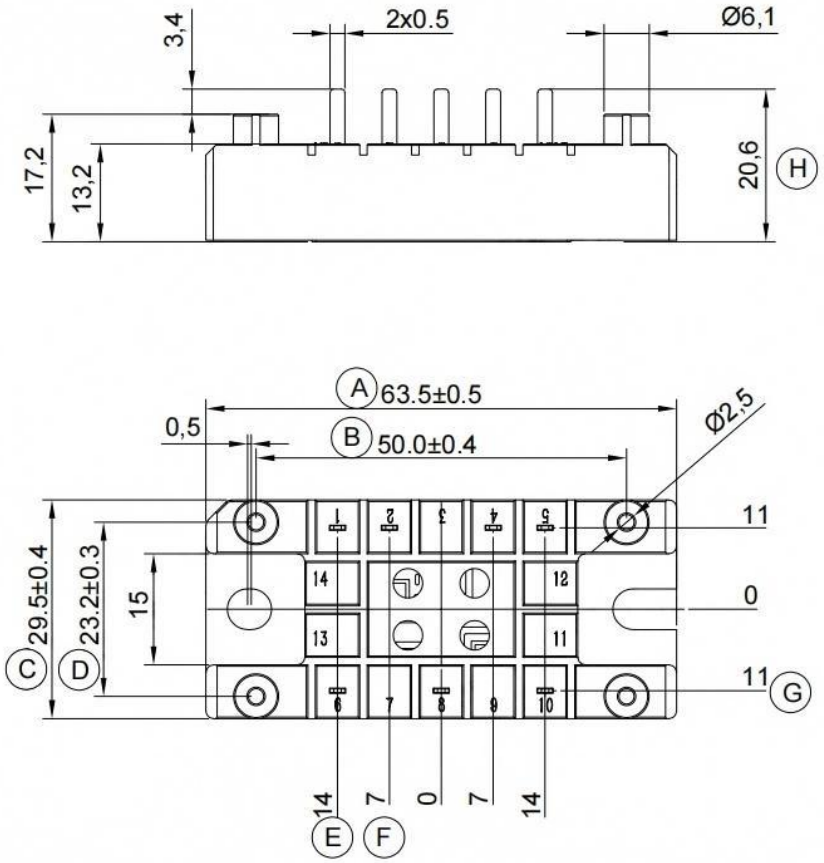


Fig5.Forward Current Derating Curve

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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