



Glass Passivated Three Phase Rectifier Bridge

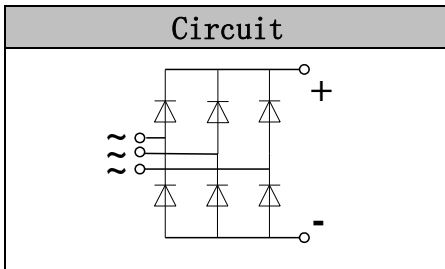
VRRM 800 to 1600V
ID 100 A

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:800-1600V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip



Module Type

TYPE	VRRM	VRSM
MD100S08NM2	800V	900V
MD100S12NM2	1200V	1300V
MD100S16NM2	1600V	1700V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave $T_c=100^\circ\text{C}$	100	A
I_{FSM}	$t=10\text{ms}$ $T_{vj}=45^\circ\text{C}$	1100	A
i^2t	$t=10\text{ms}$ $T_{vj}=45^\circ\text{C}$	6050	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(M5)	$3\pm 15\%$	Nm
M_s	To heatsink(M5)	$3\pm 15\%$	Nm
Weight	Module (Approximately)	130	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	1.0	$^\circ\text{C/W}$
$R_{th(c-s)}$	Module (Approximately)	0.07	$^\circ\text{C/W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^\circ\text{C}$ $I_F=150\text{A}$	—	1.38	1.60	V
I_{RD}	$T_{vj}=25^\circ\text{C}$ $V_{RD}=V_{RRM}$ $T_{vj}=150^\circ\text{C}$ $V_{RD}=V_{RRM}$	—	—	0.3 5	mA mA

Performance Curves

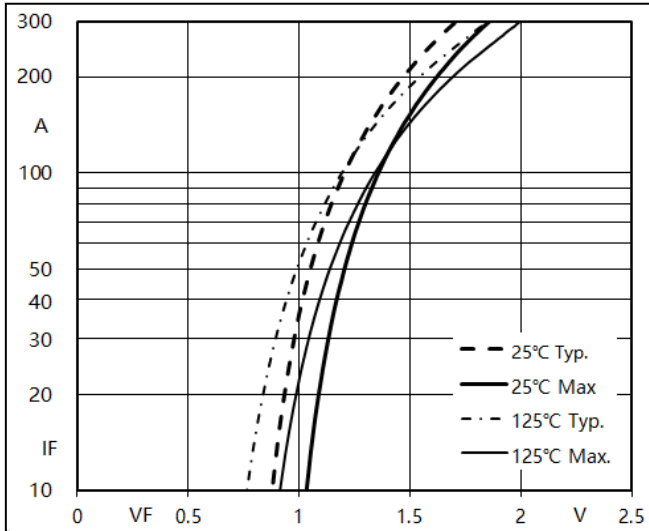


Fig1. Forward Characteristics

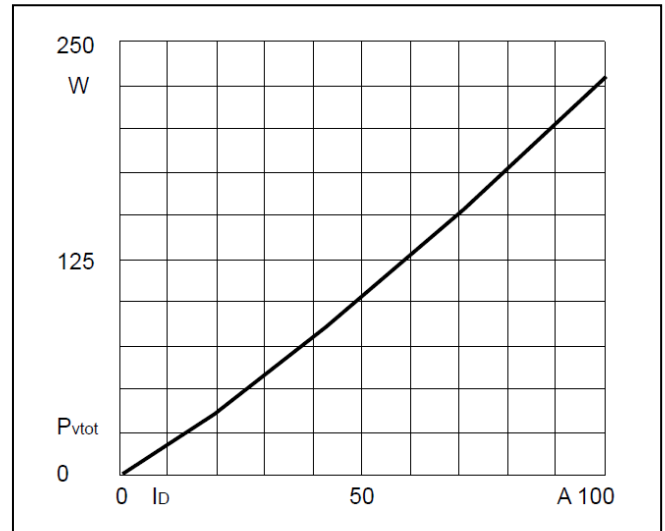


Fig2. Power dissipation

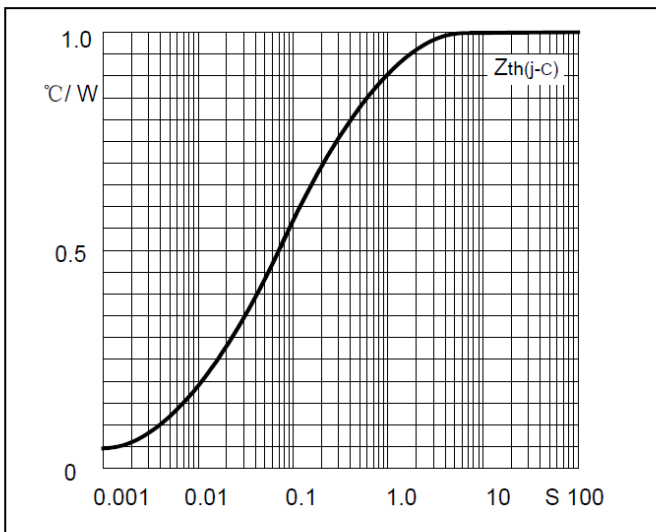


Fig3. Transient thermal impedance

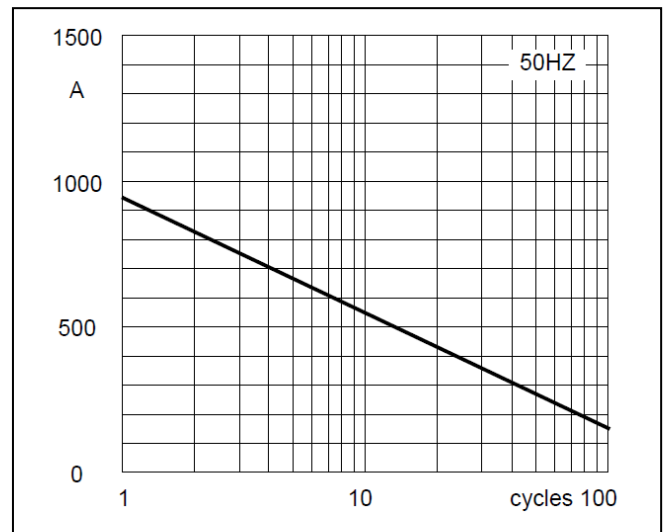


Fig4. Max Non-Repetitive Forward Surge Current

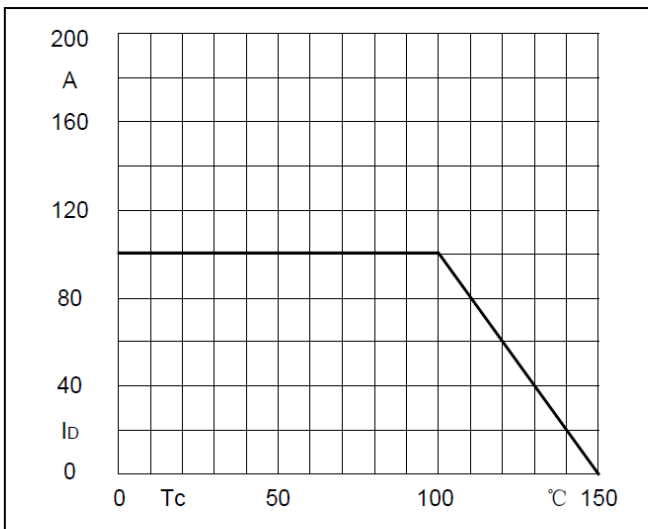
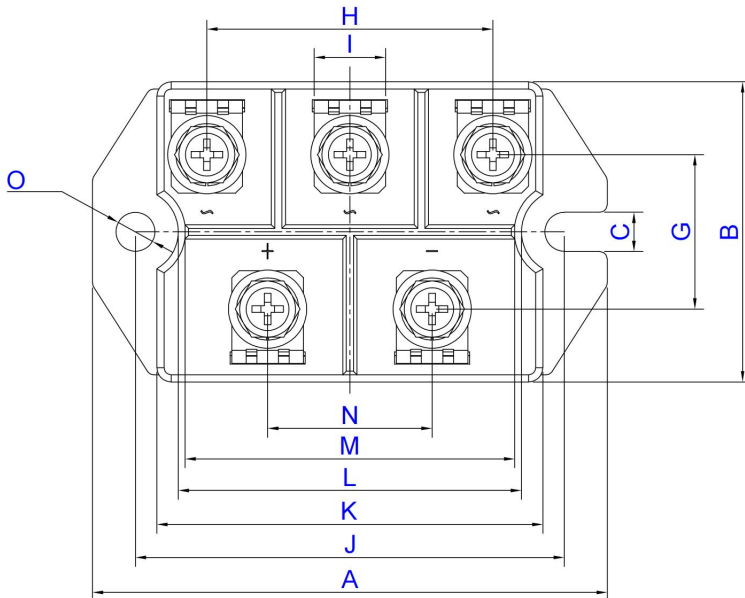
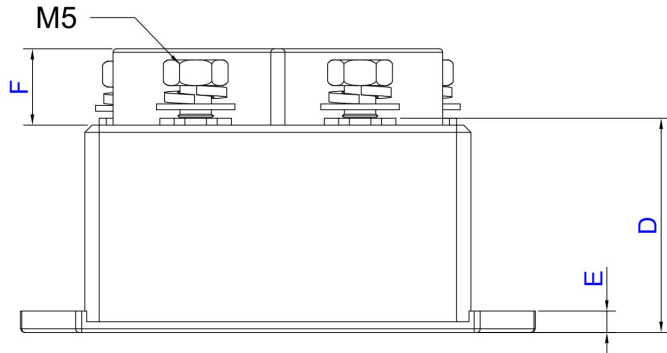


Fig5. Forward Current Derating Curve

Package Outline Information

CASE:NM2



DIM	Min (mm)	Max (mm)	Note
A	71.5	72.5	
B	41.5	42.5	
C	5	6	
D	29.5	30.5	
E	2.5	3.5	
F	10.2	11.2	
G	21.1	22.1	
H	39.5	40.5	
I	9.5	10.5	
J	59.5	60.5	
K	53.5	54.5	
L	47.5	48.5	
M	45.64	46.64	
N	22.5	23.5	
O	5	6	∅

Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	48	8
Outer Carton	545	295	240	80



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