



Glass Passivated Three Phase Rectifier Bridge

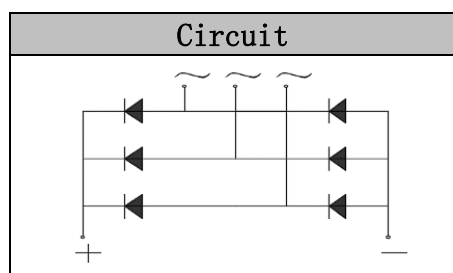
VRRM 800 to 2400V
ID 50 A

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 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E230084



Module Type

TYPE	VRRM	VRSM
MD50S08M4	800V	900V
MD50S12M4	1200V	1300V
MD50S16M4	1600V	1700V
MD50S18M4	1800V	1900V
MD50S20M4	2000V	2100V
MD50S22M4	2200V	2300V
MD50S24M4	2400V	2500V

Maximum Ratings

Symbol	Conditions	Values	Units
ID	Three phase, full wave Tc=110℃	50	A
IFSM	t=10mS Tvj =45℃	460	A
i ² t	t=10mS Tvj =45℃	1050	A ² s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +125	℃
Tstg		-40 to +125	℃
Mt	To terminals(M5)	5±15%	Nm
Ms	To heatsink(M5)	5±15%	Nm
Weight	Module (Approximately)	146	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	1.45	℃/W
Rth(c-s)	Module	0.07	℃/W



Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^{\circ}\text{C}$ $I_F=150\text{A}$	—	1.3	1.5	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

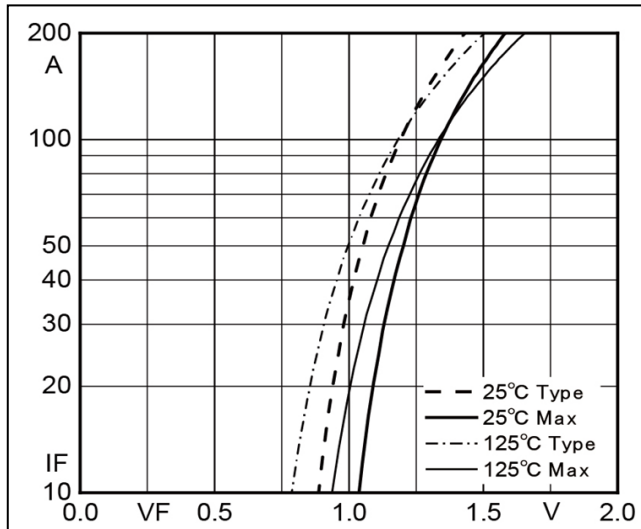


Fig1. Forward Characteristics

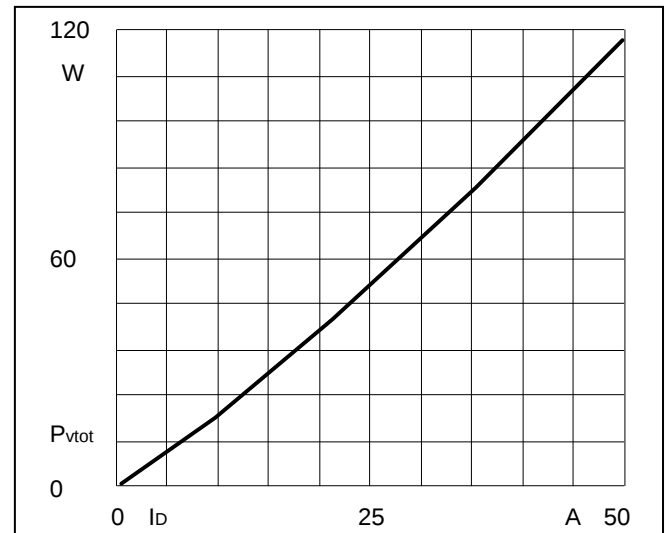


Fig2. Power dissipation

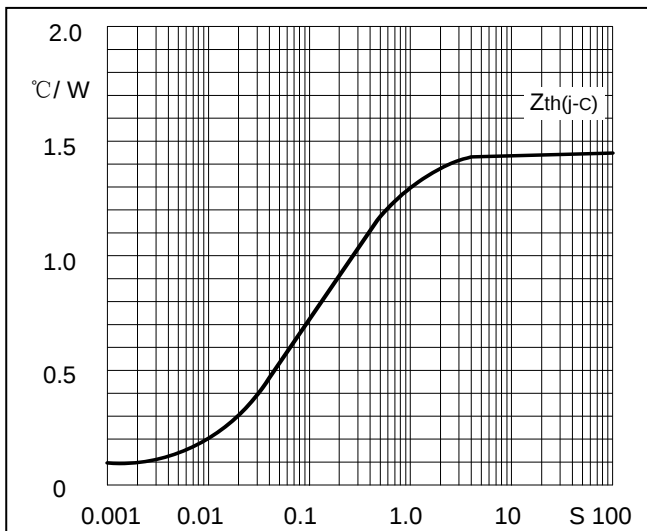


Fig3. Transient thermal impedance

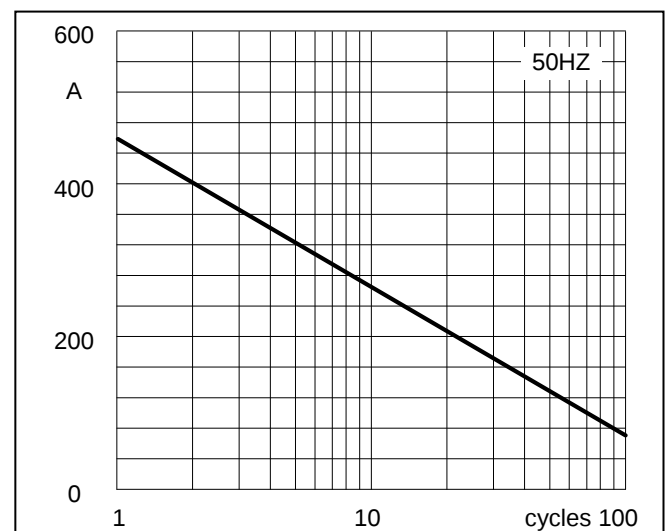


Fig4. Max Non-Repetitive Forward Surge Current

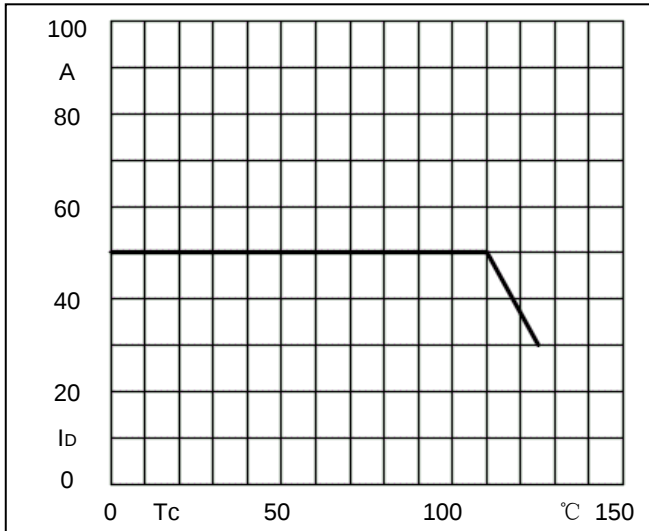
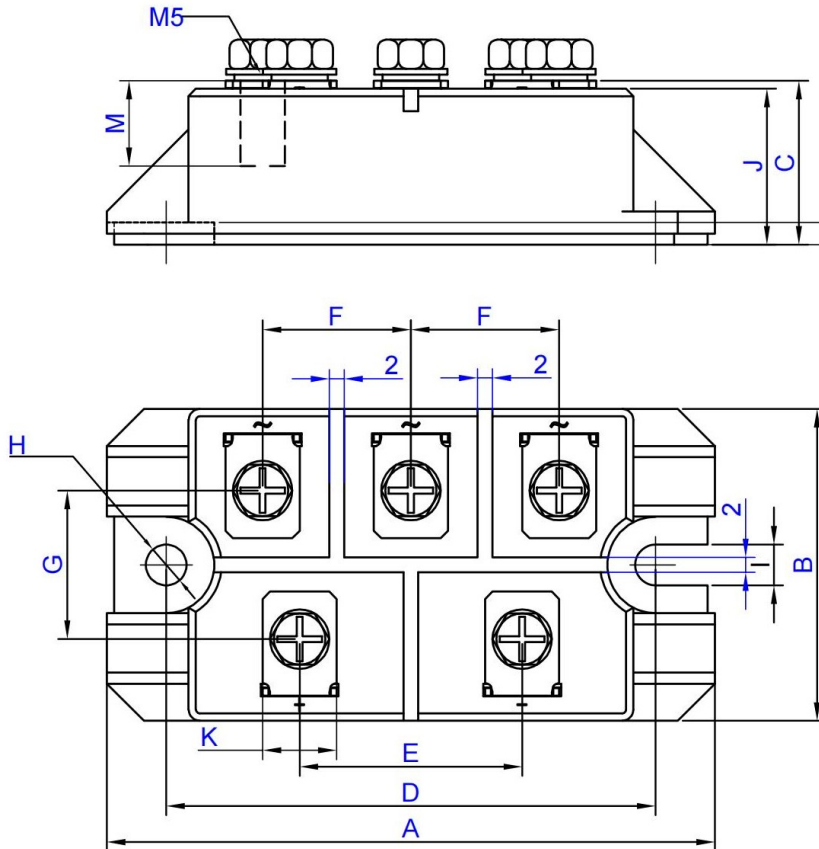


Fig5. Forward Current Derating Curve

Package Outline Information

CASE: M4



DIM	Min (mm)	Max (mm)	Note
A	81.5	82.5	
B	41.5	42.5	
C	21.5	22.5	
D	65.5	66.5	
E	29.7	30.3	
F	19.7	20.3	
G	19.7	20.3	
H	5.2	5.8	Ø
I	5.2	5.8	
J	20.5	21.5	
K	9.8	10.2	
L	2.8	3.2	
M	11	12	



Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	48	6
Outer Carton	545	295	240	60

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