



## Glass Passivated Three Phase Rectifier Bridge

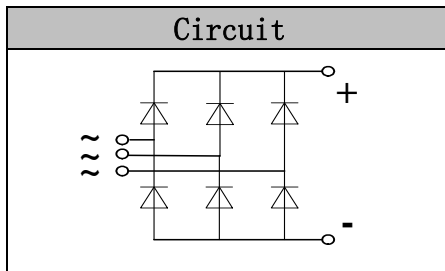
**VRRM** 800 to 2400V  
**ID** 50 A

### 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 2400V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip



### 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°C	50	A
IFSM	t=10mS Tvj =45°C	460	A
i <sup>2</sup> t	t=10mS Tvj =45°C	1050	A <sup>2</sup> s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +125	°C
Tstg		-40 to +125	°C
Mt	To terminals(M5)	5±15%	Nm
Ms	To heatsink(M5)	5±15%	Nm
Weight	Module (Approximately)	146	g

### Thermal Characteristics

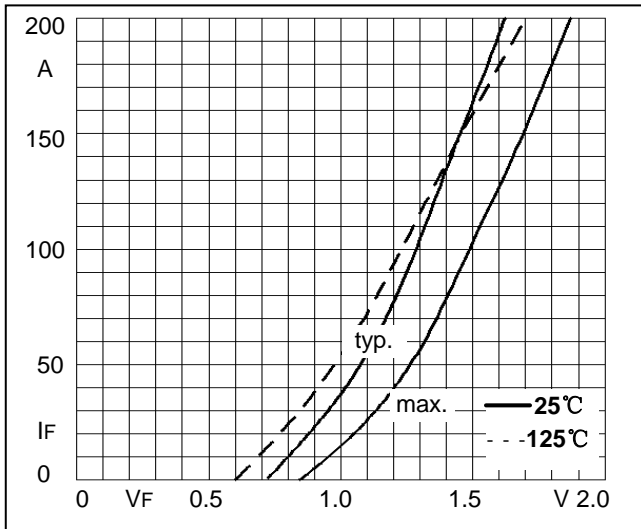
Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	1.45	°C/W
Rth(c-s)	Module	0.07	°C/W



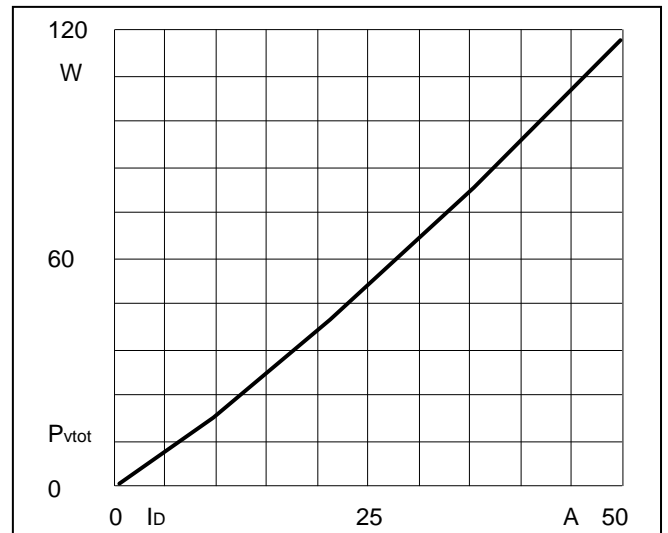
**Electrical Characteristics**

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V <sub>FM</sub>	T=25°C I <sub>F</sub> =150A	—	1.45	1.7	V
I <sub>RD</sub>	T <sub>vj</sub> =25°C V <sub>RD</sub> =V <sub>R<sub>RM</sub></sub> T <sub>vj</sub> =150°C V <sub>RD</sub> =V <sub>R<sub>RM</sub></sub>	—	—	0.3 5	mA mA

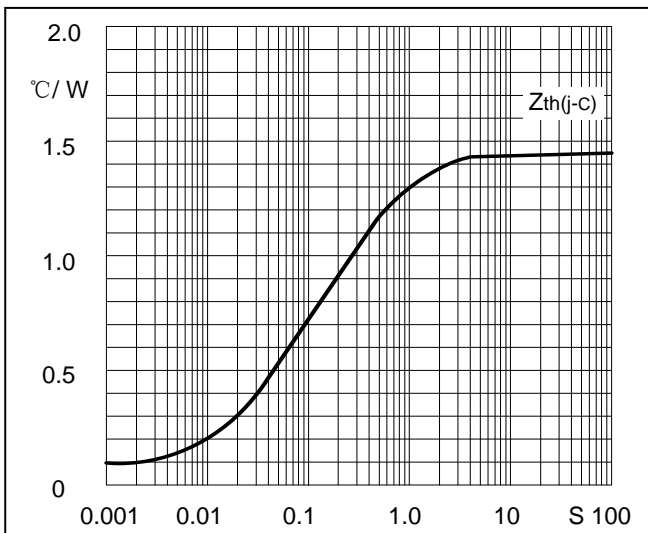
**Performance Curves**



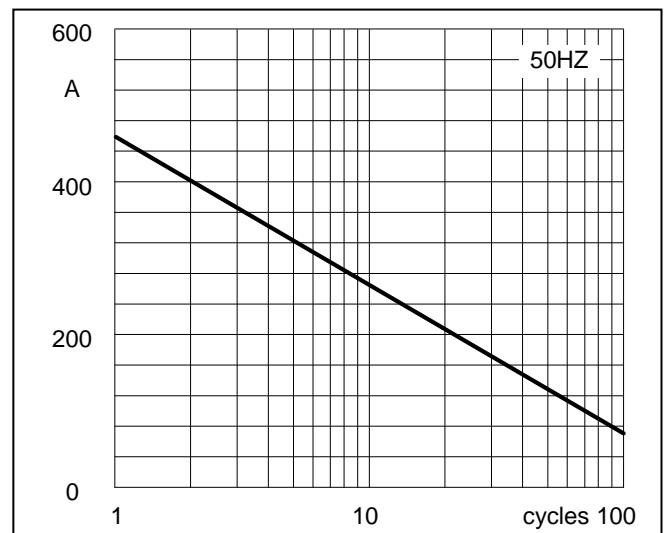
**Fig1. Forward Characteristics**



**Fig2. Power dissipation**



**Fig3. Transient thermal impedance**



**Fig4. Max Non-Repetitive Forward Surge Current**

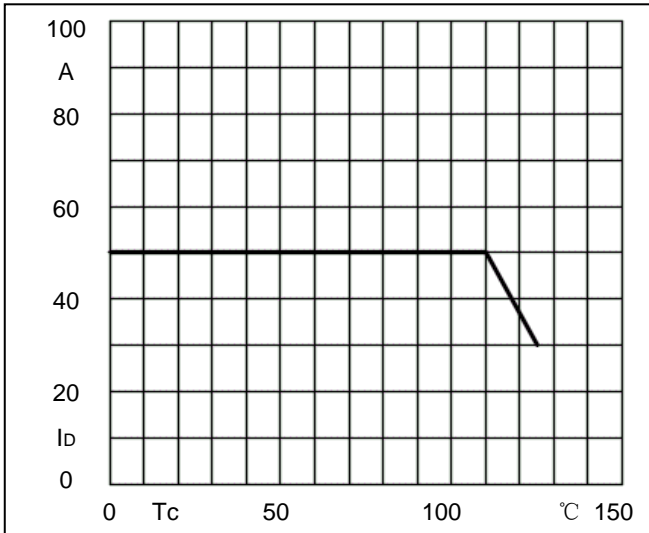
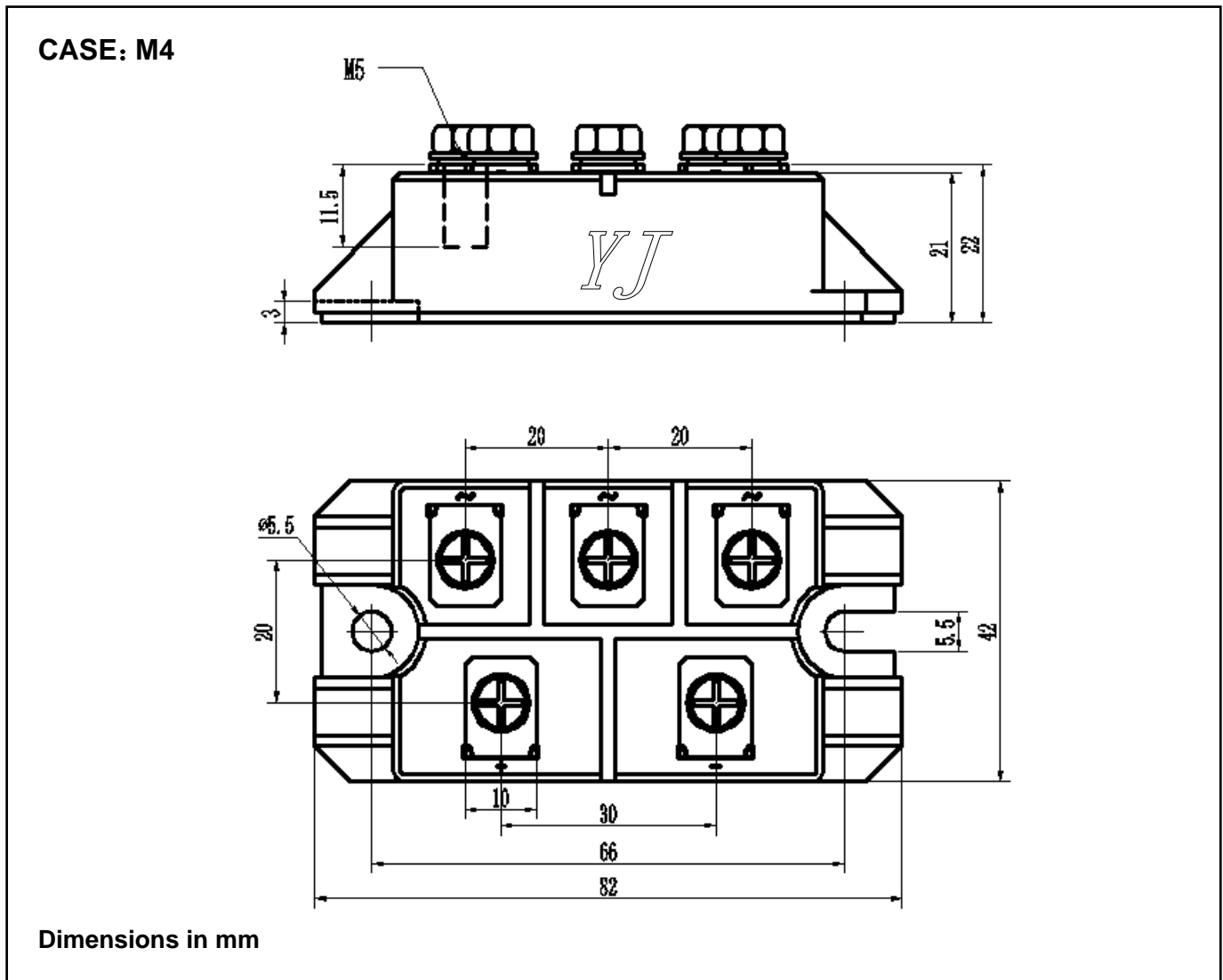


Fig5.Forward Current Derating Curve

### Package Outline Information



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