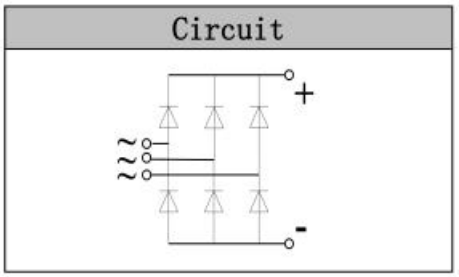


Glass Passivated Three Phase Rectifier Bridge

VRRM 800 to 2000V
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 2000V
- 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

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=110℃	50	A
I_{FSM}	t=10ms T_J=25℃	700	A
I^2t	t=10ms T_J=25℃	2400	A^2s
V_{ISO}	AC 50Hz/60Hz; R.M.S; 1min	3000	V
T_J		-40 to +150	℃
Tstg		-40 to +125	℃
Mt	To Terminals(M5)	3±15%	N·m
Ms	To Heatsink(M5)	3±15%	N·m
Weight		140	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Junction to Case(Per Diode)	1.0	℃/W
Rth(c-s)	Case to Heat Sink	0.1	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T_J=25℃ I_F =150A	—	1.5	1.8	V
I_{RD}	T_J=150℃ V_R=V_{RRM}	—	—	5	mA
r_F	T_J=125℃		4.5		mΩ
VF0			0.8		V

Performance Curves

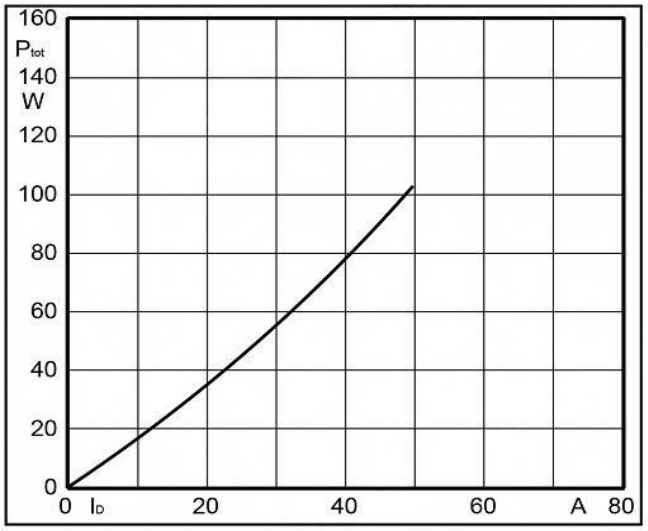


Fig1. Power dissipation

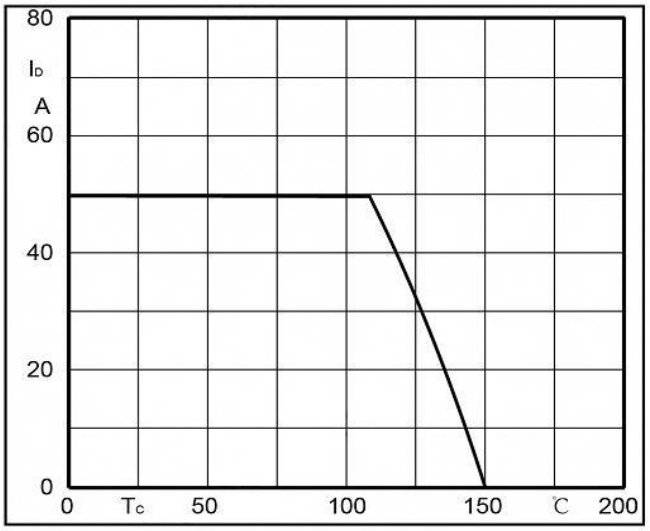


Fig2.Forward Current Derating Curve

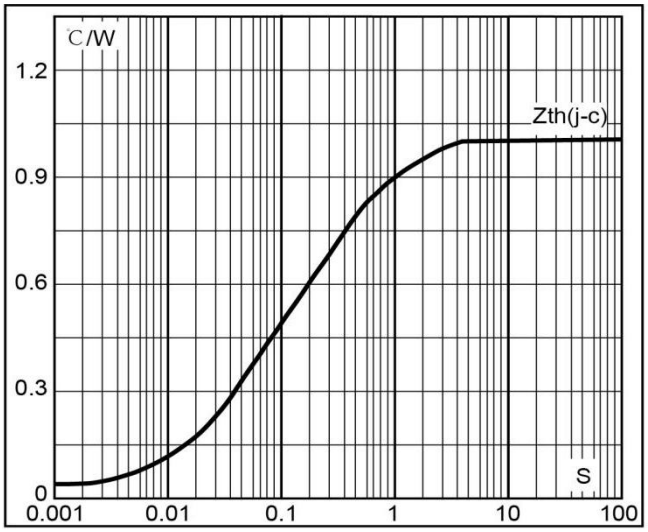


Fig3. Transient thermal impedance

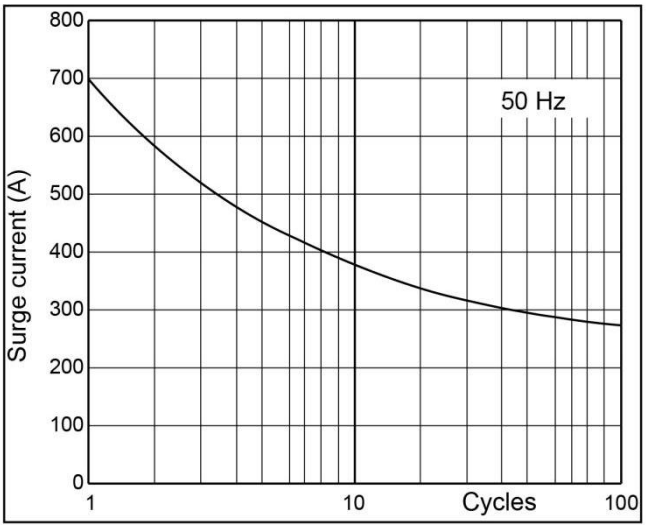


Fig4. Max Non-Repetitive Forward Surge Current

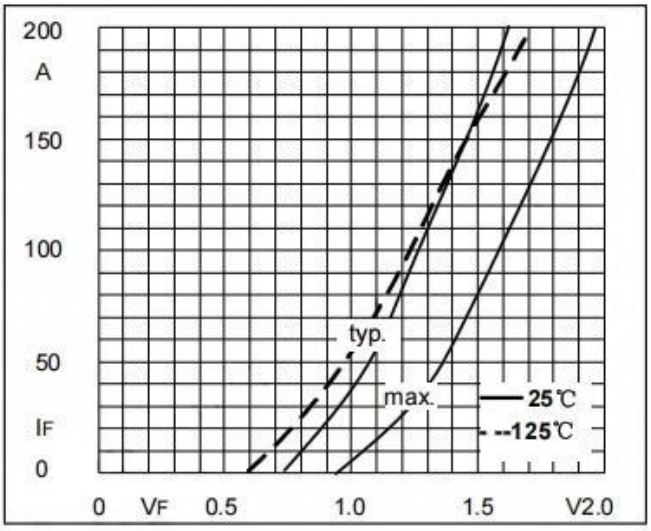
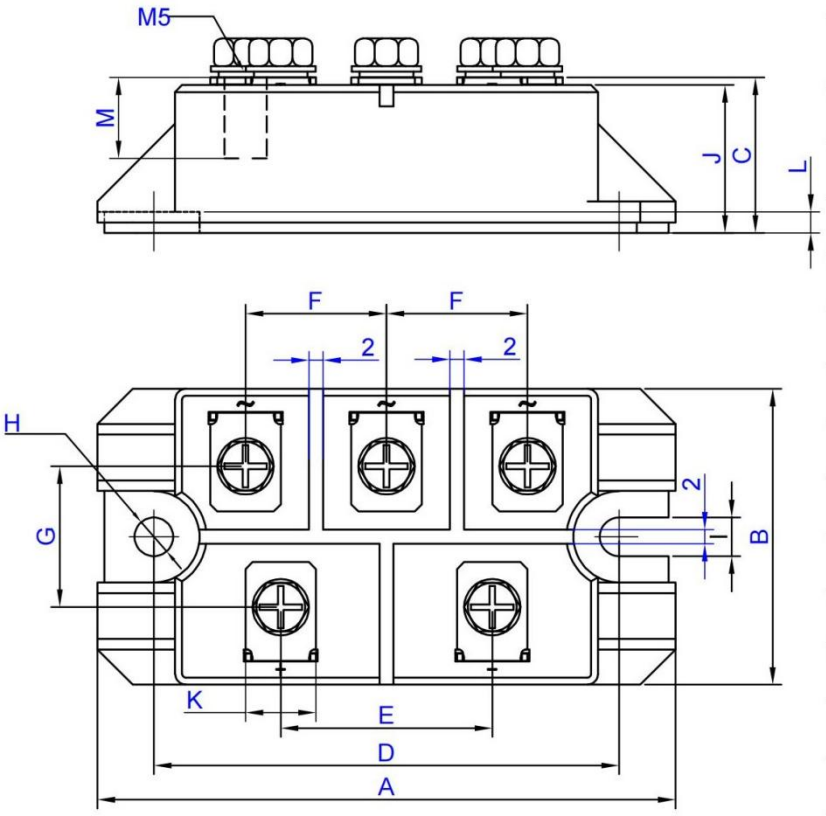


Fig5. Forward Characteristics

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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