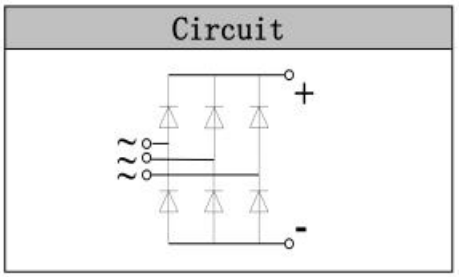


Glass Passivated Three Phase Rectifier Bridge

VRRM 800 to 2000V
IFAV 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 to 2000V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

Module Type

TYPE	VRRM	VRSM
MD100S08M2	800V	900V
MD100S12M2	1200V	1300V
MD100S16M2	1600V	1700V
MD100S18M2	1800V	1900V
MD100S20M2	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=100℃	100	A
I_{FSM}	t=10ms T_J=25℃	1000	A
I^2t	t=10ms T_J=25℃	5000	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		130	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Junction to Case(Per Diode)	0.7	℃/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	—	1.3	1.6	V
I_{RD}	T_J=150℃ V_R=V_{RRM}	—	—	5	mA
r_F	T_J=125℃		3.2		mΩ
VF0			0.7		V

Performance Curves

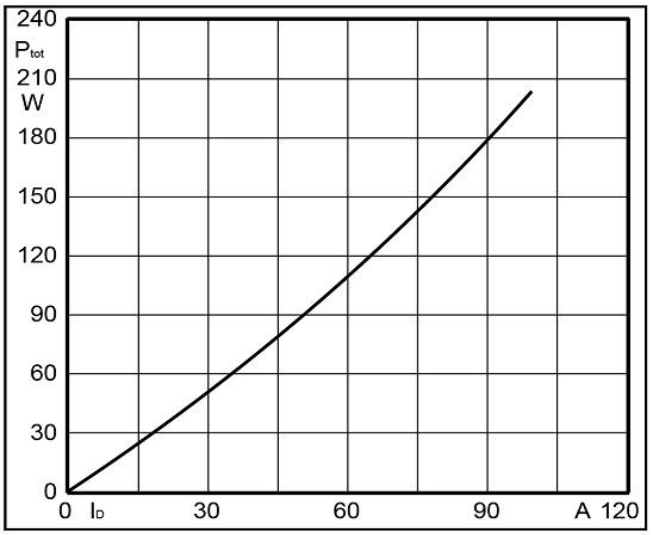


Fig1. Power dissipation

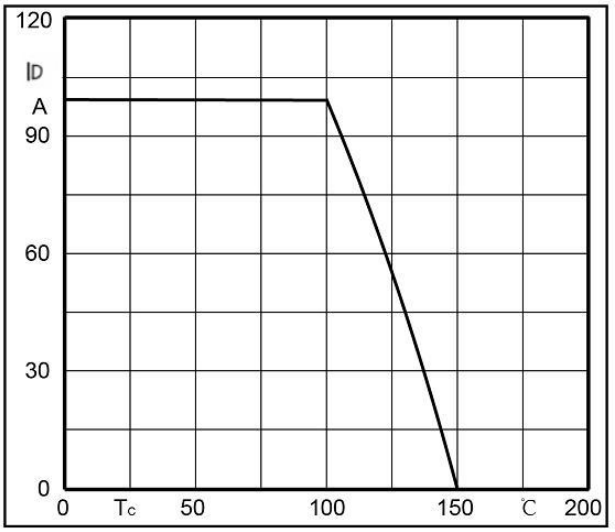


Fig2.Forward Current Derating Curve

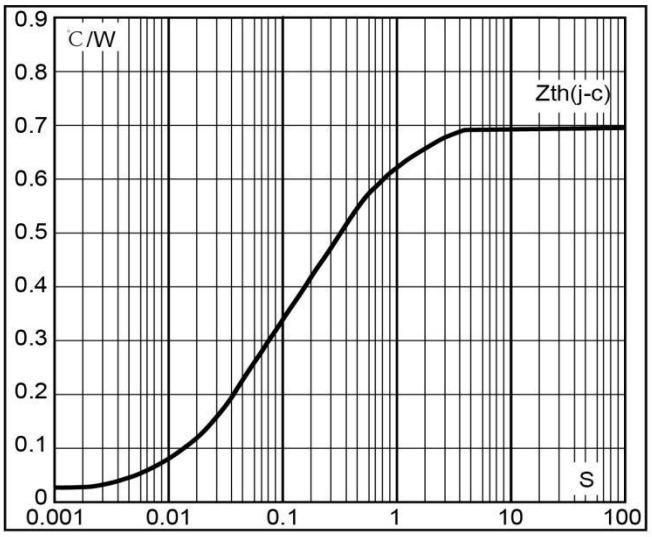


Fig3. Transient thermal impedance

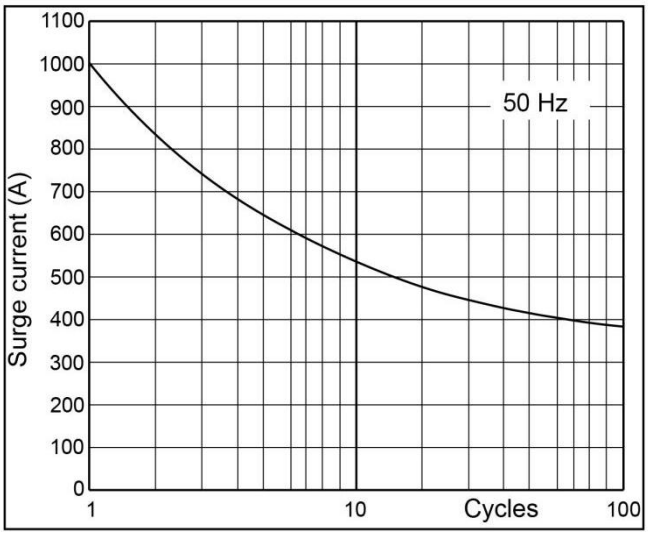


Fig4. Max Non-Repetitive Forward Surge Current

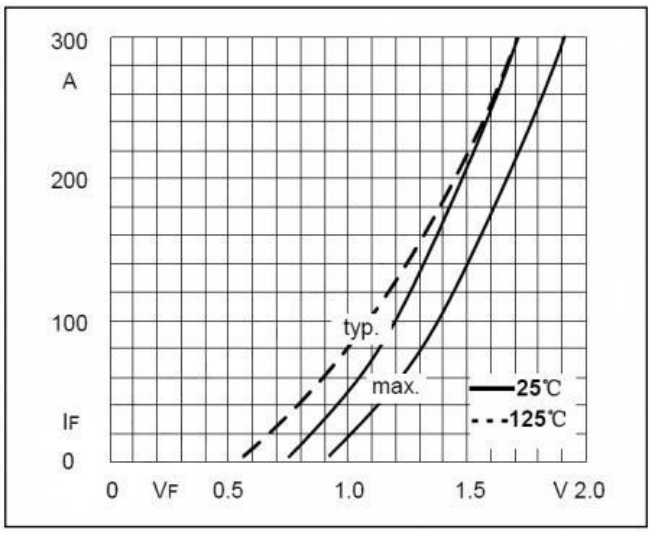
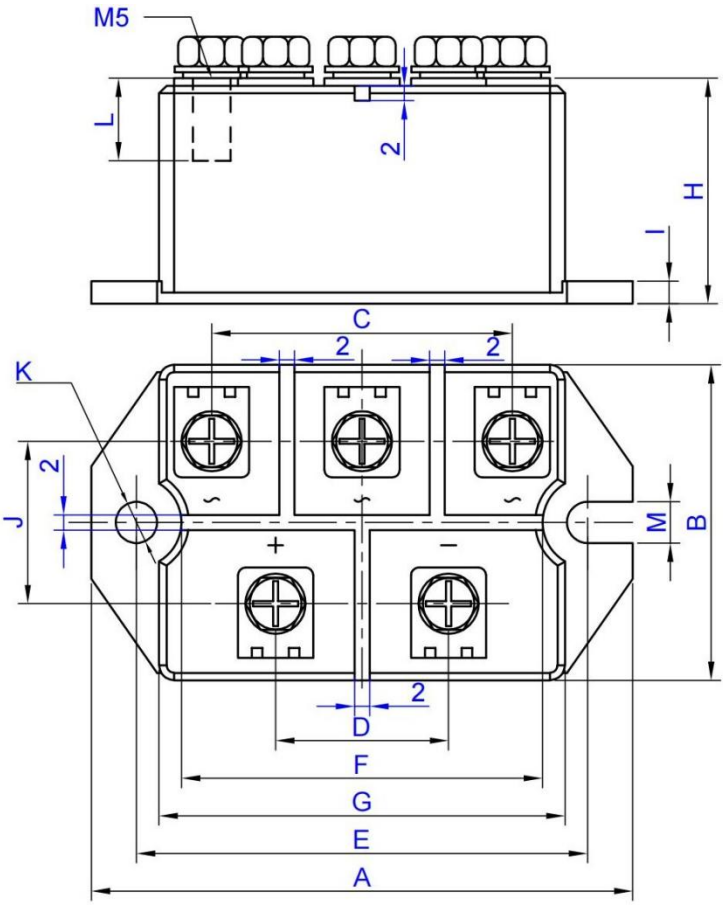


Fig5. Forward Characteristics

Package Outline Information

CASE: M2



DIM	Min (mm)	Max (mm)	Note
A	71.5	72.5	
B	41.5	42.5	
C	39.5	40.5	
D	22.7	23.3	
E	59.5	60.5	
F	47.5	48.5	
G	53.5	54.5	
H	29.5	30.5	
I	2.9	3.1	
J	21.3	21.9	
K	5.4	5.6	Ø
L	10	11	
M	5.2	5.8	

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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