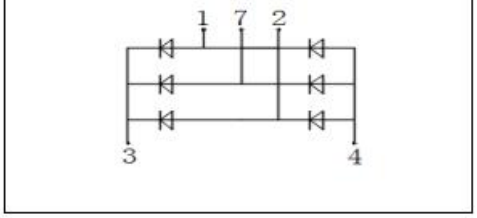


Circuit



Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 800 to 2000V
ID 75 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	V_{RRM}	V_{RSM}
MD75S08M1	800V	900V
MD75S12M1	1200V	1300V
MD75S16M1	1600V	1700V
MD75S18M1	1800V	1900V
MD75S20M1	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=100℃	75	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	℃
Ms	To Heatsink(M5)	3±15%	N·m
Weight		80	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Junction to Case(Per Diode)	0.9	℃/W
Rth(c-s)	Case to Heat Sink	0.2	℃/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℃		3.5		mΩ
VF0			0.7		V

Performance Curves

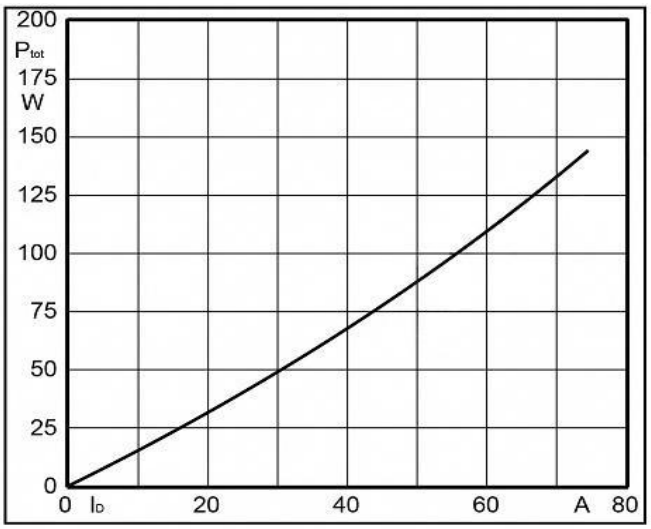


Fig1. Power dissipation

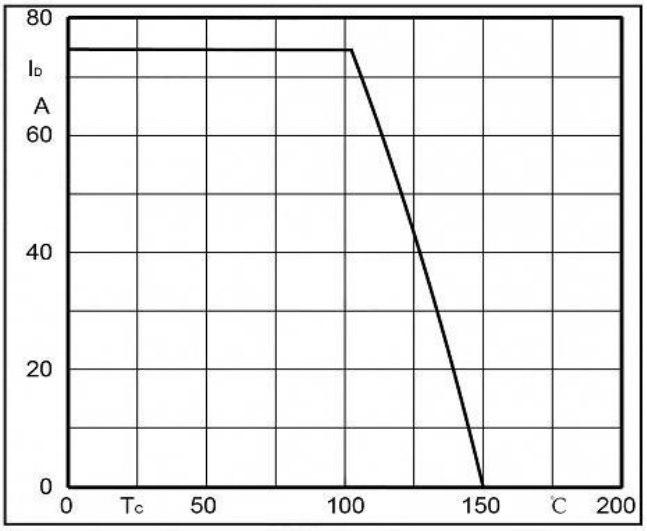


Fig2.Forward Current Derating Curve

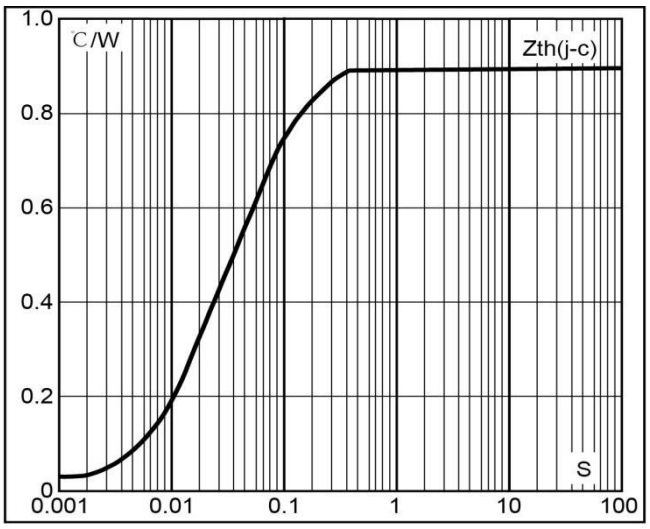


Fig3. Transient thermal impedance

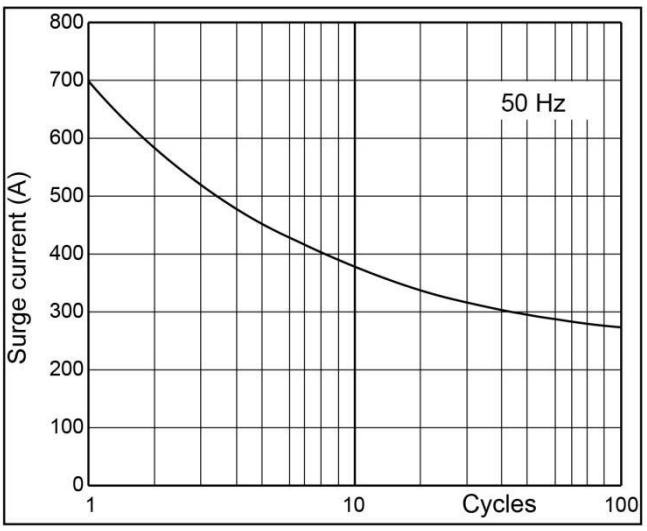


Fig4. Max Non-Repetitive Forward Surge Current

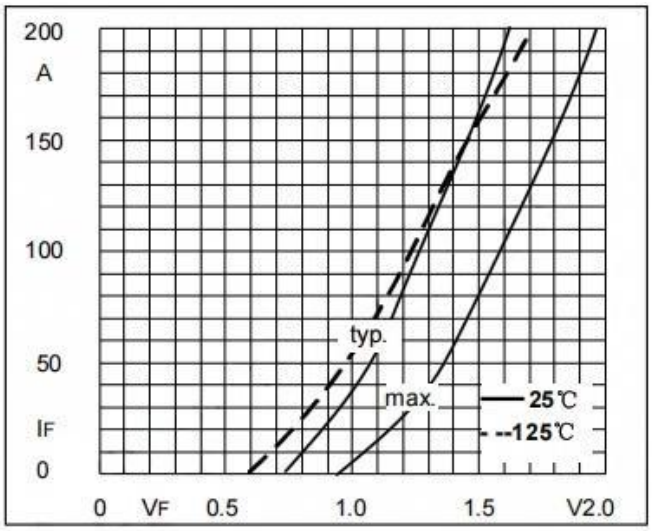
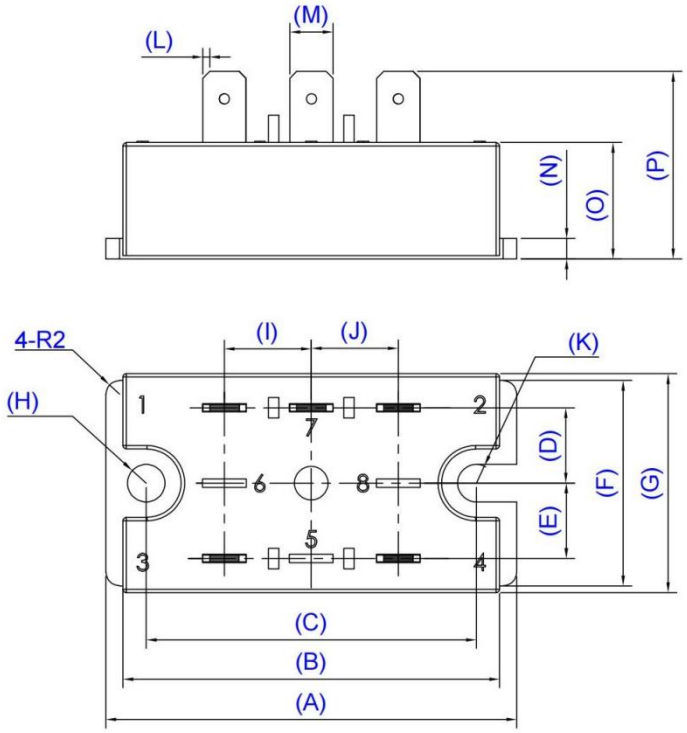


Fig5. Forward Characteristics

Package Outline Information

CASE: M1



DIM	Min (mm)	Max (mm)	Note
A	59.5	60.5	
B	54.5	55.5	
C	48.0	48.4	
D	10.8	11.2	
E	10.8	11.2	
F	29.5	30.5	
G	31.5	32.5	
H	2.25	3.25	Ø
I	12.5	12.9	
J	12.5	12.9	
K	2.45	3.05	
L	0.9	1.1	
M	6.2	6.4	
N	2.9	3.1	
O	16.7	17.3	
P	26.88	27.68	

Packing Standard

Item	Length: A(mm)	Width: B(mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	40	15
Outer Carton	300	280	240	90

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