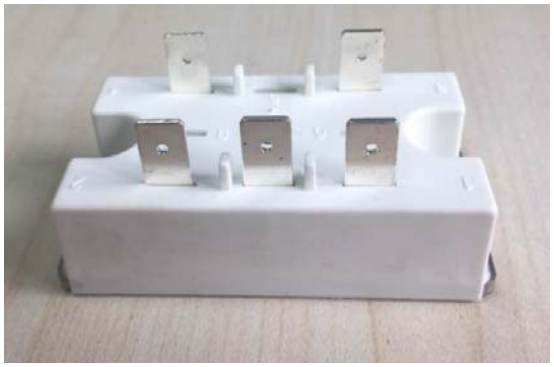
MD50S-M1

RoHS COMPLIANT



Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 800 to1800V
I_D 50A

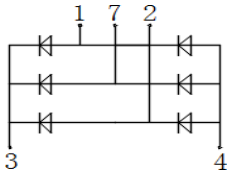
Applications

- 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 to1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

Circuit



Module Type

TYPE	V_{RRM}	V_{RSM}
MD50S08M1	800V	900V
MD50S12M1	1200V	1300V
MD50S16M1	1600V	1700V
MD50S18M1	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=96℃	50	A
I_{FSM}	t=10mS Tvj =45℃	460	A
i^2t	t=10mS Tvj =45℃	1050	A^2s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	℃
Tstg		-40 to +125	℃
Ms	To heat sink(M5)	3±15%	Nm
Weight	Module (Approximately)	78	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	1.5	℃/W
Rth(c-s)	Module	0.2	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T=25℃ I_F =150A	—	1.3	1.5	V
I_{RD}	T_{vj}=25℃ V_{RD}=V_{RRM} T_{vj}=150℃ V_{RD}=V_{RRM}	—	—	0.2 3	mA mA

Performance Curves

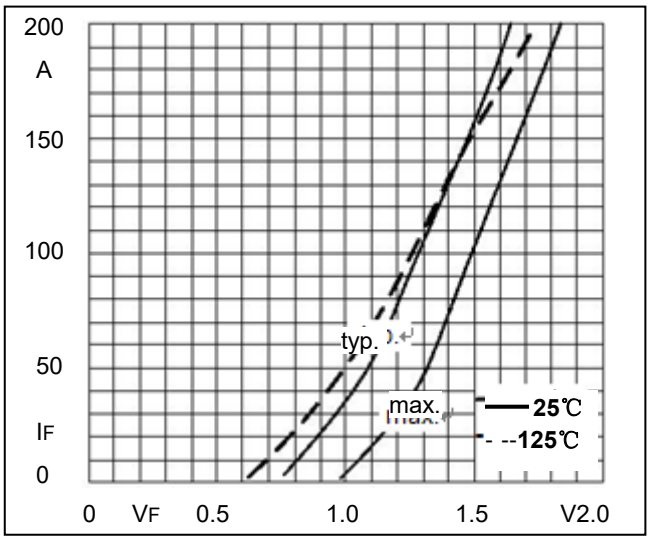


Fig1. Forward Characteristics

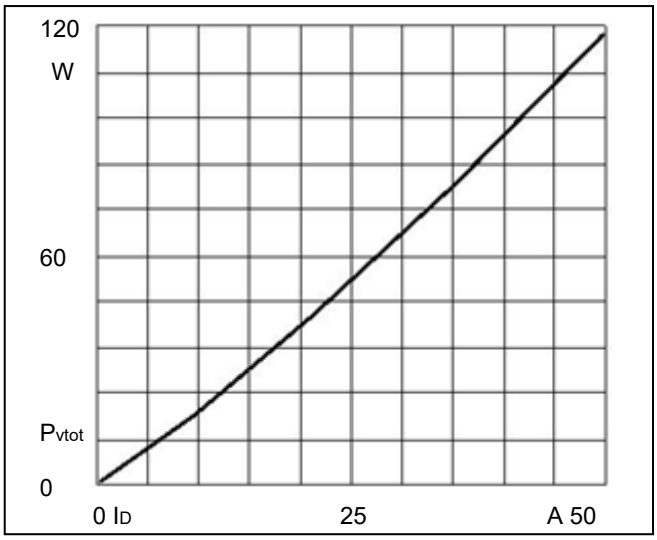


Fig2. Power dissipation

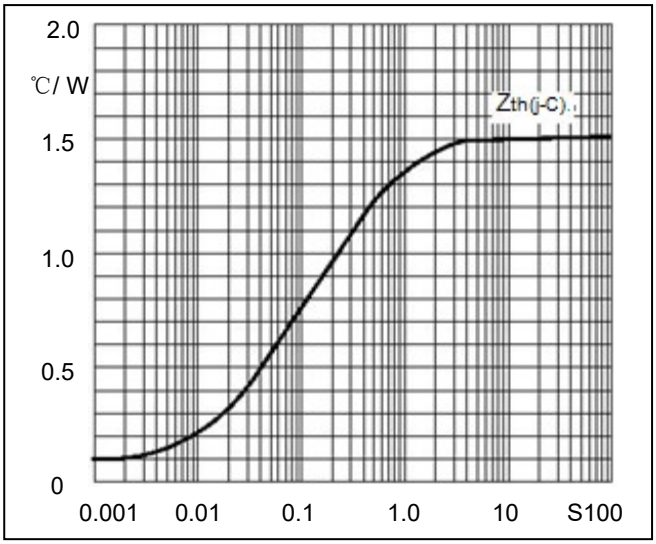


Fig3. Transient thermal impedance

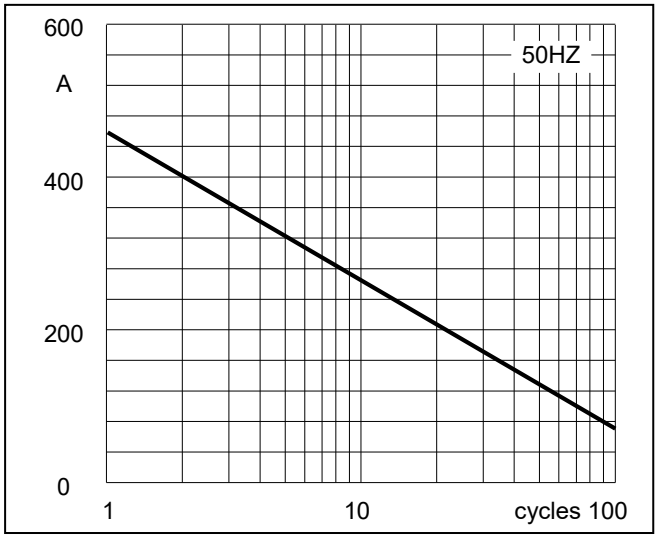


Fig4. Max Non-Repetitive Forward Surge Current

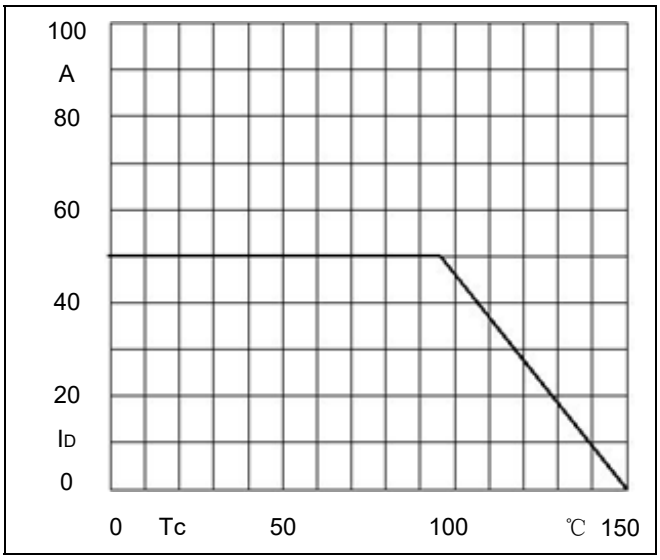
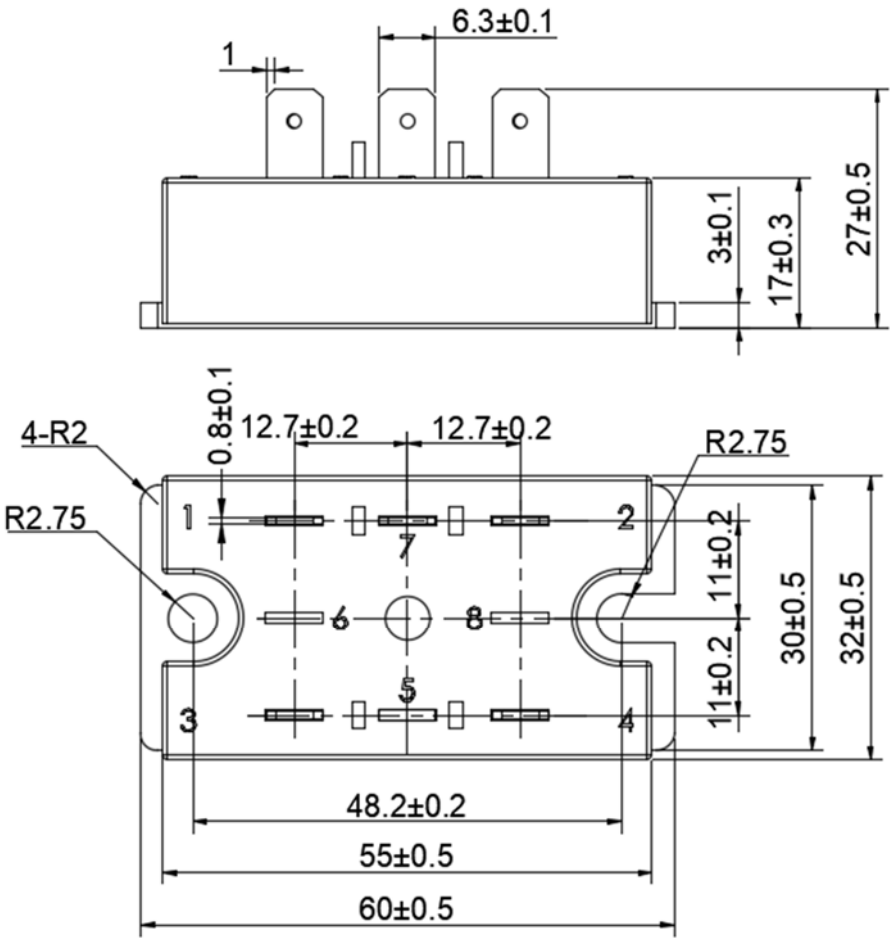


Fig5.Forward Current Derating Curve

Package Outline Information

CASE：M1



Dimensions in mm