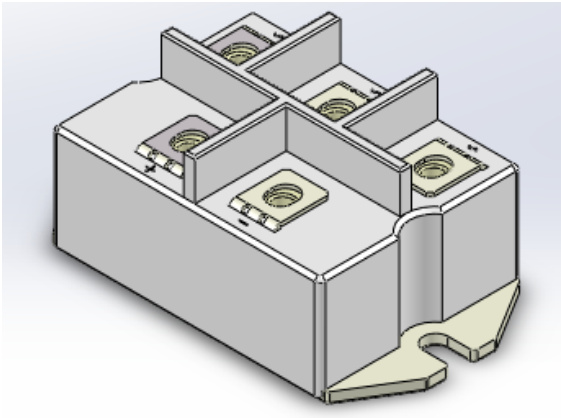
MD160S-NM3

RoHS COMPLIANT



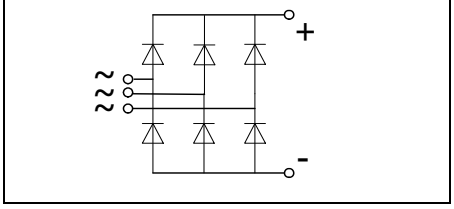
Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 800 to 1800V
I_D 160 A

Applications

- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers
- Input rectifiers for variable frequency drives

Circuit



Features

- Three phase bridge rectifier
- Blocking voltage:800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

Module Type

TYPE	V_{RRM}	V_{RSM}
MD160S08NM3	800V	900V
MD160S12NM3	1200V	1300V
MD160S16NM3	1600V	1700V
MD160S18NM3	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=100℃	160	A
I_{FSM}	t=10mS Tvj =45℃	1800	A
i^2t	t=10mS Tvj =45℃	16200	A^2s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	℃
Tstg		-40 to +125	℃
Mt	To terminals(M6)	5±15%	Nm
Ms	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	230	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	0.65	℃/W
Rth(c-s)	Module	0.03	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T=25℃ I_F =300A	—	1.50	1.75	V
I_{RD}	Tvj=25℃ $V_{RD}=V_{RRM}$ Tvj=150℃ $V_{RD}=V_{RRM}$	—	—	0.5 6	mA mA

Performance Curves

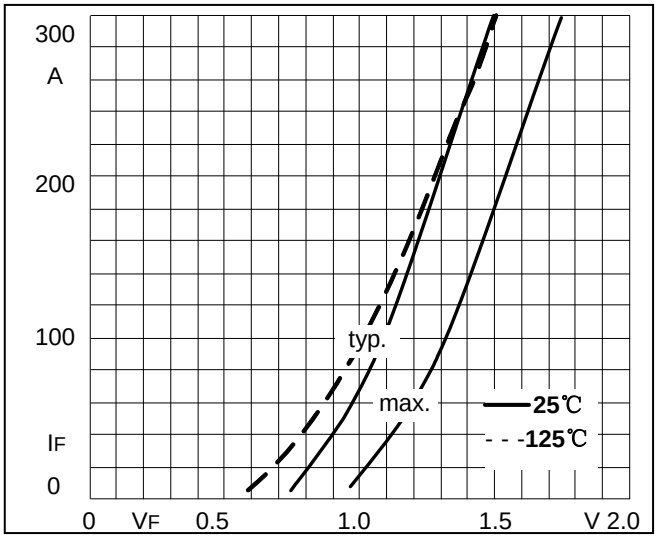


Fig1. Forward Characteristics

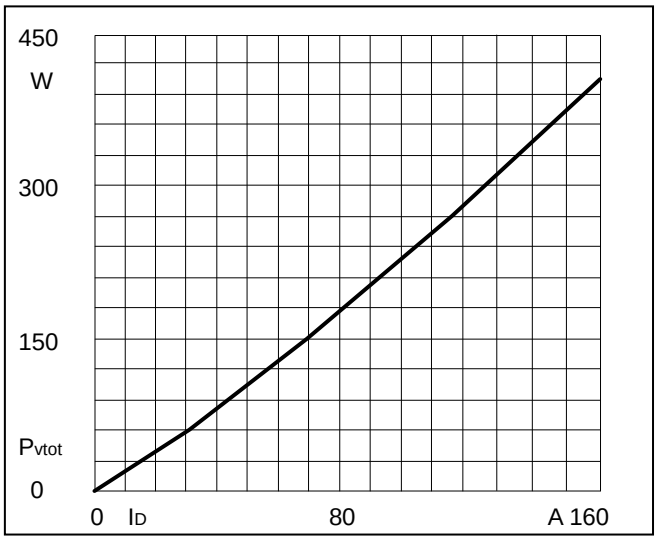


Fig2. Power dissipation

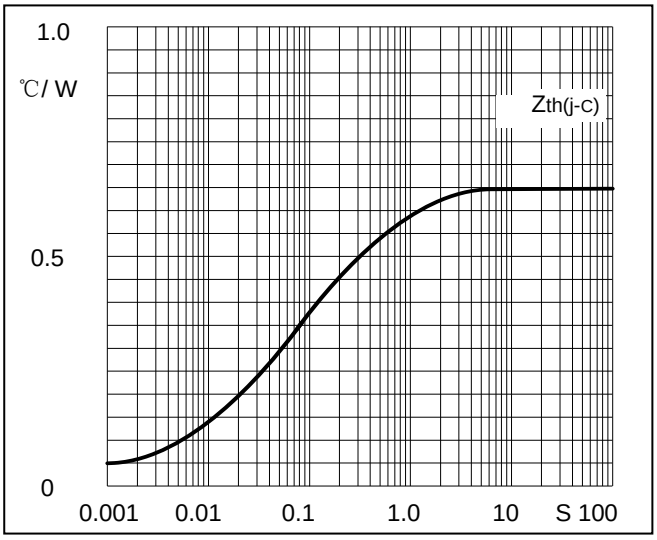


Fig3. Transient thermal impedance

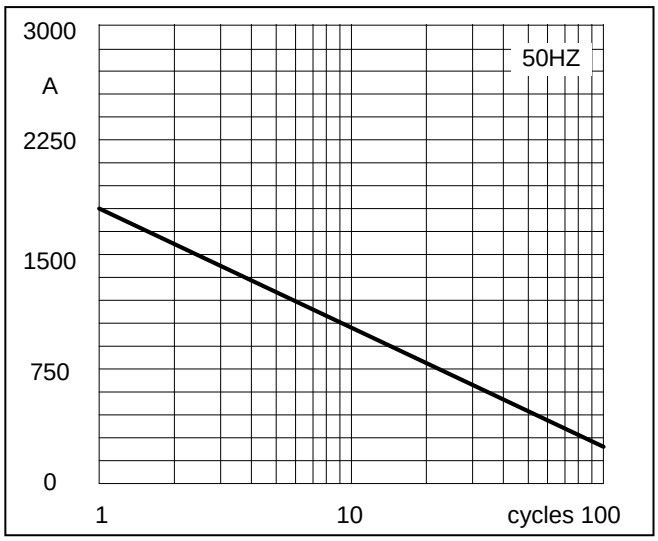


Fig4. Max Non-Repetitive Forward Surge Current

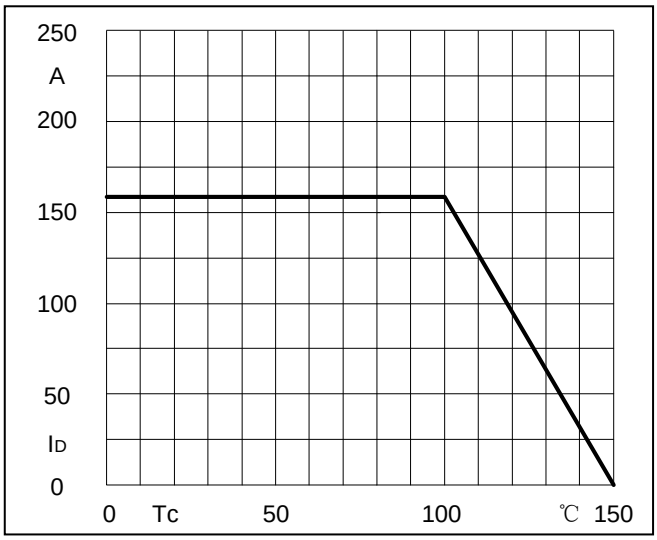
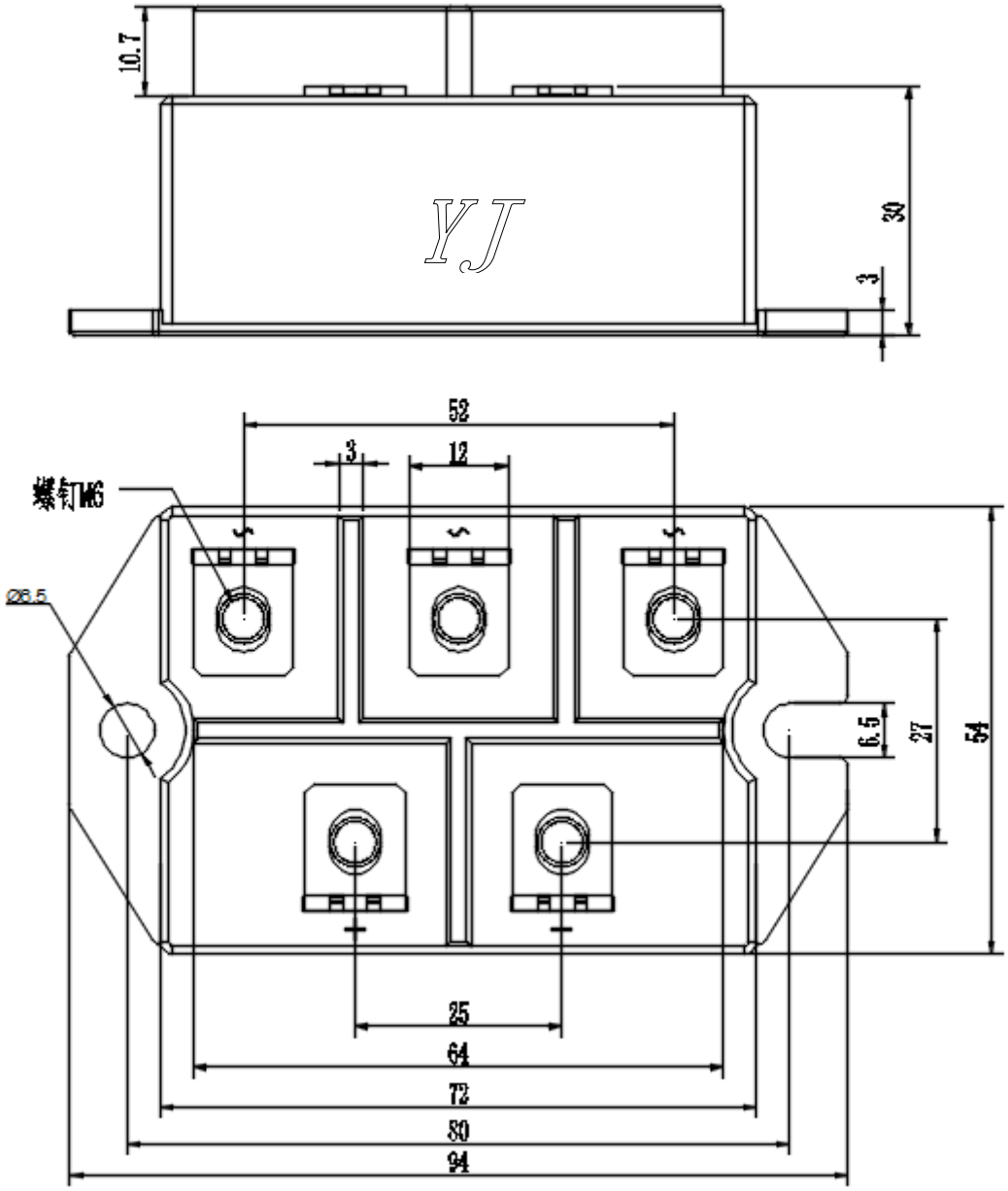


Fig5.Forward Current Derating Curve

Package Outline Information

CASE：NM3



Dimensions in mm