MD130S-M3

RoHS COMPLIANT

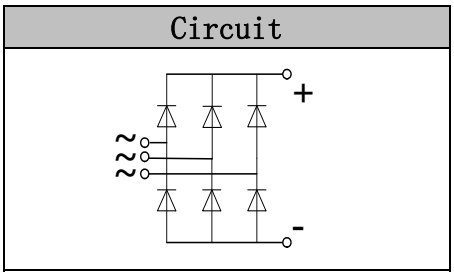
Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 800 to 1800V
I_D 130 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
- UL recognized applied for file no. E360040

Module Type

TYPE	V_{RRM}	V_{RSM}
MD130S08M3	800V	900V
MD130S12M3	1200V	1300V
MD130S16M3	1600V	1700V
MD130S18M3	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_D	Three phase, full wave Tc=100℃	130	A
I_{FSM}	t=10mS Tvj =45℃	1200	A
i^2t	t=10mS Tvj =45℃	7200	A^2s
V_{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to +150	℃
T_{stg}		-40 to +125	℃
Mt	To terminals(M6)	5±15%	Nm
Ms	To heatsink(M6)	5±15%	Nm
Weight	Module	230	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	0.9	℃/W
Rth(c-s)	Module (Approximately)	0.03	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
r_f	T_J=150℃	-	2.75	-	mΩ
V_{fO}	T_J=150℃	-	0.77	-	V
V_{FM}	T=25℃ I_F =300A	—	1.58	1.80	V
I_{RD}	T_{vj}=25℃ V_{RD}=V_{RRM} T_{vj}=150℃ V_{RD}=V_{RRM}	—	—	0.3 5	mA mA

Performance Curves

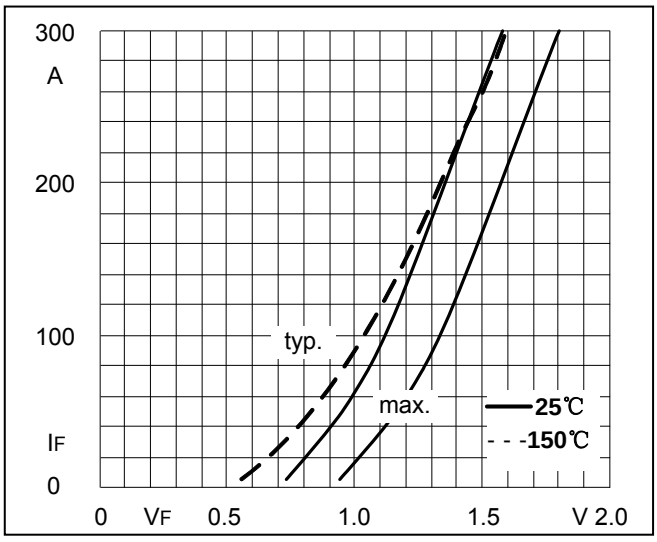


Fig1. Forward Characteristics

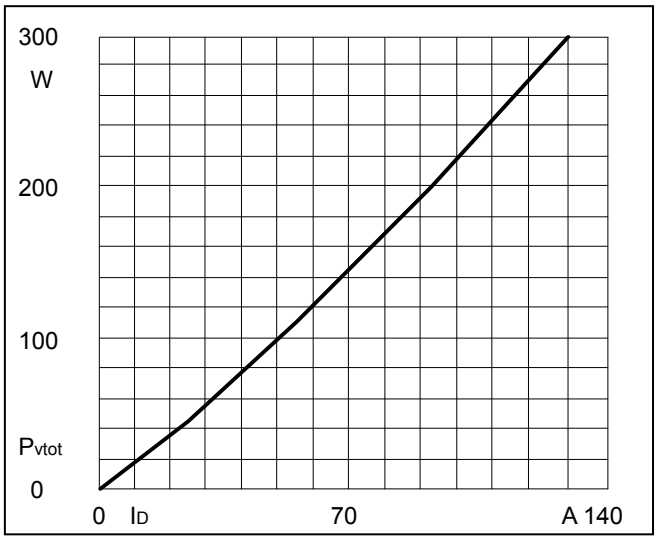


Fig2. Power dissipation

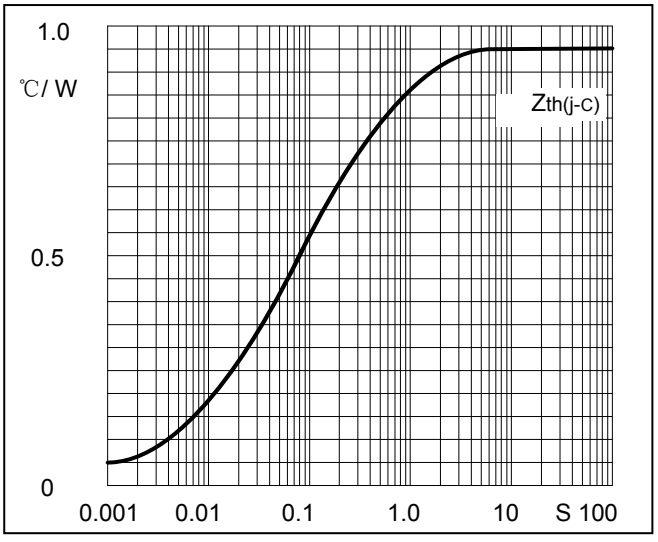


Fig3. Transient thermal impedance

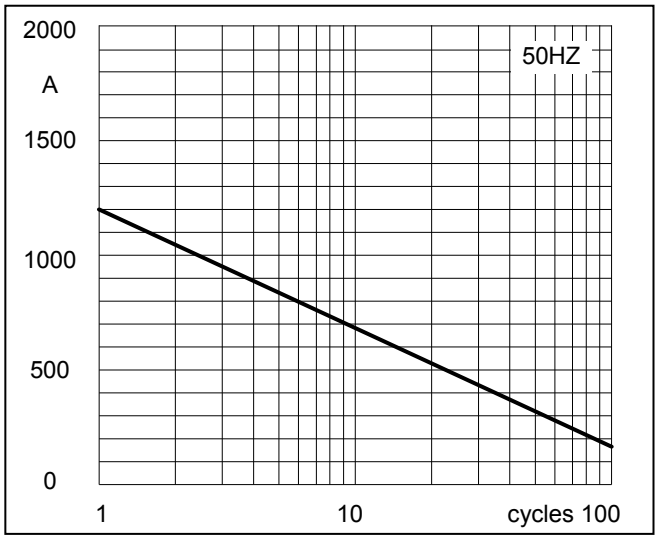


Fig4. Max Non-Repetitive Forward Surge Current

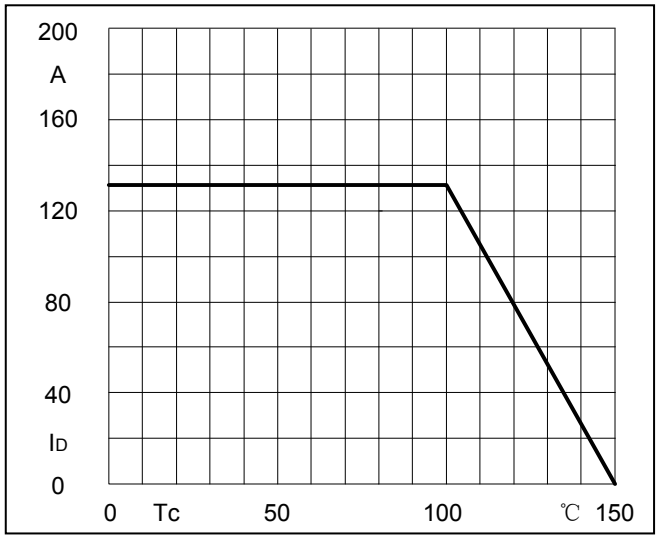
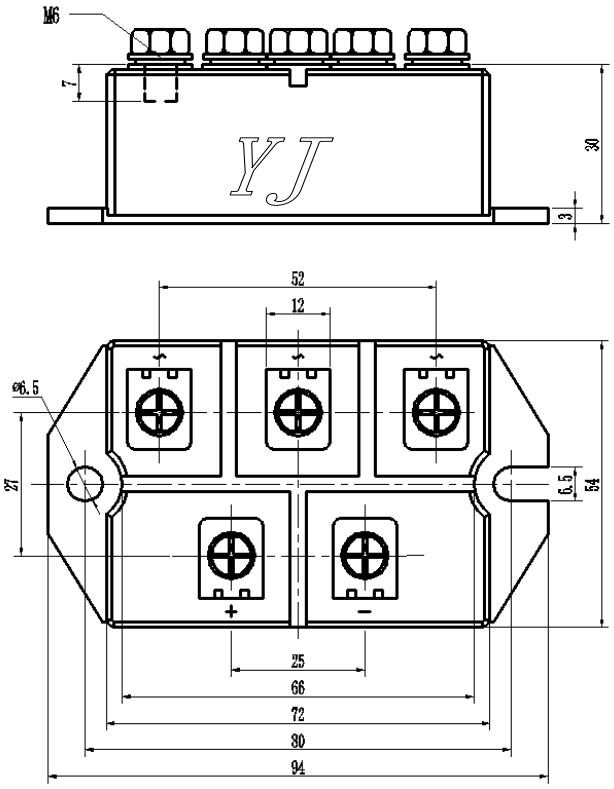


Fig5.Forward Current Derating Curve

Package Outline Information

CASE：M3



Dimensions in mm