

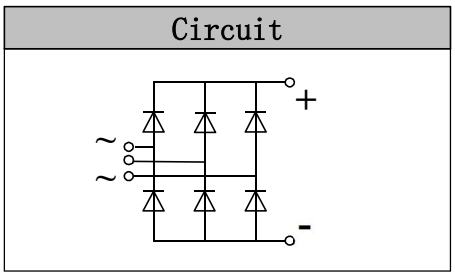
Glass Passivated Three Phase Rectifier Bridge

V_{RRM} 2000 V
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: 2000V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E230084

Module Type

TYPE	V_{RRM}	V_{RSM}
MD160S20M3	2000V	2100V

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	0.35	℃/W
Rth(c-s)	Module	0.03	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
r_f	T_J=150℃	-	2.5	-	mΩ
V_{fO}	T_J=150℃	-	0.77	-	V
V_{FM}	T=25℃ I_F =300A	—	1.50	1.70	V
I_{RD}	Tvj=25℃ V_{RD}=V_{RRM} Tvj=150℃ V_{RD}=V_{RRM}	—	—	0.5 6	mA mA

Performance Curves

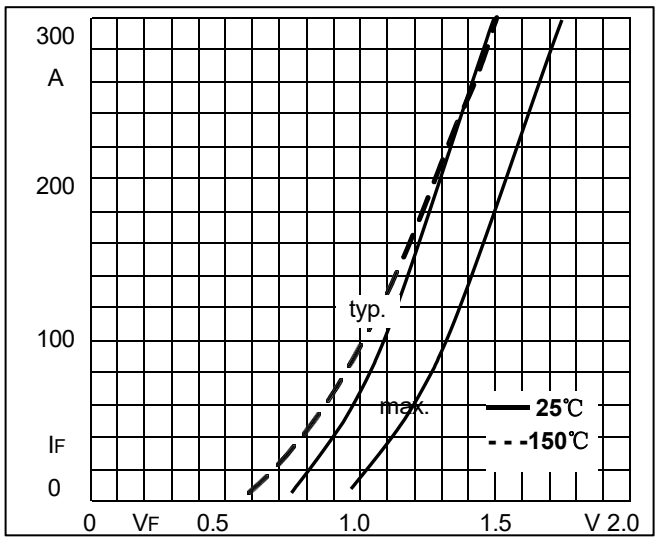


Fig1. Forward Characteristics

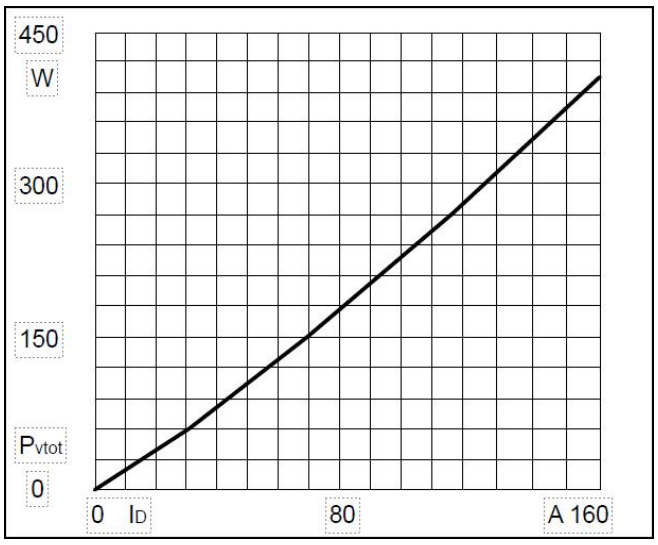


Fig2. Power dissipation

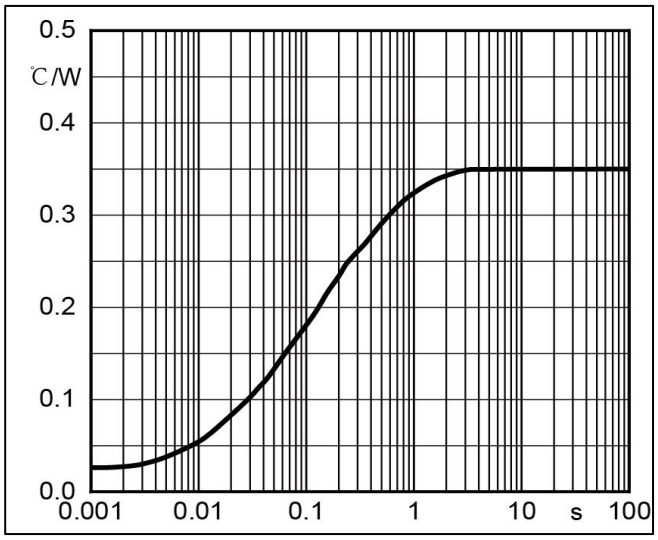


Fig3. Transient thermal impedance

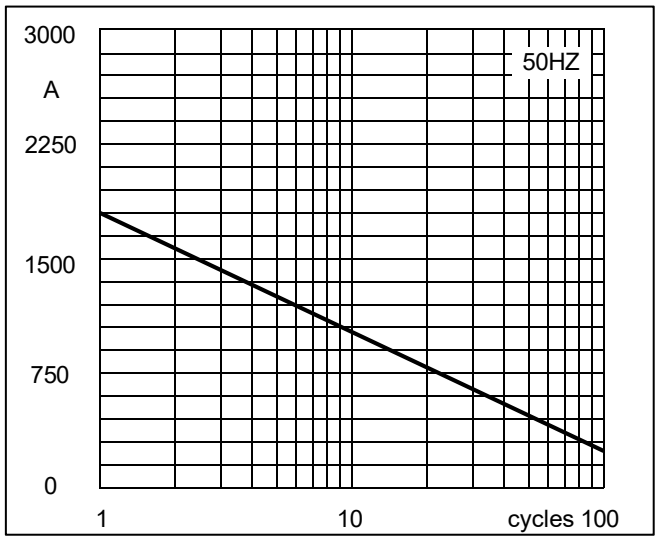


Fig4. Max Non-Repetitive Forward Surge Current

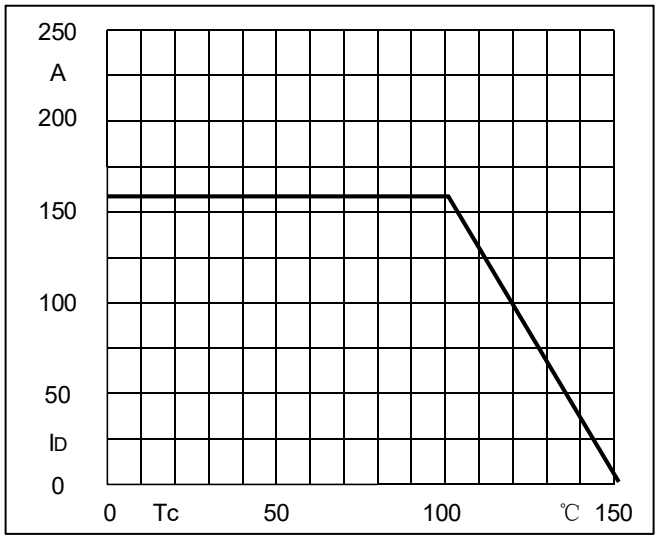
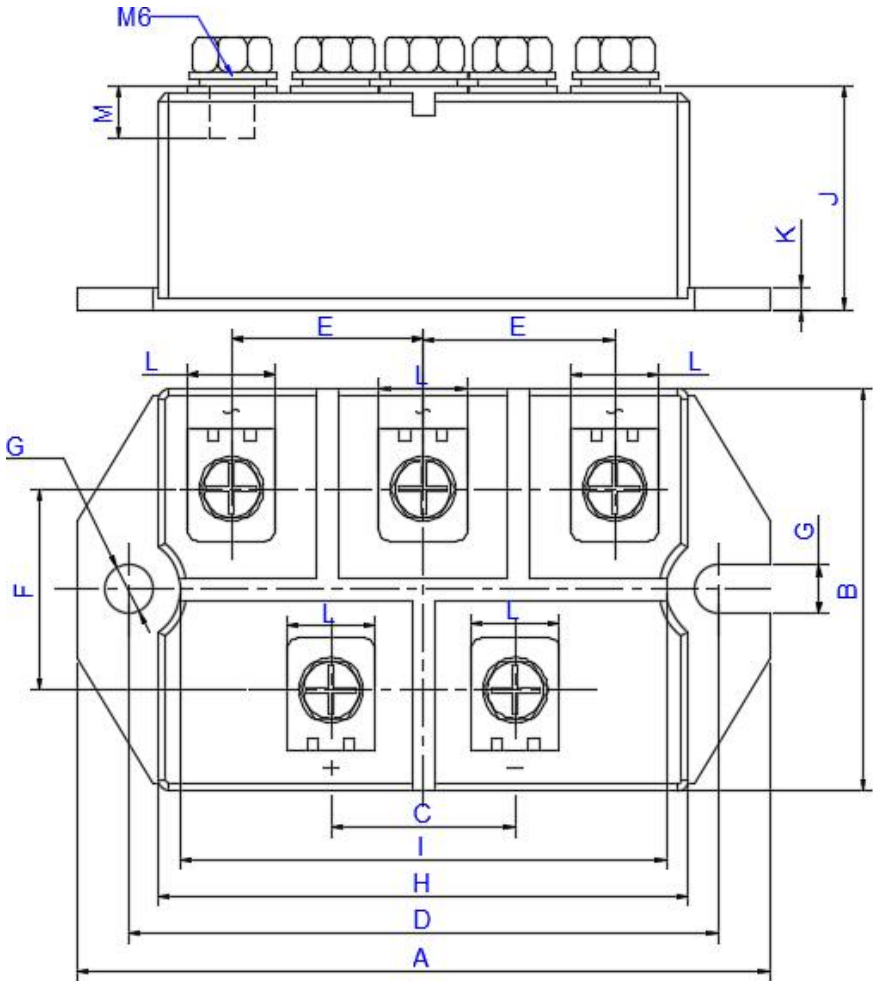


Fig5.Forward Current Derating Curve

Package Outline Information

CASE：M3



DIM	Min (mm)	Max (mm)	Note
A	93.5	94.5	
B	53.5	54.5	
C	24.5	25.5	
D	79.5	80.5	
E	25.5	26.5	
F	26.5	27.5	
G	6.2	6.8	Ø
H	71.5	72.5	
I	65.5	66.5	
J	29.5	30.5	
K	2.9	3.1	
L	11.9	12.1	
M	11.5	12.5	

Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	48	6
Outer Carton	545	295	240	60

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