



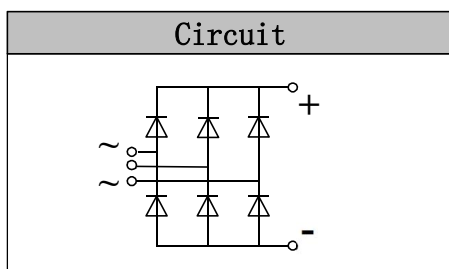
Glass Passivated Three Phase Rectifier Bridge

VRRM 2000 V

ID 160 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: 2000V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E230084

Module Type

TYPE	VRRM	VRSM
MD160S20M3	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
ID	Three phase, full wave Tc=100°C	160	A
IFSM	t=10mS Tvj =45°C	1800	A
i²t	t=10mS Tvj =45°C	16200	A²s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	°C
Tstg		-40 to +125	°C
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	°C/W
Rth(c-s)	Module	0.03	°C/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
r_f	$T_J=150^{\circ}\text{C}$	-	2.5	-	$\text{m}\Omega$
V_{fO}	$T_J=150^{\circ}\text{C}$	-	0.77	-	V
V_{FM}	$T=25^{\circ}\text{C}$ $I_F=300\text{A}$	—	1.50	1.70	V
I_{RD}	$T_{vj}=25^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	0.5	mA
	$T_{vj}=150^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	6	mA

Performance Curves

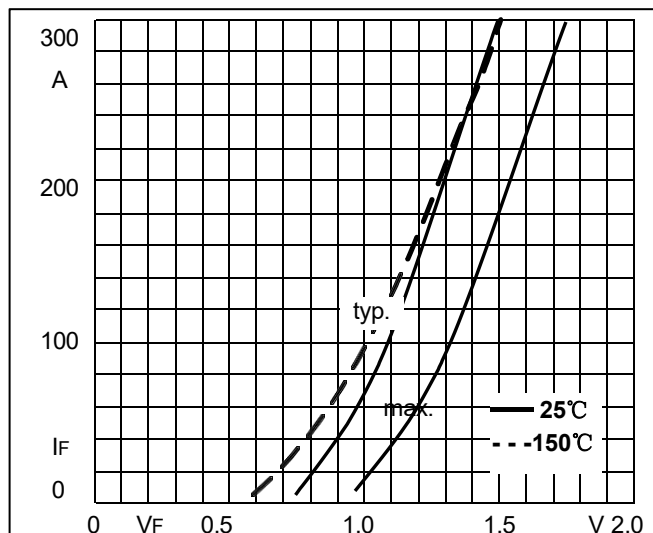


Fig1. Forward Characteristics

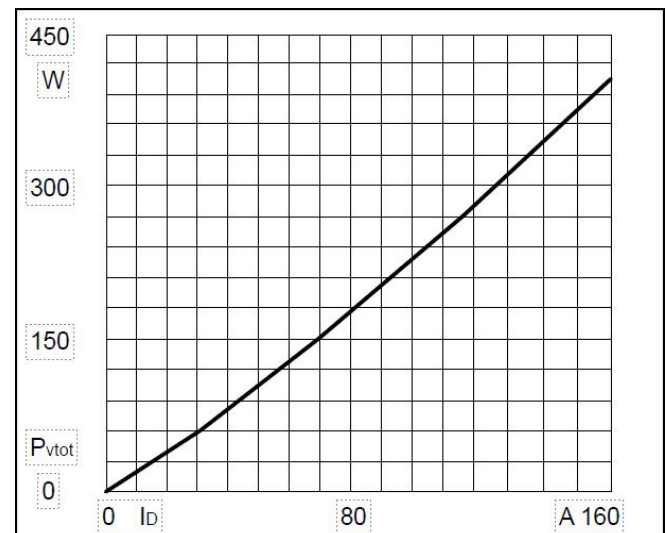


Fig2. Power dissipation

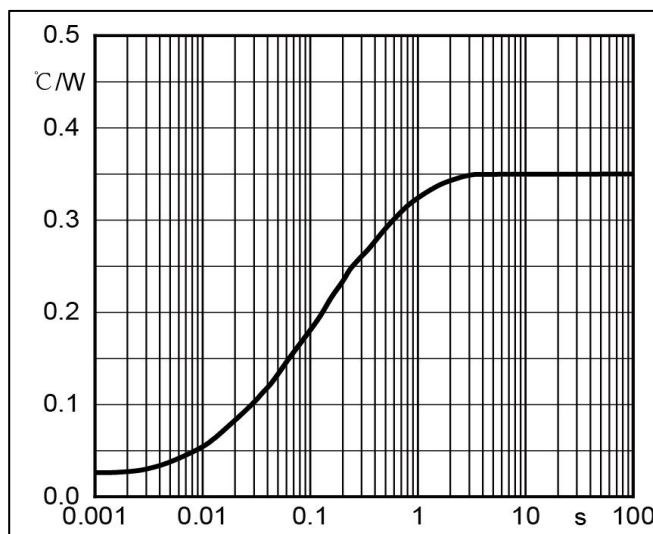


Fig3. Transient thermal impedance

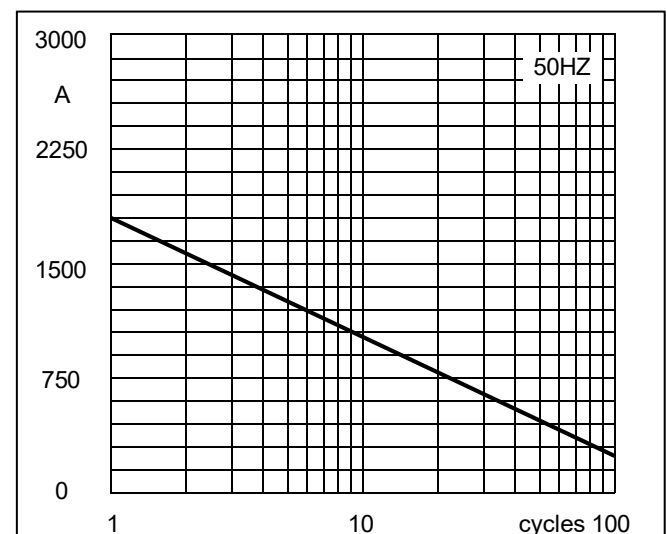


Fig4. Max Non-Repetitive Forward Surge Current

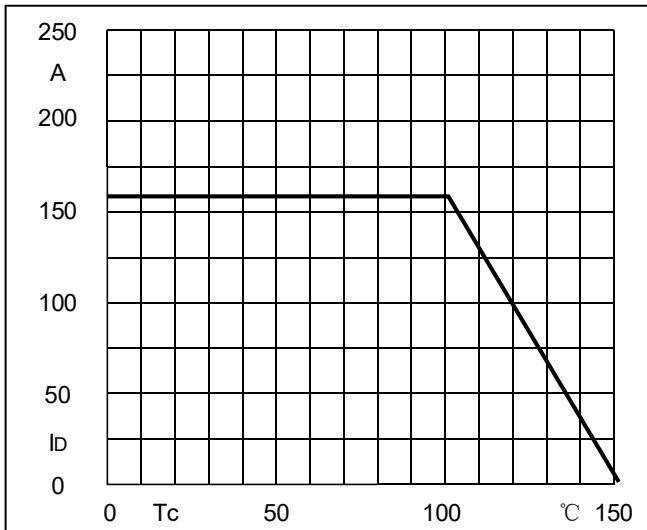
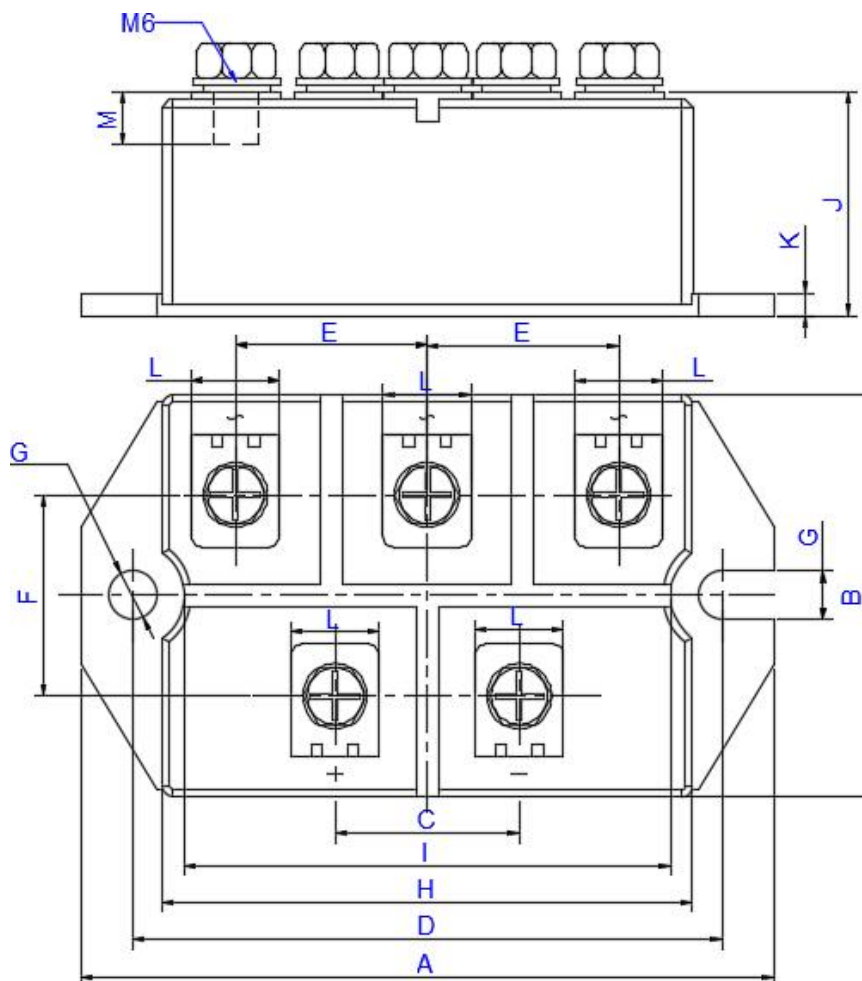


Fig5. Forward Current Derating Curve

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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