



Glass Passivated Rectifier Diode Modules

VRRM 2200V
IFAV 120 A

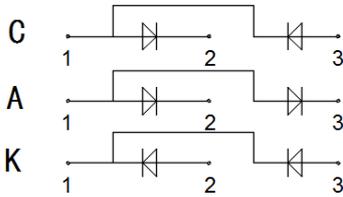
Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Features

- Blocking voltage:2200V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E230084

Circuit



Module Type

TYPE			VRRM	VRSM
MD120C22D1	MD120A22D1	MD120K22D1	2200V	2300V

Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180°conduction Tc=106°C	120	A
IFSM	t=10mS Tvj =45°C	4000	A
i ² t	t=10mS Tvj =45°C	80000	A ² s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	°C
Tstg		-40 to +125	°C
Mt	To terminals(M5)	3±15%	Nm
Ms	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	100	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	0.26	°C/W
Rth(j-c)	Per Module	0.13	°C/W
Rth(c-s)	Per diode	0.2	°C/W
Rth(c-s)	Per Module	0.1	°C/W



Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V _{FM}	T=25°C I _F =300A	—	1.20	1.35	V
V _{FO}	T _J =25°C	—	0.87	—	V
	T _J =150°C	—	0.69	—	V
r _F	T _J =25°C	—	1.1	—	mΩ
	T _J =150°C	—	1.55	—	mΩ
IRD	T _{vj} =150°C V _{RD} =V _{RRM}	—	—	6	mA

Performance Curves

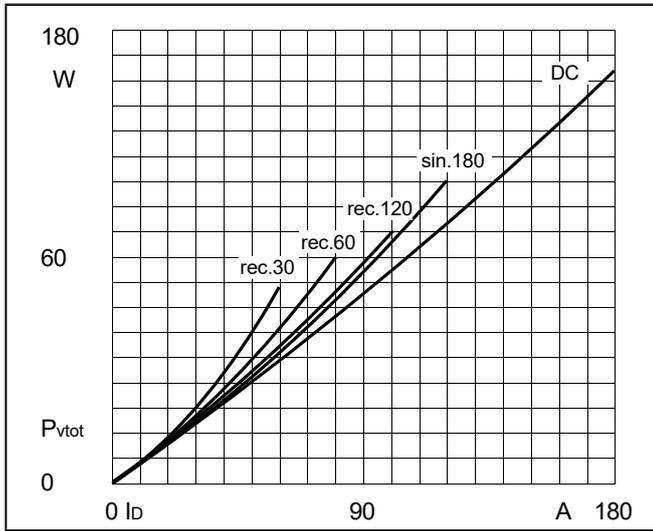


Fig1. Power dissipation

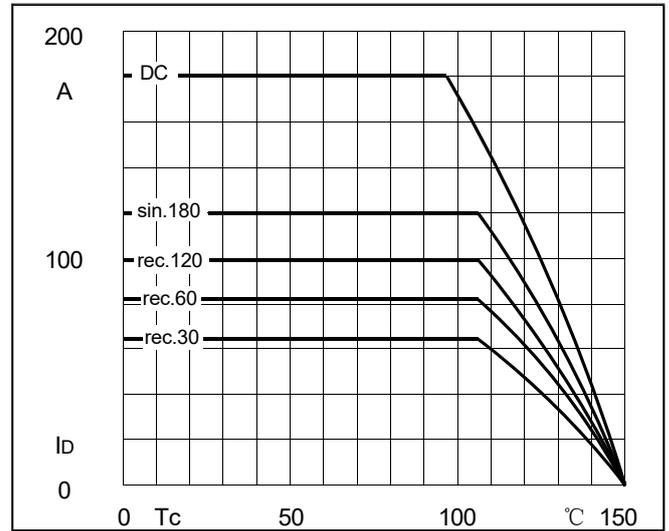


Fig2. Forward Current Derating Curve

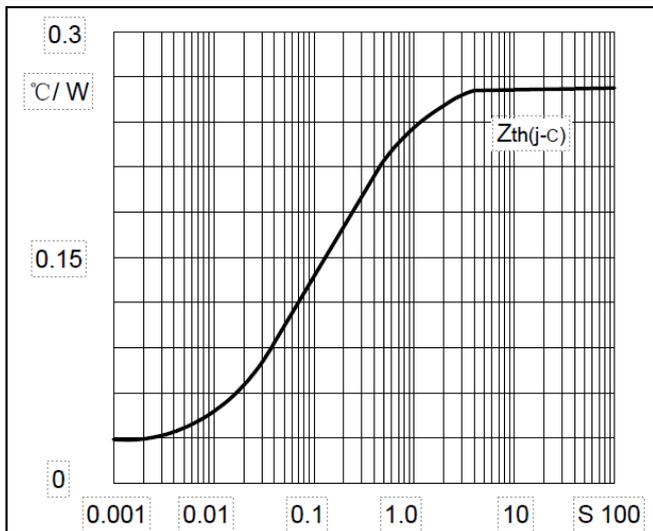


Fig3. Transient thermal impedance

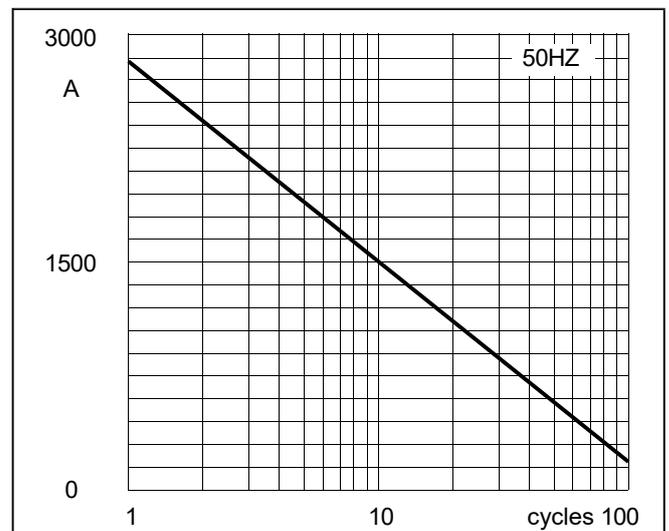


Fig4. Max Non-Repetitive Forward Surge Current

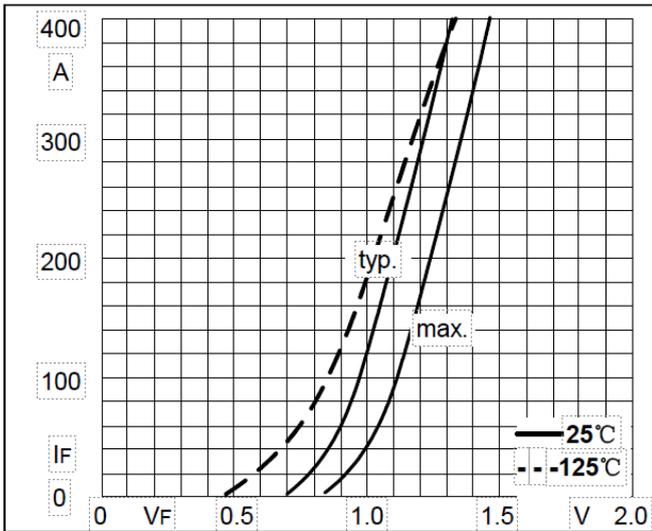
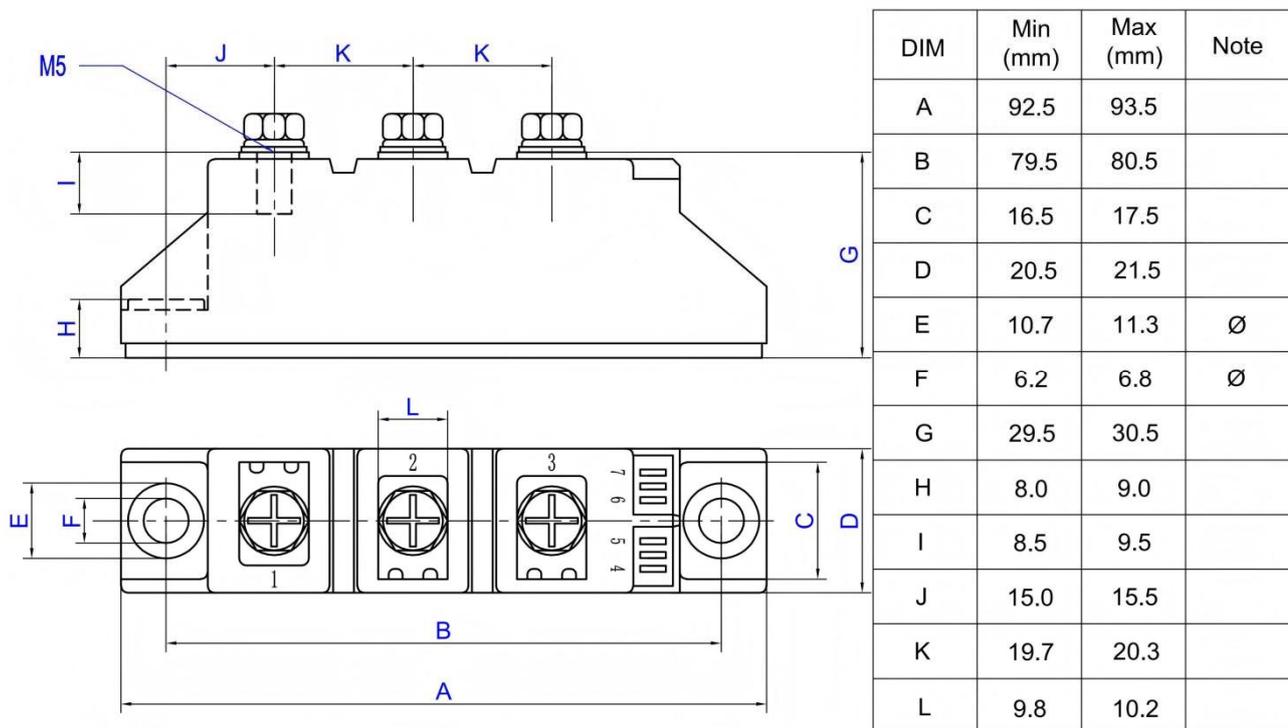


Fig5. Forward Characteristics

Package Outline Information

CASE: D1





Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	40	10
Outer Carton	545	295	240	120

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