



Glass Passivated Rectifier Diode Modules

VRRM 800 -1800V

IFAV 400 A

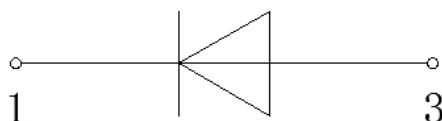
Applications

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

Features

- Blocking voltage:800 -1800V
- Heat transfer through aluminum oxide ceramic isolated metal baseplate
- Glass passivated chip

Circuit



Module Type

TYPE	VRRM	VRSM
MD400U08D2	800V	900V
MD400U12D2	1200V	1300V
MD400U16D2	1600V	1700V
MD400U18D2	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction Tc=95℃	400	A
IFSM	t=10mS Tvj =45℃	12000	A
I ² T	t=10mS Tvj =45℃	720000	A ² s
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 heat sink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
R _{th(j-c)}	Per diode	0.09	℃/W
R _{th(c-s)}	Per Module	0.05	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^{\circ}\text{C}$ $I_F=400\text{A}$	—	1.0	1.2	V
	$T=125^{\circ}\text{C}$ $I_F=400\text{A}$	—	0.9	1.1	V
I_{RD}	$T_{vj}=125^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	9	mA
r_f	$T_J=25^{\circ}\text{C}$		0.8		m Ω
	$T_J=125^{\circ}\text{C}$		0.6		m Ω
V_{fO}	$T_J=25^{\circ}\text{C}$		0.72		V
	$T_J=125^{\circ}\text{C}$		0.62		V

Performance Curves

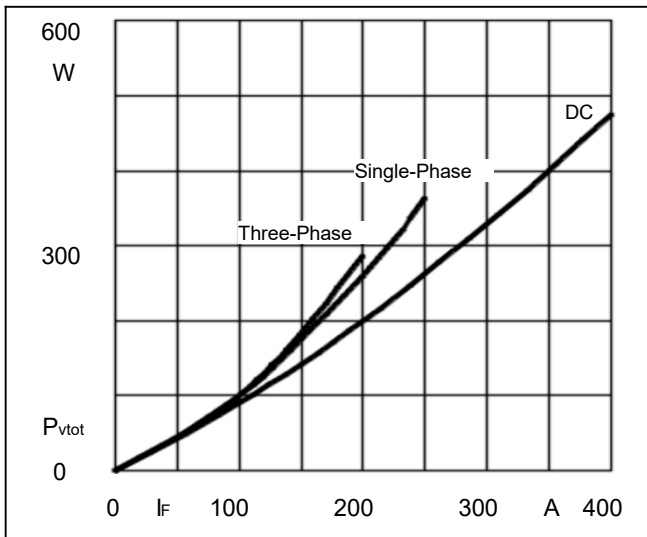


Fig1. Power dissipation

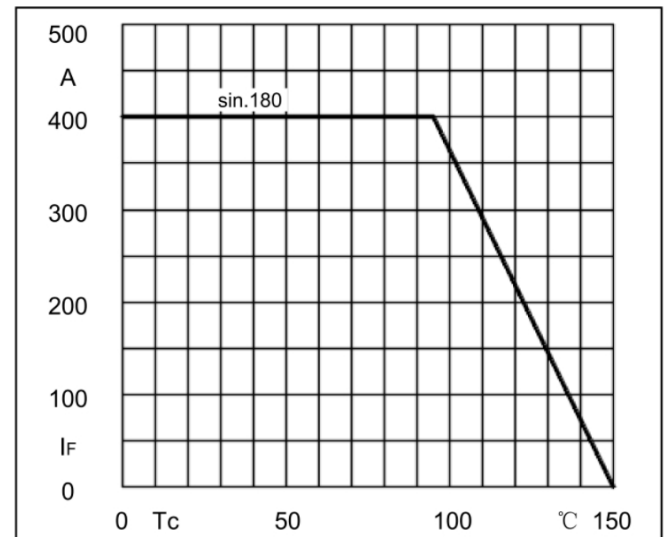


Fig2. Forward Current Derating Curve

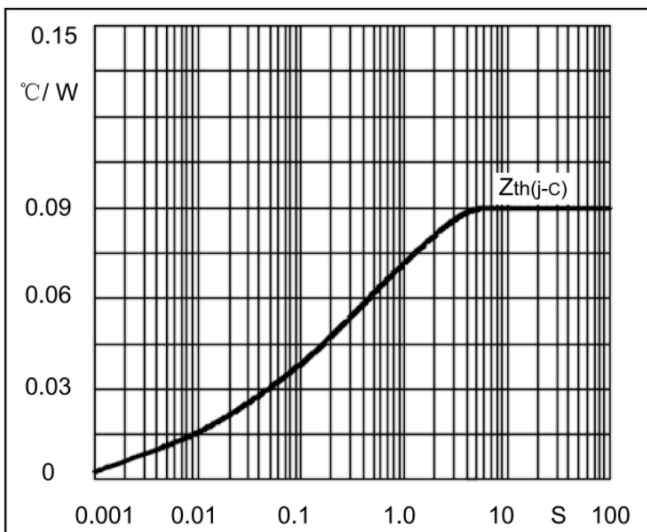


Fig3. Transient thermal impedance

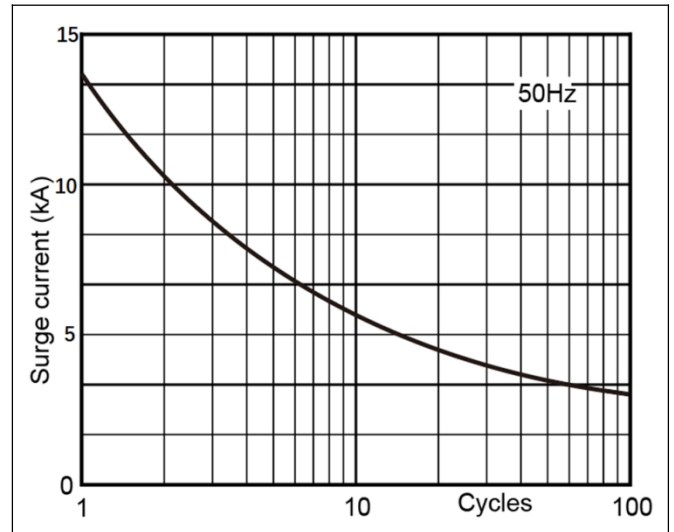


Fig4. Max Non-Repetitive Forward Surge Current

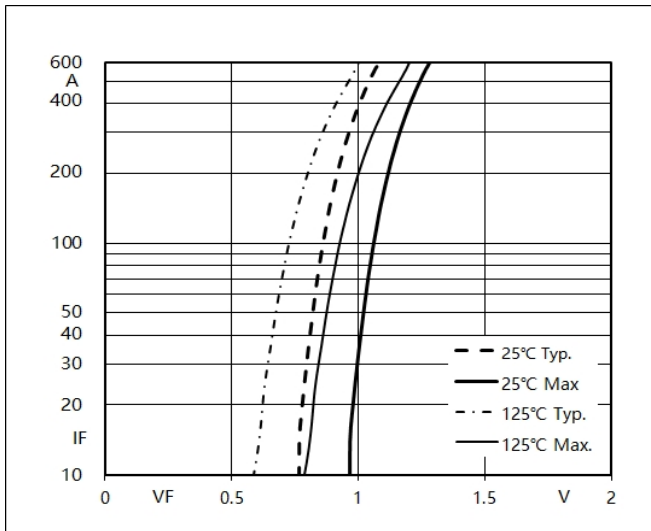
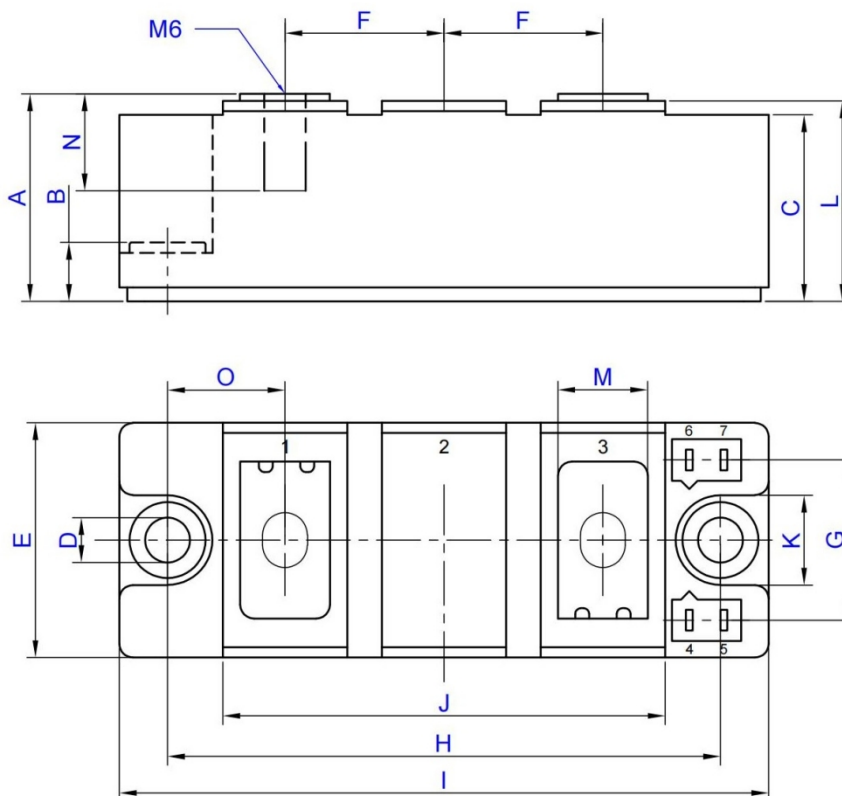


Fig5. Forward Characteristics

Package Outline Information

CASE: D2



DIM	Min (mm)	Max (mm)	Note
A	29.5	30.5	
B	8.0	9.0	
C	26.5	27.5	
D	6.3	6.7	Ø
E	33.5	34.5	
F	22.8	23.2	
G	22.7	23.7	
H	79.5	80.5	
I	93.5	94.5	
J	63.5	64.5	
K	12.5	13.5	
L	28.5	29.5	
M	12.9	13.1	
N	13.5	14.5	
O	16.5	17.5	



Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	48	8
Outer Carton	545	295	240	80

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