



Glass Passivated Rectifier Diode Modules

V_{RRM} 800 to 1800V
I_{FAV} 200 A

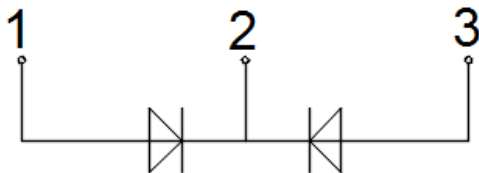
Applications

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

Features

- Blocking voltage: 800 to 1800V
- Heat transfer through aluminum oxide ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E230084

Circuit



Module Type

TYPE	V _{RRM}	V _{RSM}
MD200K08D2E	800V	900V
MD200K12D2E	1200V	1300V
MD200K16D2E	1600V	1700V
MD200K18D2E	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I _{FAV}	Single phase ,half wave 180° conduction T _c =95℃	200	A
I _{FSM}	t=10mS T _{vj} =45℃	7500	A
	t=10mS T _{vj} =150℃	6900	A
i ² t	t=10mS T _{vj} =45℃	281250	A ² s
	t=10mS T _{vj} =150℃	238050	A ² s
V _{isol}	a.c.50HZ;r.m.s.;1s/1min	3600 / 3000	V
T _{vj}		-40 to 150	℃
T _{stg}		-40 to 125	℃
M _t	To terminals(M6)	5±15%	Nm
M _s	To heat sink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
R _{th(j-c)}	Per diode	0.18	℃/W
R _{th(c-s)}	Per Module	0.05	℃/W



Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^{\circ}\text{C}$ $I_F=300\text{A}$	1	1.05	1.20	V
	$T=150^{\circ}\text{C}$ $I_F=300\text{A}$	1	0.92	1.07	V
I_{RD}	$T_{vj}=150^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	9	mA
r_f	$T_J=25^{\circ}\text{C}$		1.13		m Ω
	$T_J=150^{\circ}\text{C}$		1.4		m Ω
V_{fO}	$T_J=25^{\circ}\text{C}$		0.84		V
	$T_J=150^{\circ}\text{C}$		0.74		V

Performance Curves

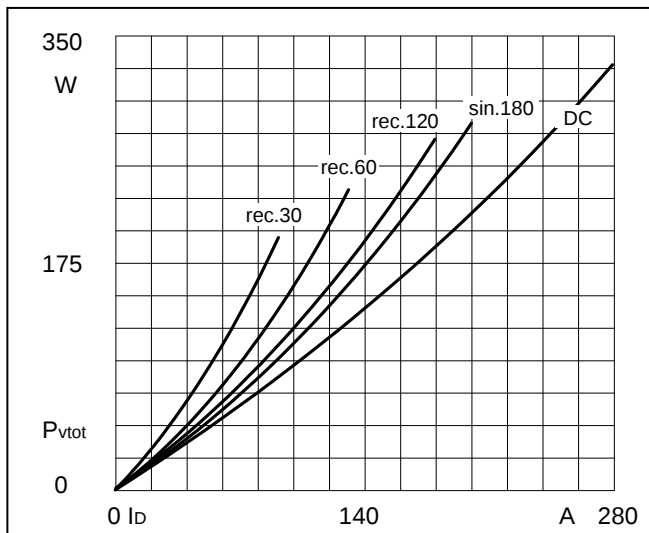


Fig1. Power dissipation

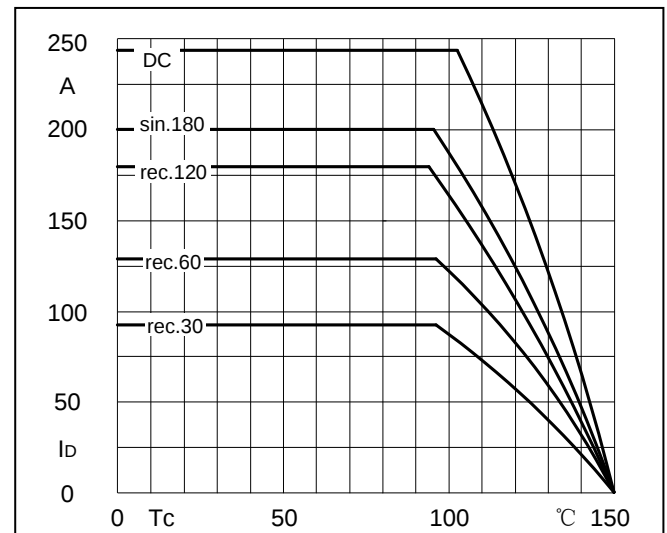


Fig2. Forward Current Derating Curve

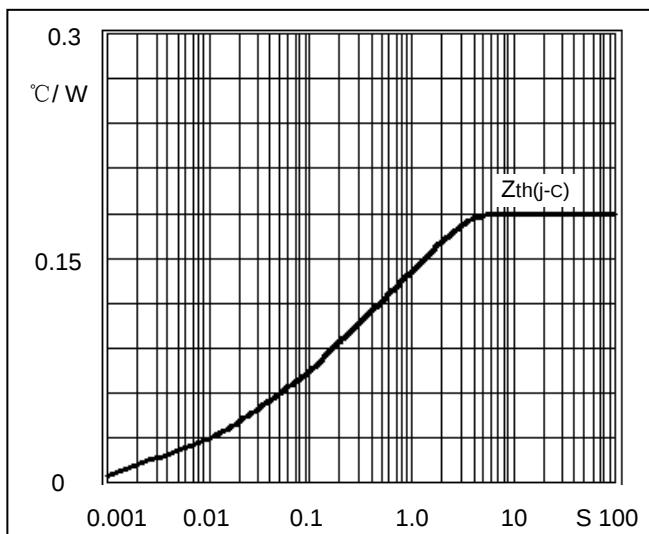


Fig3. Transient thermal impedance

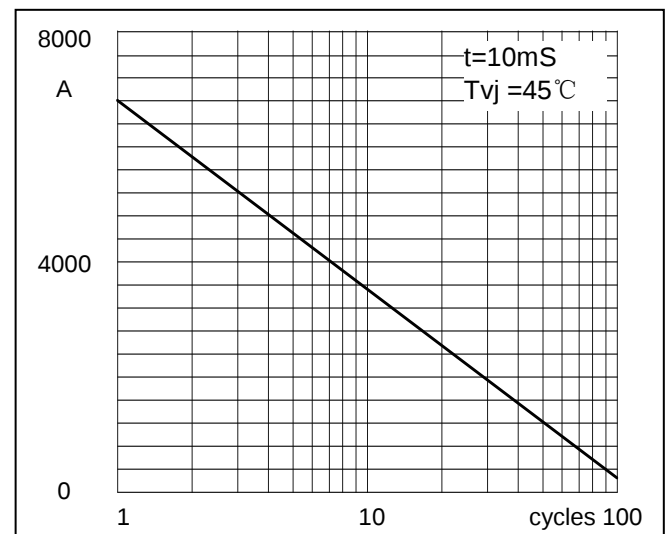


Fig4. Max Non-Repetitive Forward Surge Current

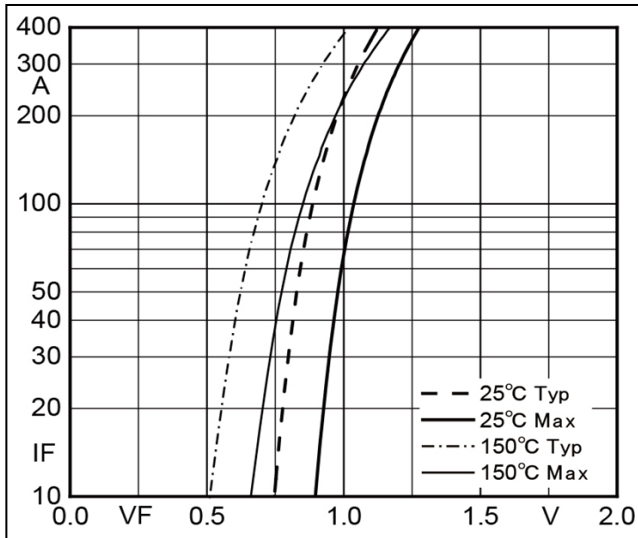
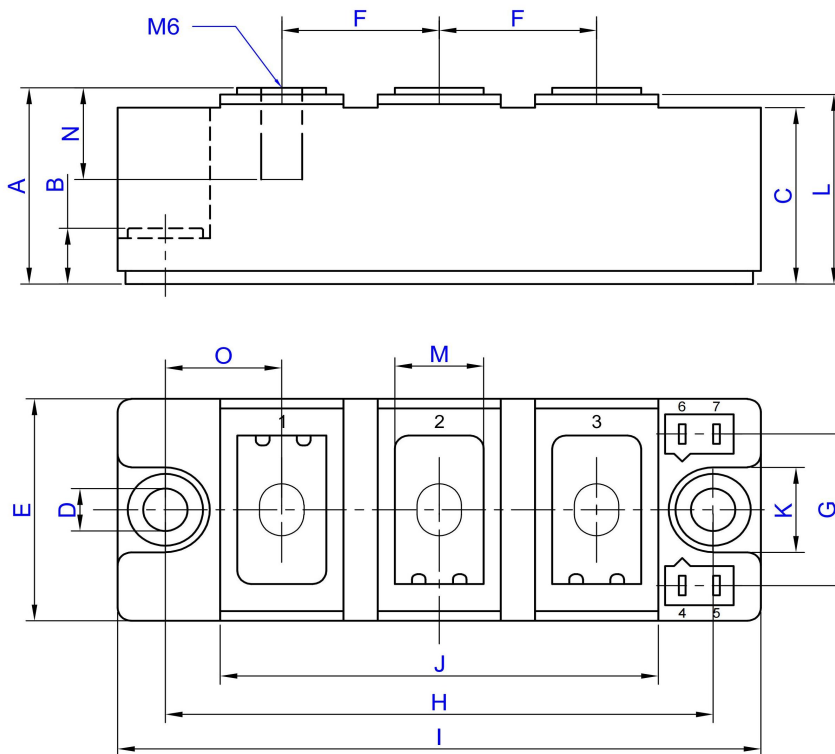


Fig5. Forward Characteristics

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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