



Glass Passivated Rectifier Diode Modules

VRRM 800 to 2000V
IFAV 280 A

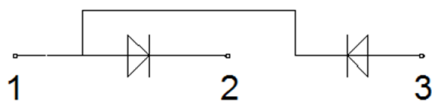
Applications

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

Features

- Blocking voltage: 800 to 2000V
- Heat transfer through aluminum oxide ceramic isolated metal baseplate
- Glass passivated chip

Circuit



Module Type

TYPE	VRRM	VRSM
MD280C08D2	800V	900V
MD280C12D2	1200V	1300V
MD280C16D2	1600V	1700V
MD280C18D2	1800V	1900V
MD280C20D2	2000V	2100V

Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction Tc=95℃	280	A
IFSM	t=10mS Tvj =45℃	10500	A
i ² t	t=10mS Tvj =45℃	550000	A ² s
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 heat sink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Per diode	0.16	℃/W
Rth(j-c)	Per Module	0.08	℃/W
Rth(c-s)	Module	0.05	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	$T=25^{\circ}\text{C}$ $I_F=280\text{A}$	—	1.02	1.22	V
I_{RD}	$T_{vj}=150^{\circ}\text{C}$ $V_{RD}=V_{RRM}$	—	—	9	mA
r_F	$T_J=25^{\circ}\text{C}$	-	0.59	-	m Ω
	$T_J=150^{\circ}\text{C}$	-	0.79	-	m Ω
V_{FO}	$T_J=25^{\circ}\text{C}$	-	0.83	-	V
	$T_J=150^{\circ}\text{C}$	-	0.68	-	V

Performance Curves

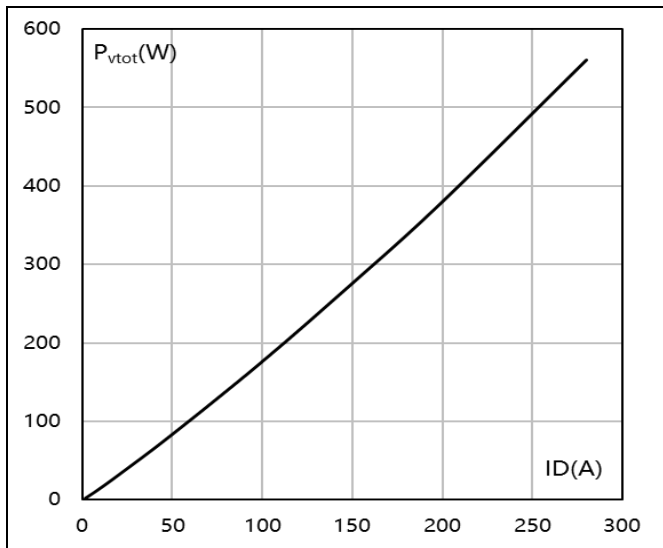


Fig1. Power dissipation

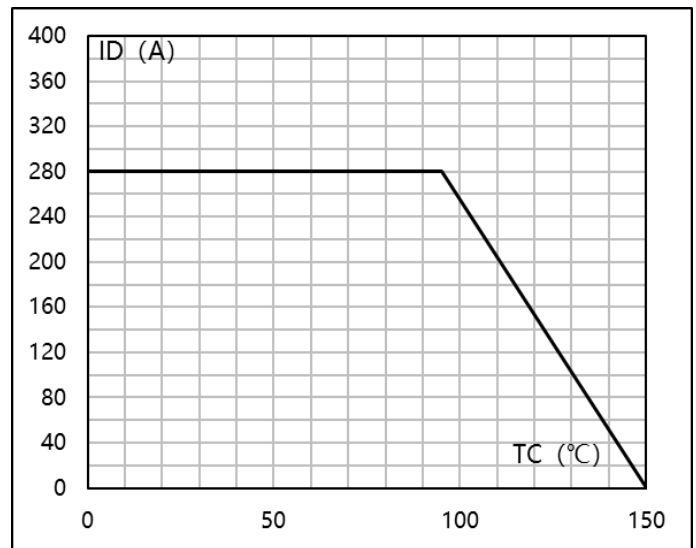


Fig2. Forward Current Derating Curve

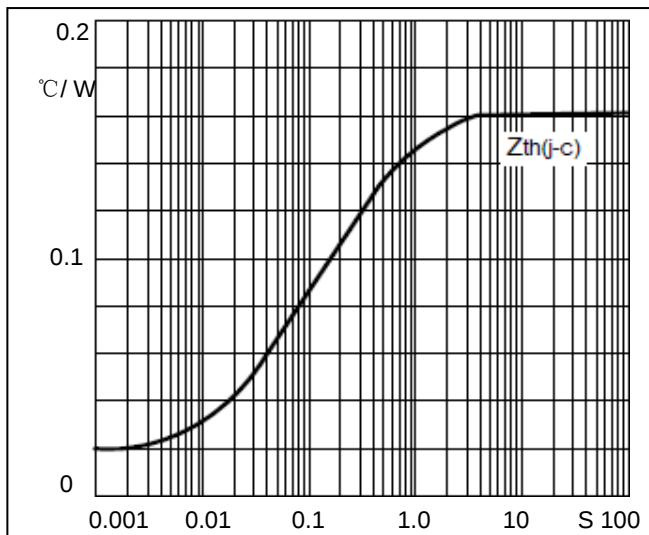


Fig3. Transient thermal impedance

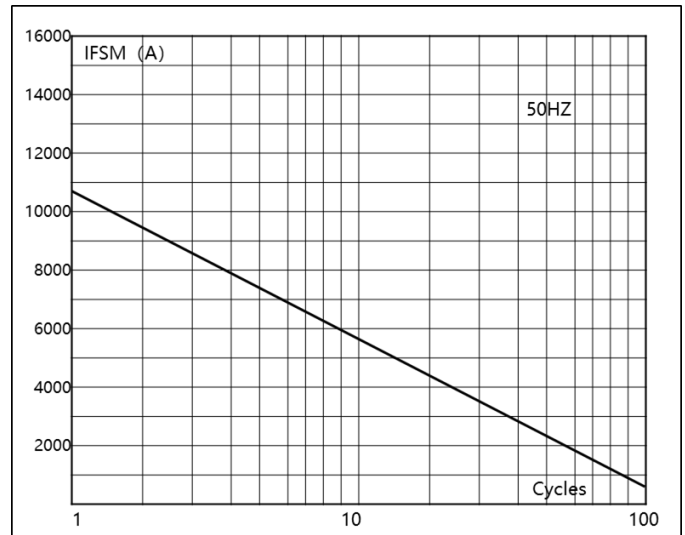


Fig4. Max Non-Repetitive Forward Surge Current

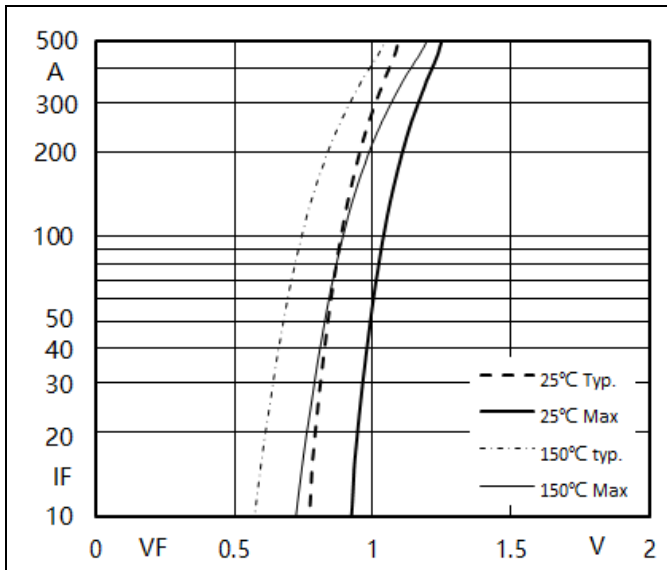
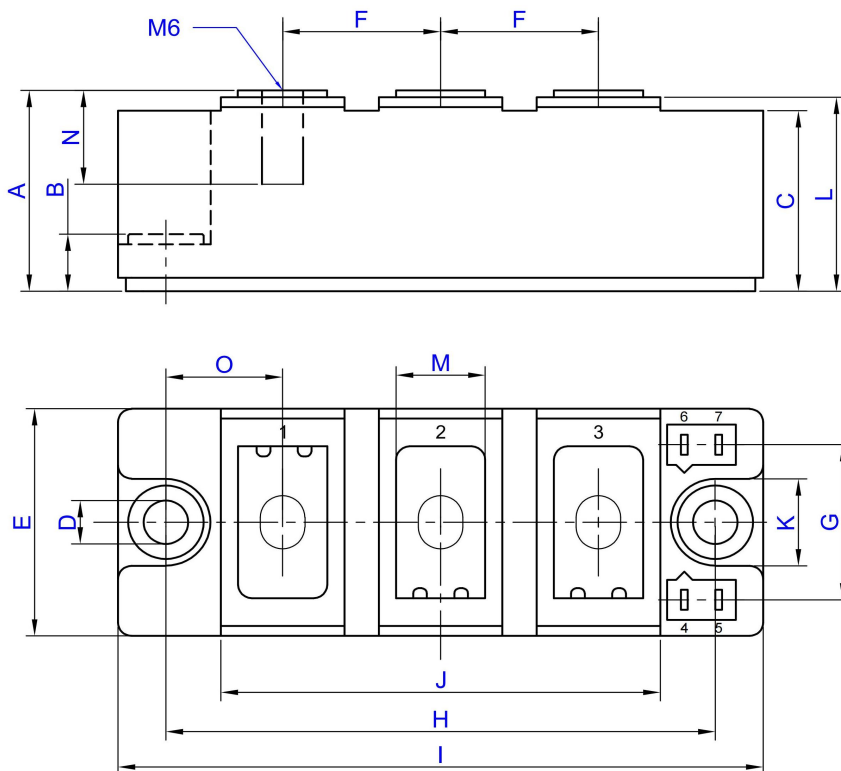


Fig5. Forward Characteristics

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

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, lifesustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.21yangjie.com>, or consult your nearest Yangjie's sales office for further assistance.