



## Rectifier Diode Module

**VRRM** 1200 to 2000V

**IFAV** 300A

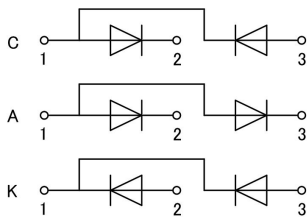
### Applications

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

### Features

- International standard package
- High Surge Capability
- Simple Mounting

### Circuit



### Blocking Characteristics

TYPE			VRRM	VRSM	Units
MD300C12D3	MD300A12D3	MD300K12D3	1200V	1300V	V
MD300C14D3	MD300A14D3	MD300K14D3	1400V	1500V	V
MD300C16D3	MD300A16D3	MD300K16D3	1600V	1760V	V
MD300C18D3	MD300A18D3	MD300K18D3	1800V	2000V	V
MD300C20D3	MD300A20D3	MD300K20D3	2000V	2200V	V

### Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction Tc=100℃	300	A
IFSM	t=10ms Tvj=Tvjm	9100	A
i <sup>2</sup> t	t=10ms Tvj=Tvjm	414000	A <sup>2</sup> s
V <sub>isol</sub>	a.c.50HZ;r.m.s.;1min,I <sub>iso</sub> :2mA(max)	2500	V
Tvj		-40 to 150	℃
T <sub>stg</sub>		-40 to 125	℃
Mt	To terminals(M8)	12±15%	Nm
Ms	To heatsink(M6)	6±15%	Nm
Weight	Module (Approximately)	690	g

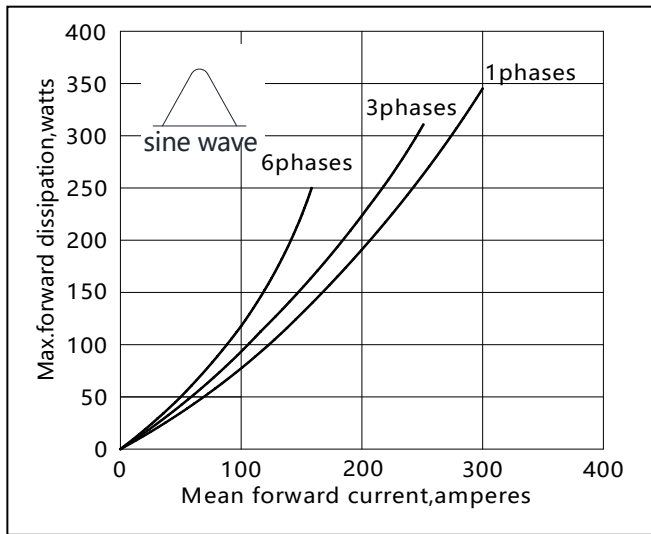
### Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	per diode	0.12	℃/W
R <sub>th(c-s)</sub>	per diode	0.04	℃/W

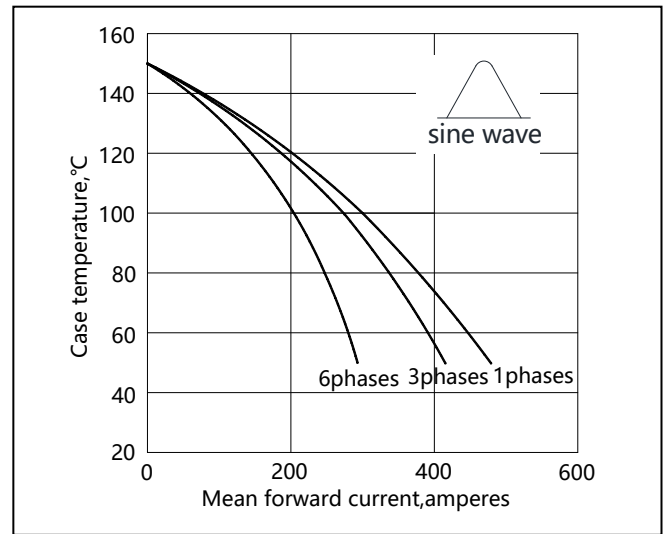
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V <sub>FM</sub>	T=25℃ IF=900A			1.35	V
I <sub>RRM</sub>	Tvj=Tvjm V=VRRM			20	mA
V <sub>FO</sub>	Tvj=Tvjm			0.75	V
r <sub>F</sub>	Tvj=Tvjm			0.55	mΩ

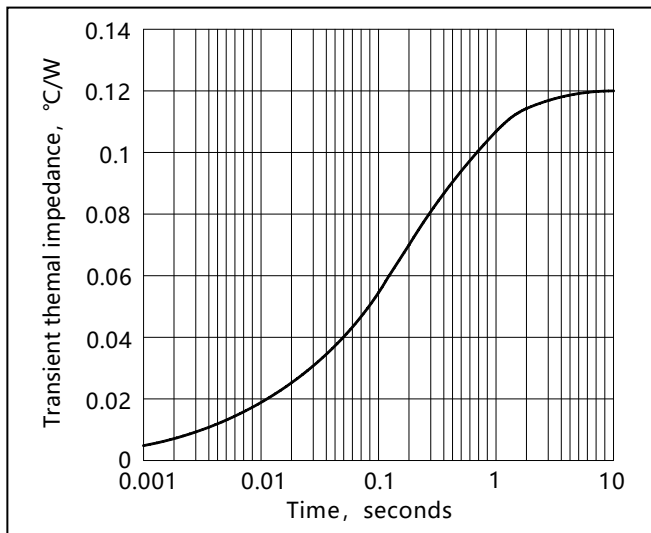
## Performance Curves



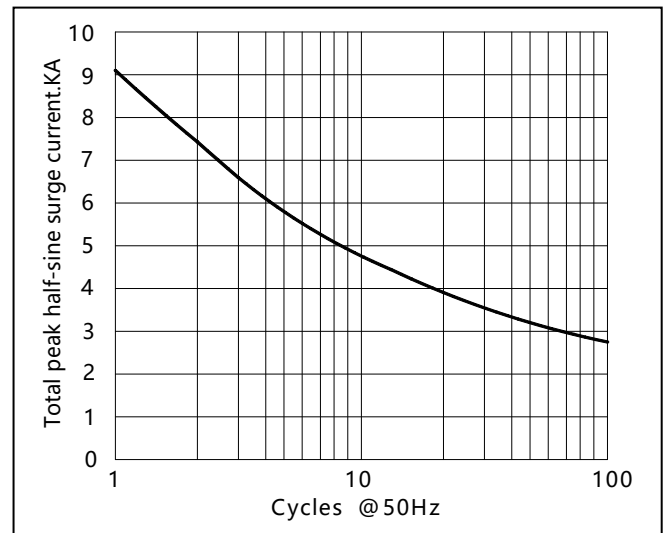
**Fig1. Power dissipation**



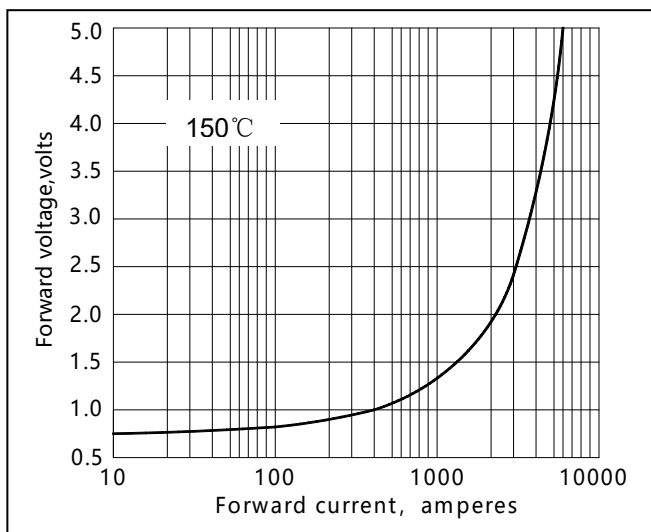
**Fig2. Forward Current Derating Curve**



**Fig3. Transient thermal impedance**



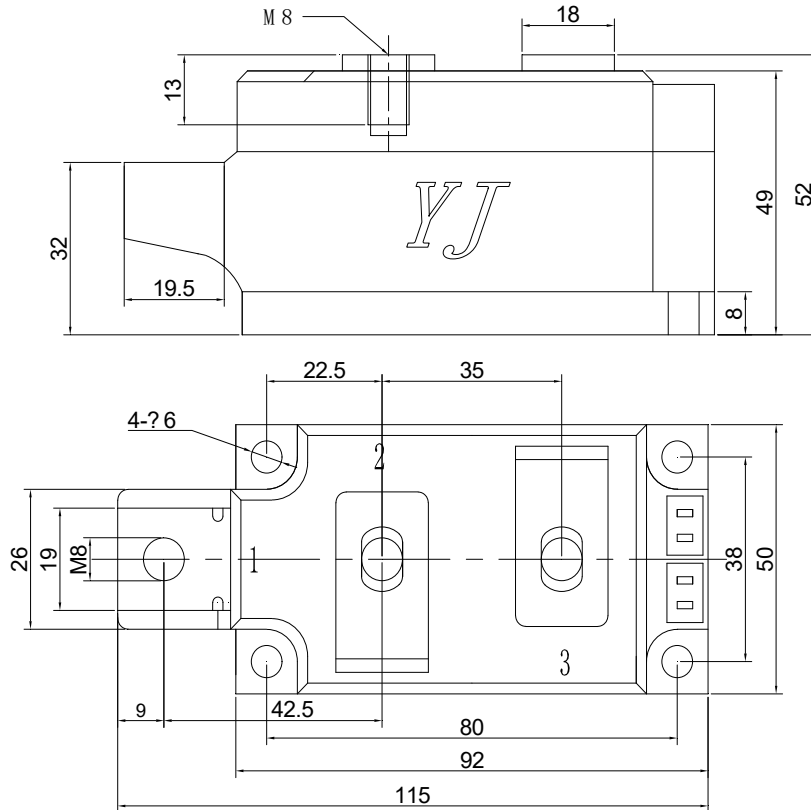
**Fig4. Max Non-Repetitive Forward Surge Current**



**Fig5. Forward Characteristics**

## Package Outline Information

### CASE: D3



**Dimensions in mm**  
**Unmarked dimensional tolerance:  $\pm 0.5\text{mm}$**