

## Rectifier Diode Modules



**V<sub>RRM</sub>** 800 to 1800V

**I<sub>FAV</sub>** 300 A

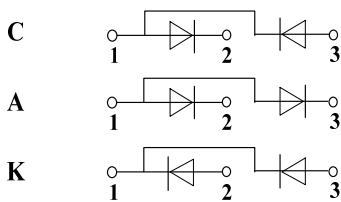
### Applications

- 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

### Circuit



### Module Type

TYPE			V <sub>RRM</sub>	V <sub>RSM</sub>
MD300C08D3	MD300A08D3	MD300K08D3	800V	900V
MD300C12D3	MD300A12D3	MD300K12D3	1200V	1300V
MD300C16D3	MD300A16D3	MD300K16D3	1600V	1700V
MD300C18D3	MD300A18D3	MD300K18D3	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
I <sub>FAV</sub>	Single phase ,half wave 180° conduction T <sub>c</sub> =85°C	300	A
I <sub>FSM</sub>	t=10mS T <sub>vj</sub> =45°C	11000	A
i <sup>2</sup> t	t=10mS T <sub>vj</sub> =45°C	605000	A <sup>2</sup> s
V <sub>isol</sub>	a.c.50HZ;r.m.s.;1min	3000	V
T <sub>vj</sub>		-40 to 150	°C
T <sub>stg</sub>		-40 to 125	°C
M <sub>t</sub>	To terminals(M8)	9±15%	Nm
M <sub>s</sub>	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	865	g

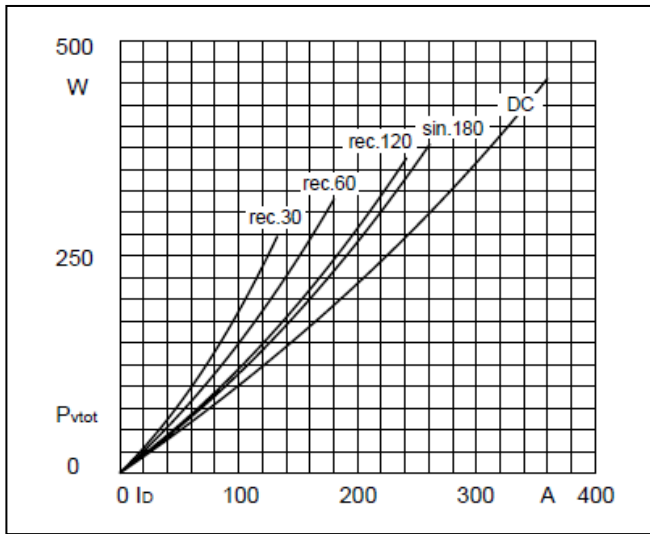
### Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	Per diode	0.08	°C/W
R <sub>th(c-s)</sub>	Module	0.05	°C/W

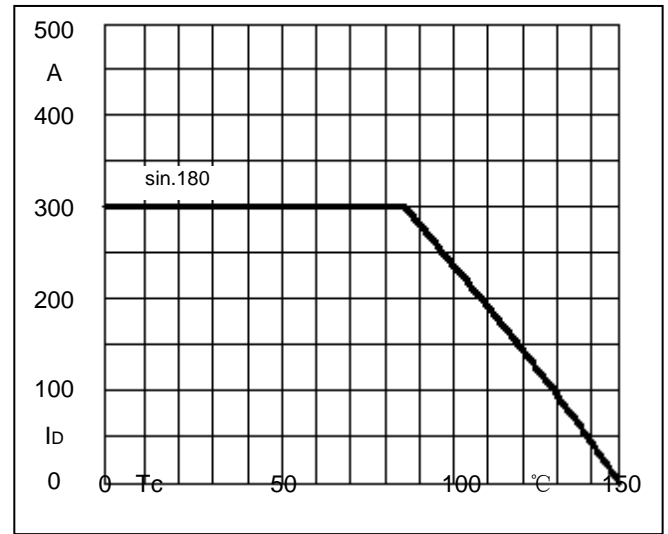
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V <sub>FM</sub>	T=25°C I <sub>F</sub> =900A	—	—	1.8	V
I <sub>RD</sub>	T <sub>vj</sub> =T <sub>vjM</sub> V <sub>RD</sub> =V <sub>RRM</sub>	—	—	15	mA

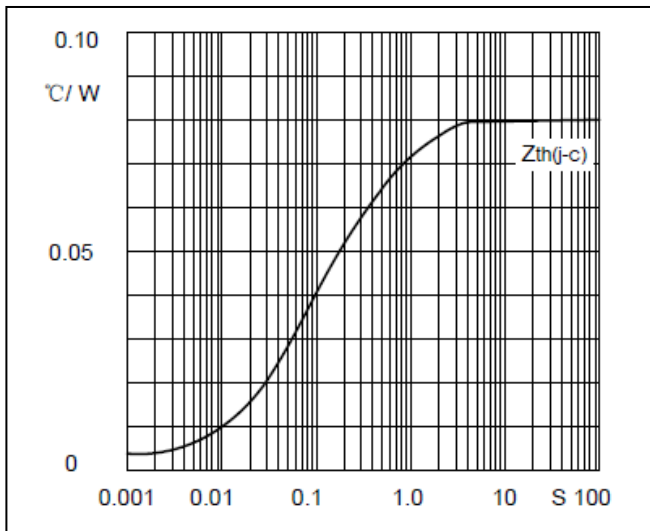
## Performance Curves



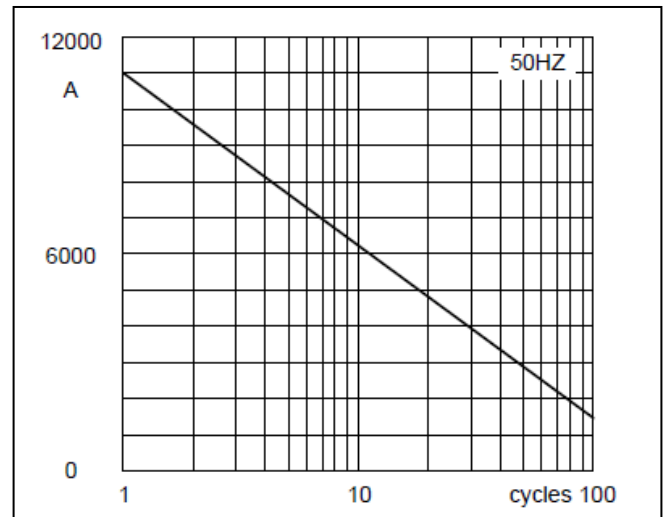
**Fig1. Power dissipation**



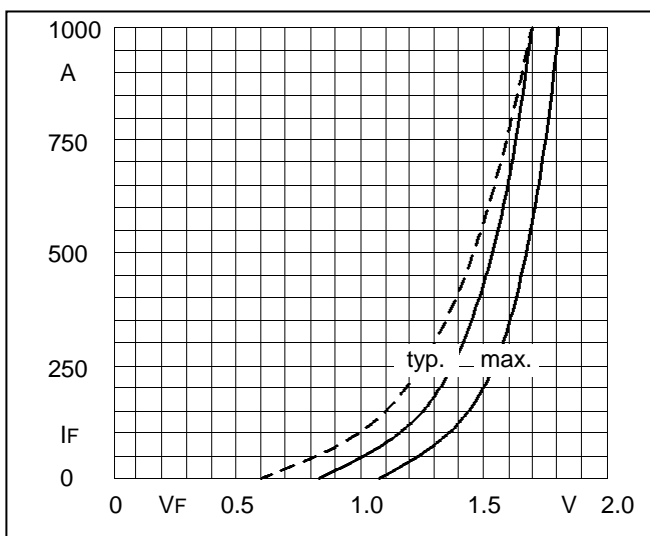
**Fig2. Forward Current Derating Curve**



**Fig3. Transient thermal impedance**



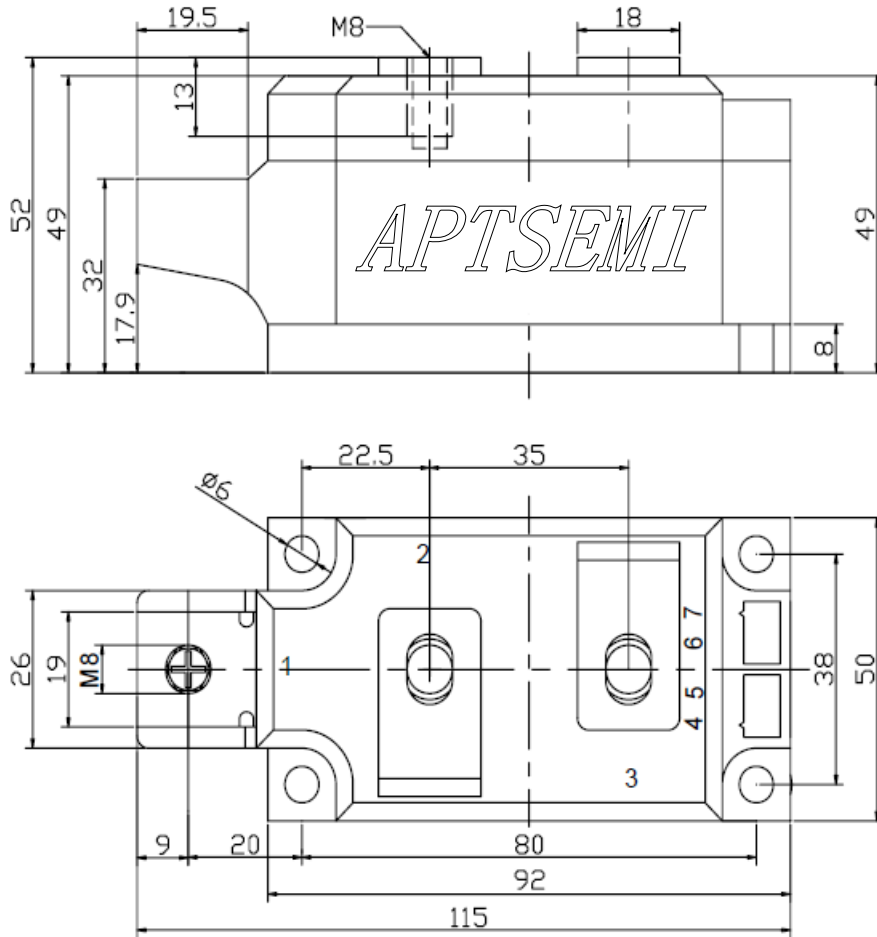
**Fig4. Max Non-Repetitive Forward Surge Current**



**Fig5. Forward Characteristics**

## Package Outline Information

CASE: D3



Dimensions in mm