

Rectifier Diode Modules



V_{RRM} 800 to 1800V

I_{FAV} 300 A

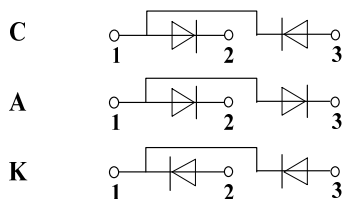
Applications

- 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 _{RRM}	V _{RSM}
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 _{FAV}	Single phase ,half wave 180° conduction T _c =85°C	300	A
I _{FSM}	t=10mS T _{vj} =45°C	11000	A
i ² t	t=10mS T _{vj} =45°C	605000	A ² s
V _{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T _{vj}		-40 to 150	°C
T _{stg}		-40 to 125	°C
M _t	To terminals(M8)	9±15%	Nm
M _s	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	865	g

Thermal Characteristics

Symbol	Conditions	Values	Units
R _{th(j-c)}	Per diode	0.08	°C/W
R _{th(c-s)}	Module	0.05	°C/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V _{FM}	T=25°C I _F =900A	—	—	1.8	V
I _{RD}	T _{vj} =T _{vjM} V _{RD} =V _{RRM}	—	—	15	mA

Performance Curves

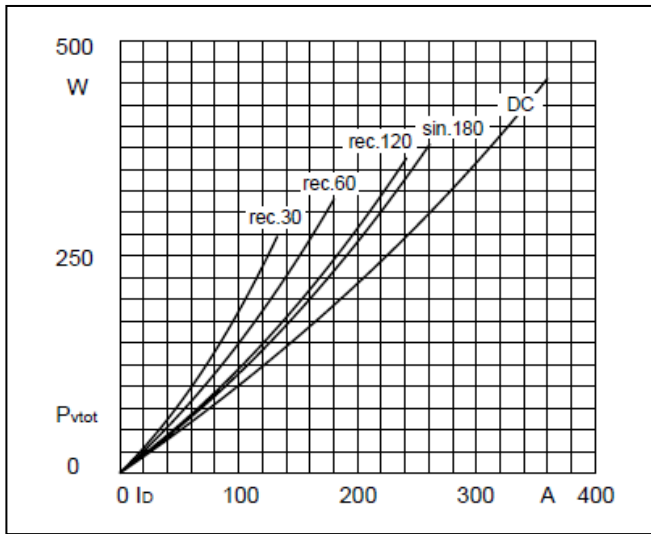


Fig1. Power dissipation

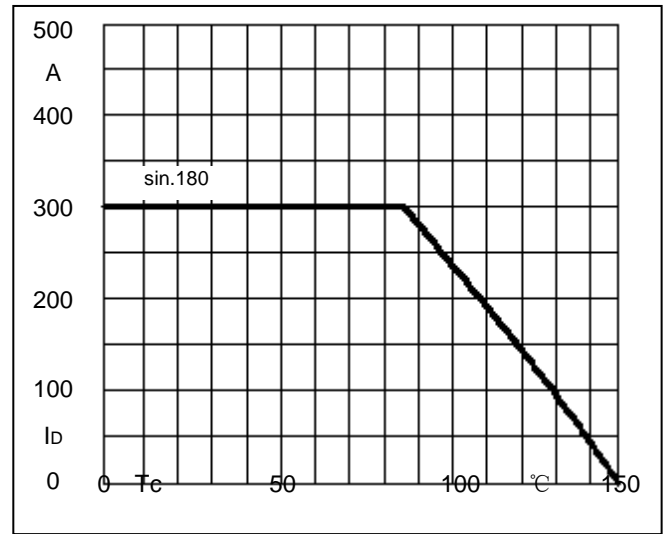


Fig2. Forward Current Derating Curve

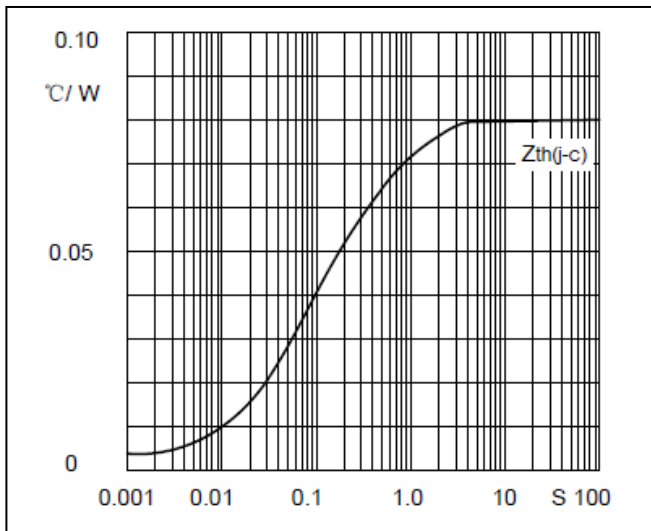


Fig3. Transient thermal impedance

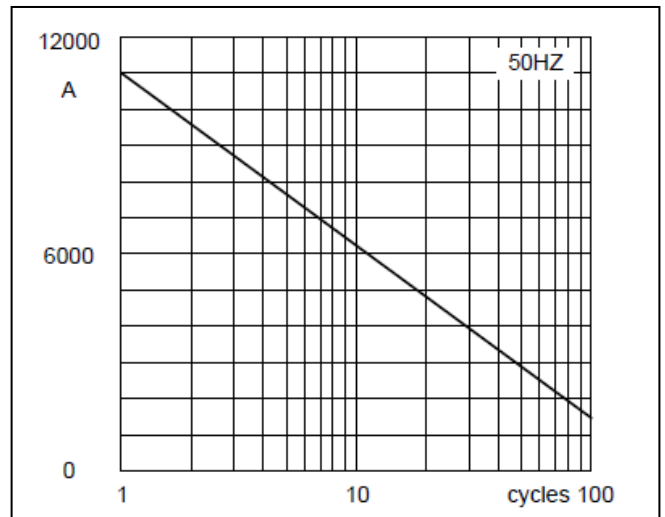


Fig4. Max Non-Repetitive Forward Surge Current

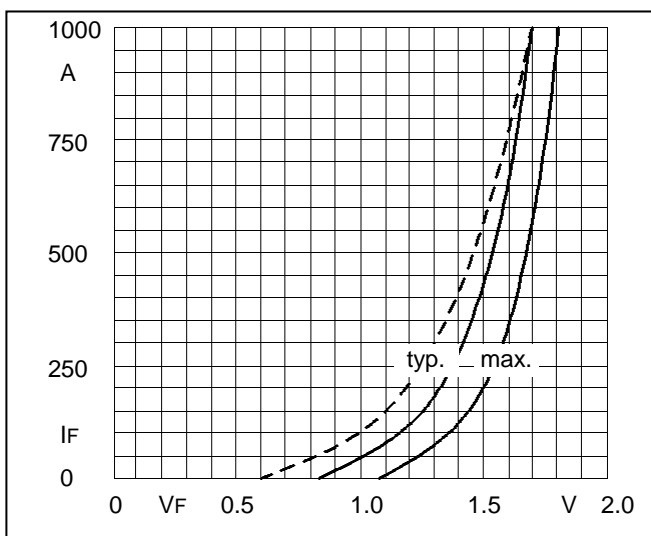
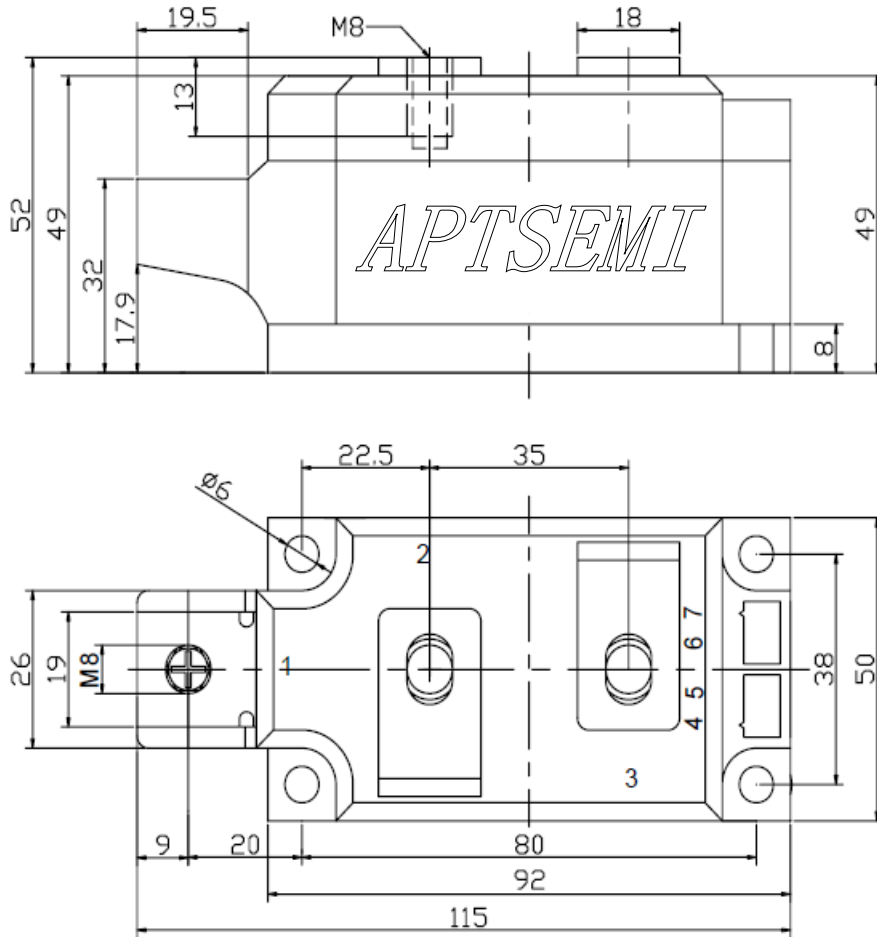


Fig5. Forward Characteristics

Package Outline Information

CASE: D3



Dimensions in mm