



## Glass Passivated Rectifier Diode Modules

**VRRM** 800 to 1800V

**IFAV** 165 Amp

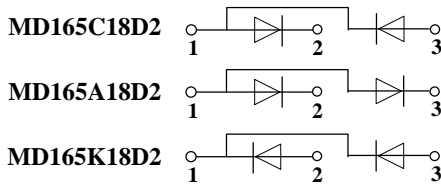
### Applications

- 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 DBC ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E360040

### Circuit



### Module Type

TYPE			VRRM	VRSM
MD165C08D2	MD165A08D2	MD165K08D2	800V	900V
MD165C12D2	MD165A12D2	MD165K12D2	1200V	1300V
MD165C16D2	MD165A16D2	MD165K16D2	1600V	1700V
MD165C18D2	MD165A18D2	MD165K18D2	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction Tc=101°C	165	A
IFSM	t=10mS Tvj =45°C	6000	A
i <sup>2</sup> t	t=10mS Tvj =45°C	180000	A <sup>2</sup> s
V <sub>isol</sub>	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to +150	°C
T <sub>stg</sub>		-40 to +125	°C
Mt	To terminals(M6)	5±15%	Nm
Ms	To heatsink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

### Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	Per diode	0.21	°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 IF =300A	—	1.20	1.40	V
IR <sub>D</sub>	Tvj=150°C VRD=VRRM	—	—	9	mA
r <sub>f</sub>	T <sub>J</sub> =25°C		1.25		mΩ
V <sub>f0</sub>			0.82		V

## Performance Curves

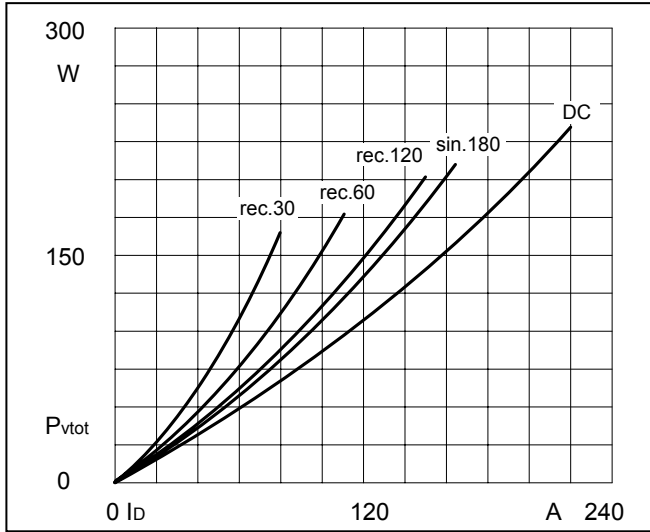


Fig1. Power dissipation

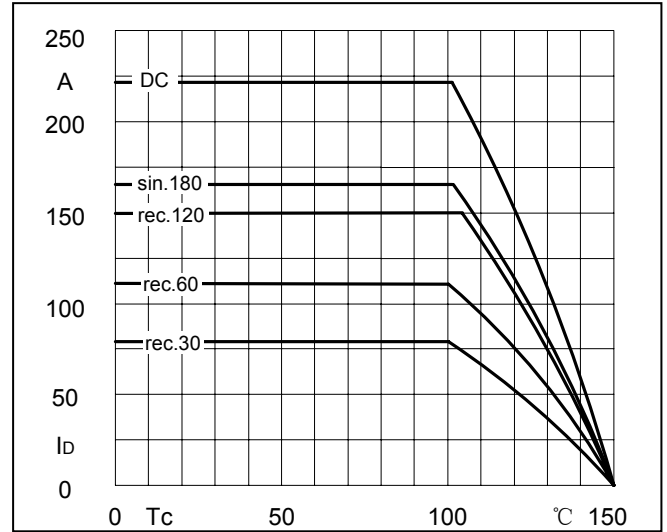


Fig2. Forward Current Derating Curve

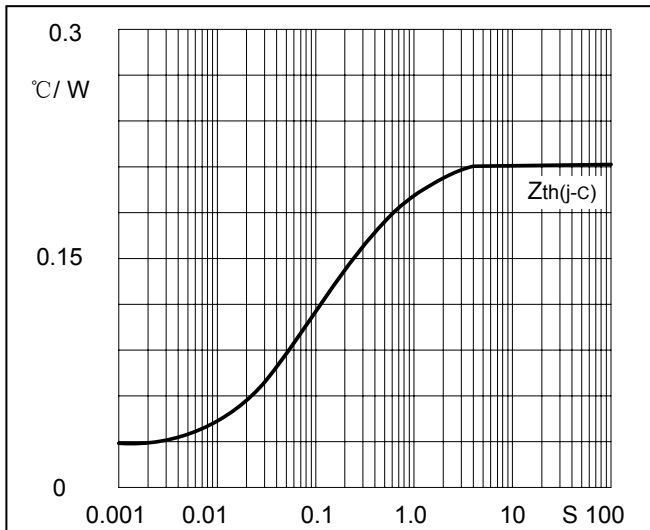


Fig3. Transient thermal impedance

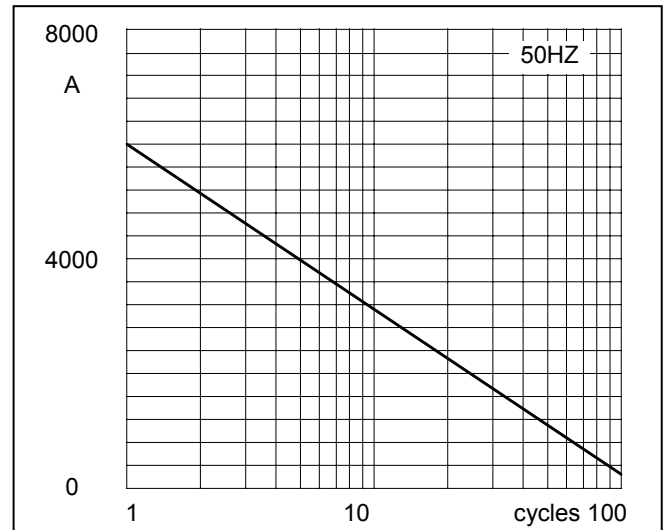


Fig4. Max Non-Repetitive Forward Surge Current

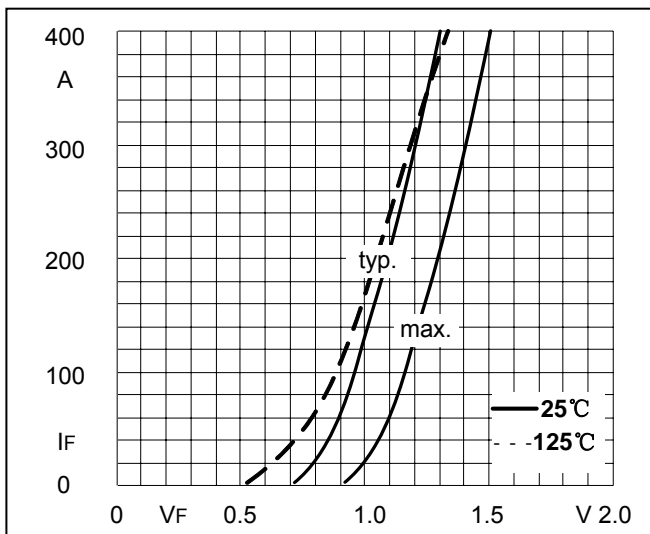
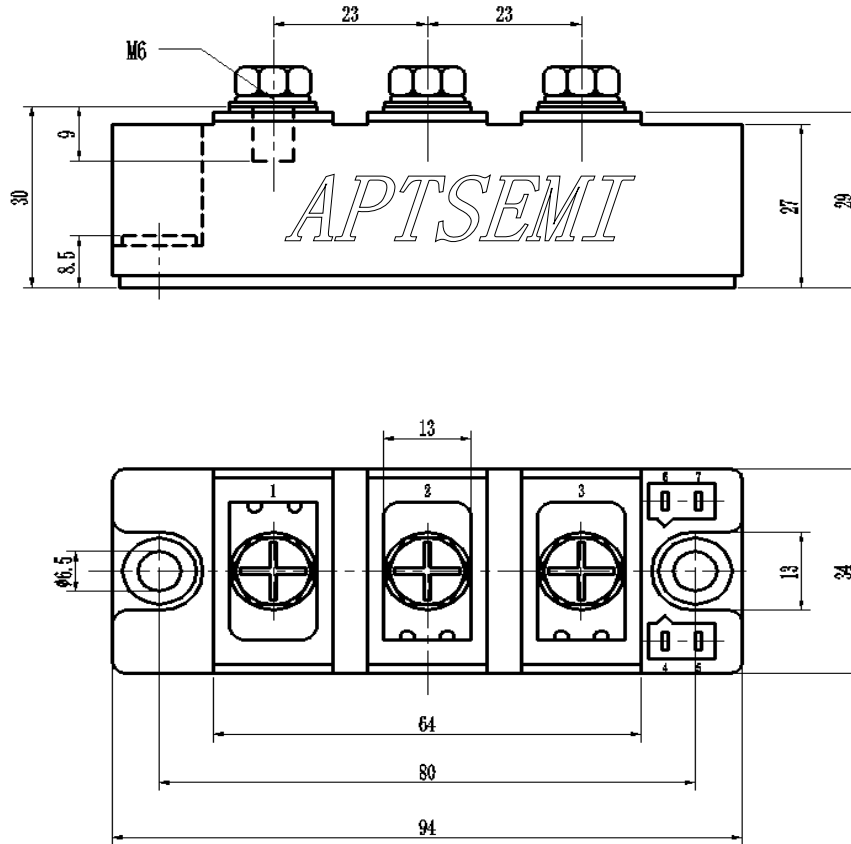


Fig5. Forward Characteristics

## Package Outline Information

CASE: D2



Dimensions in mm