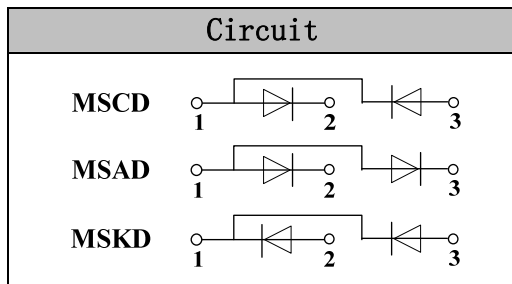


## Glass Passivated Rectifier Diode Modules

**VRRM** 800 to 1800V  
**IFAV** 120 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 E243882 approved

### Module Type

TYPE			VRRM	V <sub>RSM</sub>
MSCD120-08	MSAD120-08	MSKD120-08	800V	900V
MSCD120-12	MSAD120-12	MSKD120-12	1200V	1300V
MSCD120-16	MSAD120-16	MSKD120-16	1600V	1700V
MSCD120-18	MSAD120-18	MSKD120-18	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
IFAV	Single phase ,half wave 180° conduction T <sub>c</sub> =106°C	120	A
IF(RMS)	Single phase ,half wave 180° conduction T <sub>c</sub> =97°C	180	A
IFSM	t=10mS T <sub>vj</sub> =45°C	2800	A
i <sup>2</sup> t	t=10mS T <sub>vj</sub> =45°C	39200	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
Mt	To terminals(M5)	3 ± 15%	Nm
Ms	To heatsink(M6)	5 ± 15%	Nm
Weight	Module (Approximately)	100	g

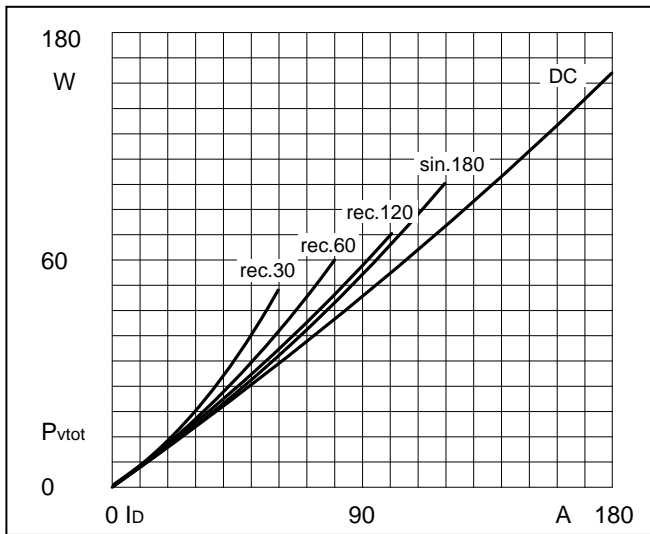
### Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	Per diode	0.26	°C/W
R <sub>th(c-s)</sub>	Module	0.1	°C/W

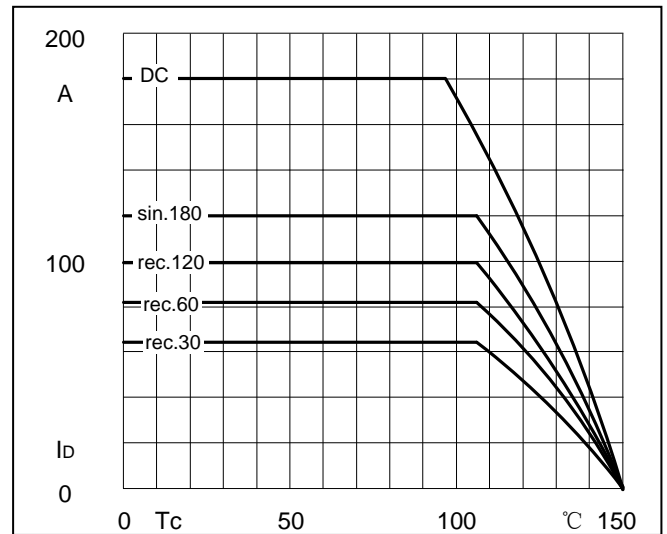
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V <sub>FM</sub>	T=25°C I <sub>F</sub> =300A	—	1.22	1.43	V
I <sub>RD</sub>	T <sub>vj</sub> =150°C V <sub>RD</sub> =V <sub>RRM</sub>	—	—	6	mA

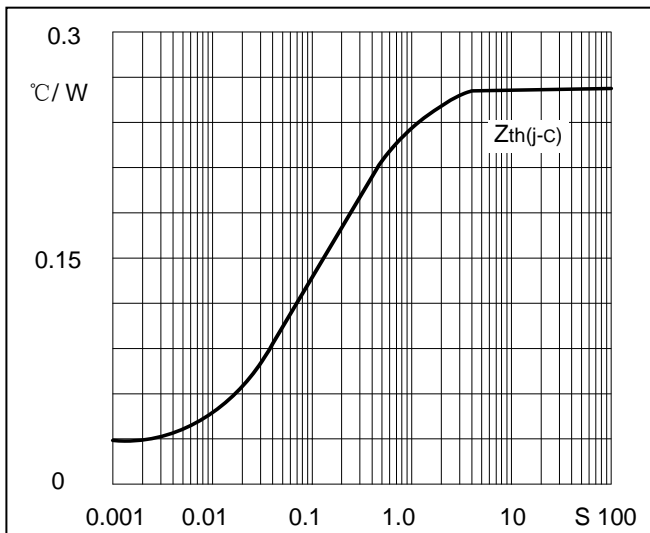
## Performance Curves



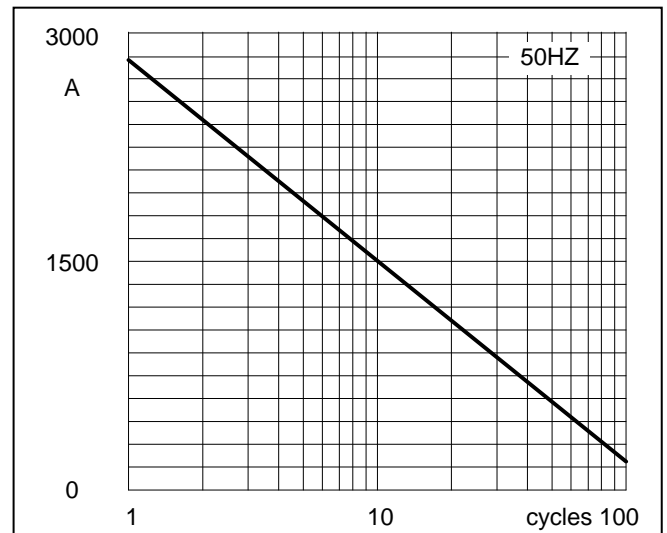
**Fig1. Power dissipation**



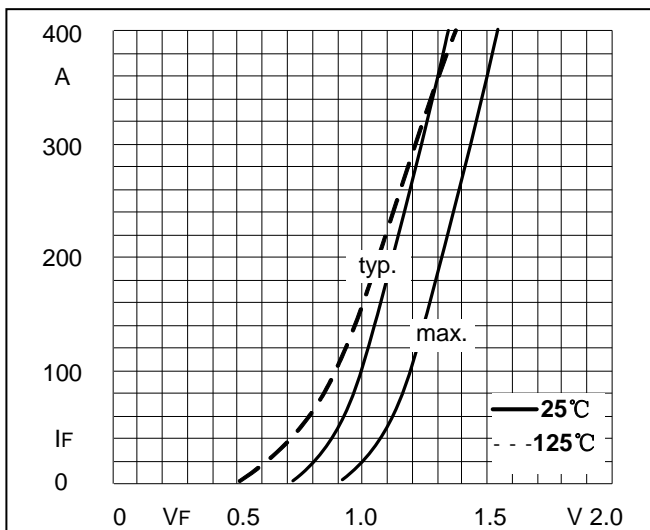
**Fig2. Forward Current Derating Curve**



**Fig3. Transient thermal impedance**



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



**Fig5. Forward Characteristics**

