



## Glass Passivated Rectifier Diode Modules

**V<sub>RRM</sub>** 800 to 1800V  
**I<sub>FAV</sub>** 50 A

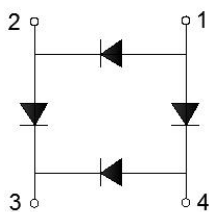
### Applications

- 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 DBC ceramic isolated metal baseplate
- Glass passivated chip

**Circuit**



### Module Type

TYPE	V <sub>RRM</sub>	V <sub>RSM</sub>
MD50H08FJ	800V	900V
MD50H12FJ	1200V	1300V
MD50H16FJ	1600V	1700V
MD50H18FJ	1800V	1900V

### Maximum Ratings

Symbol	Conditions	Values	Units
I <sub>FAV</sub>	Single phase ,half wave 180° conduction T <sub>c</sub> =104°C	50	A
I <sub>FSM</sub>	t=10mS T <sub>vj</sub> =45°C	650	A
i <sup>2</sup> t	t=10mS T <sub>vj</sub> =45°C	2100	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(M4)	1±15%	Nm
M <sub>s</sub>	To heat sink(M4)	1.2±15%	Nm
Weight	Module (Approximately)	27	g

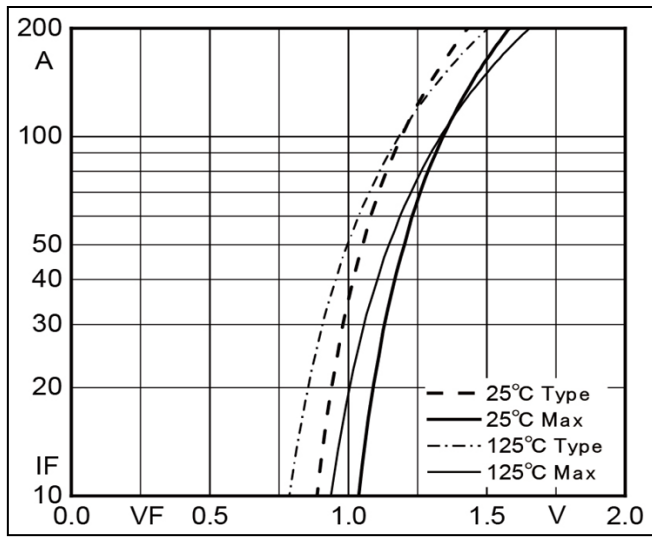
### Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	Per diode	0.6	°C/W
R <sub>th(c-s)</sub>	Module	0.1	°C/W

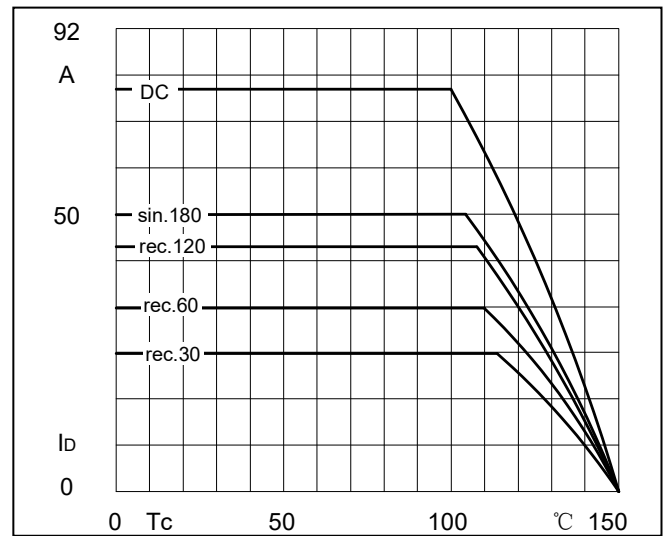
### Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V <sub>FM</sub>	T=25°C I <sub>F</sub> =100A	—	1.20	1.35	V
I <sub>RD</sub>	T <sub>vj</sub> =150°C V <sub>RD</sub> =V <sub>RRM</sub>	—	—	1	mA

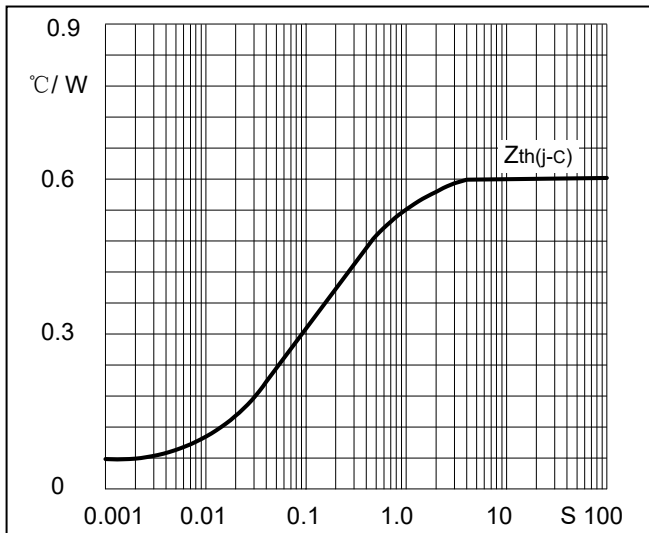
**Performance Curves**



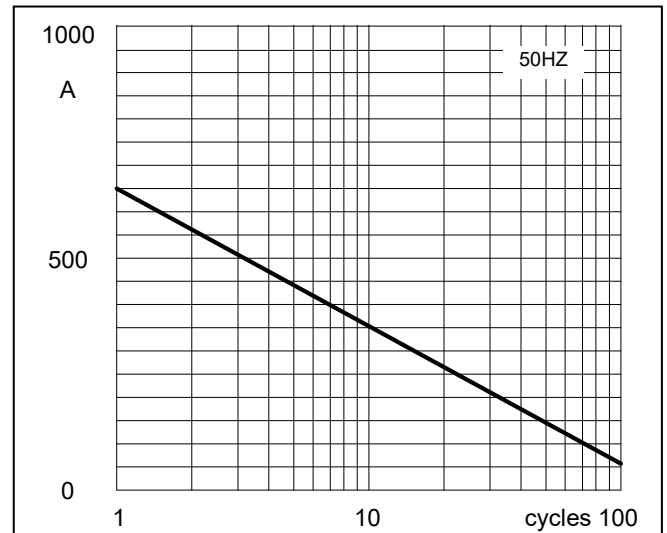
**Fig1 Forward Characteristics**



**Fig2 Forward Current Derating Curve**



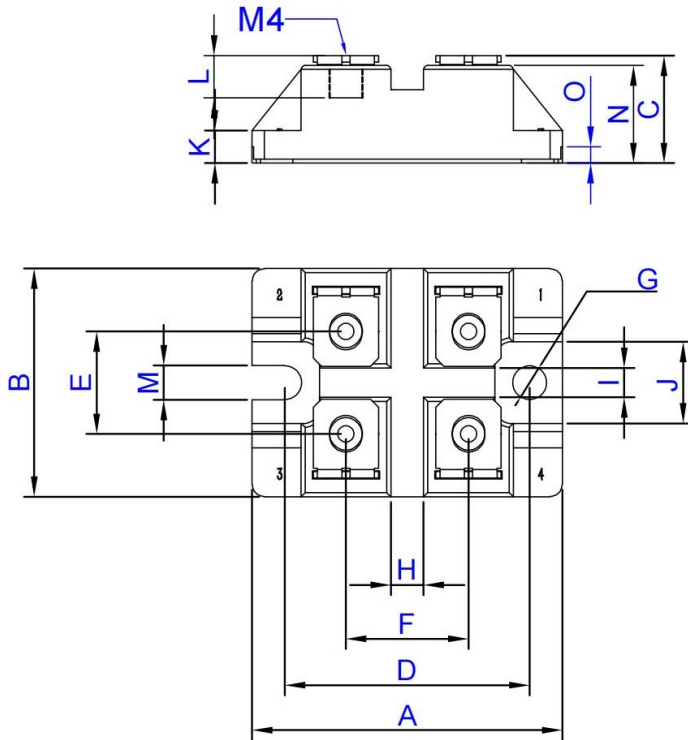
**Fig3. Transient thermal impedance**



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

## Package Outline Information

CASE: FJ



DIM	Min (mm)	Max (mm)	Note
A	37.5	38.5	
B	27.5	28.5	
C	12.8	13.5	
D	29.5	30.5	
E	12.1	13.1	
F	14.5	15.5	
G	4.0	4.4	∅
H	3.7	4.3	
I	3.3	3.9	
J	9.5	10.5	
K	3.7	4.3	
L	5.0	5.5	
M	4.0	4.4	
N	11.7	12.3	
O	1.8	2.2	

## Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner EPE	252	246	25	25
Inner Box	290	252	40	25
Outer Carton	300	270	280	150



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