



Glass Passivated Rectifier Diode Modules

V_{RRM} 800 to 1800V
I_{FAV} 50 A

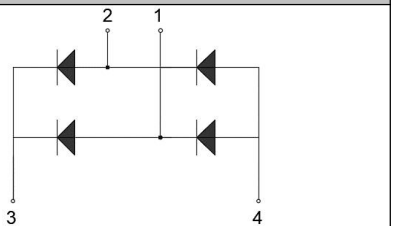
Applications

- 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 _{RRM}	V _{RSM}
MD50HV08FJ	800V	900V
MD50HV12FJ	1200V	1300V
MD50HV16FJ	1600V	1700V
MD50HV18FJ	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I _{FAV}	Single phase ,half wave 180° conduction T _c =104℃	50	A
I _{FSM}	t=10mS T _{vj} =45℃	650	A
i ² t	t=10mS T _{vj} =45℃	2100	A ² s
V _{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T _{vj}		-40 to +150	℃
T _{stg}		-40 to +125	℃
M _t	To terminals(M4)	1±15%	Nm
M _s	To heat sink(M4)	1.2±15%	Nm
Weight	Module (Approximately)	27	g

Thermal Characteristics

Symbol	Conditions	Values	Units
R _{th(j-c)}	Per diode	0.6	℃/W
R _{th(c-s)}	Module	0.1	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V _{FM}	T=25℃ I _F =50A	—	1.20	1.35	V
V _{FM}	T=25℃ I _F =100A	—	1.25	1.40	V
I _{RD}	T _{vj} =150℃ V _{RD} =V _{RRM}	—	—	1	mA

Performance Curves

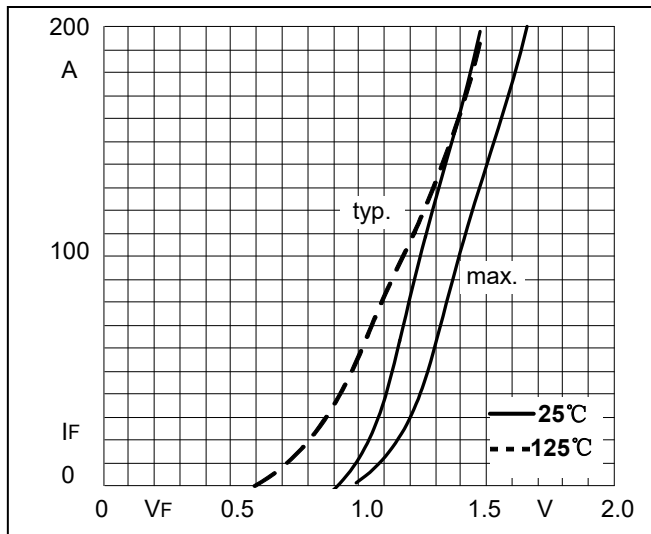


Fig1 Forward Characteristics

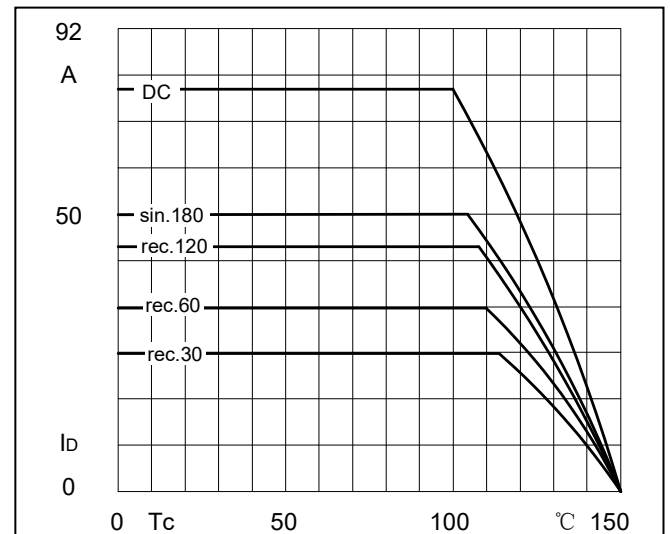


Fig2 Forward Current Derating Curve

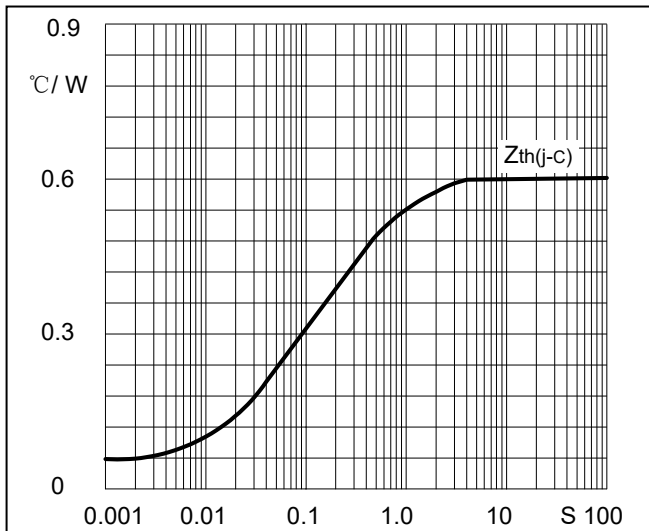


Fig3. Transient thermal impedance

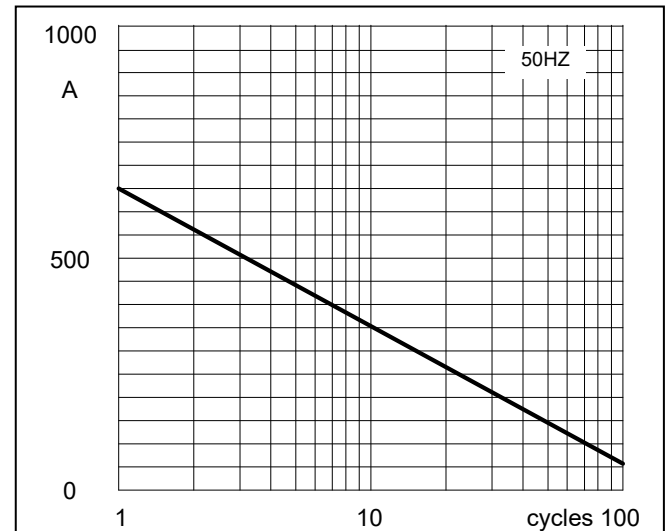
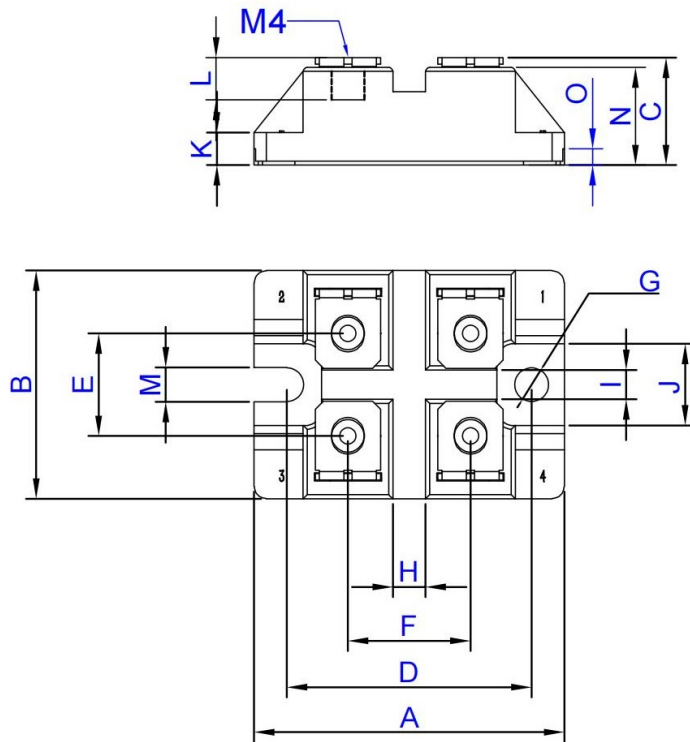


Fig4. Max Non-Repetitive Forward Surge Current

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	Ø
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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