MD50HV-FJ



Glass Passivated Rectifier Diode Modules

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

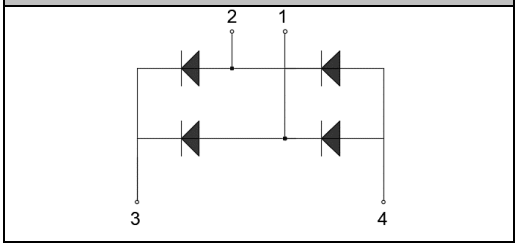
Applications

- 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 Tc=104℃	50	A
I_{FSM}	t=10mS Tvj =45℃	650	A
i^2t	t=10mS Tvj =45℃	2100	A^2s
V_{isol}	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to +150	℃
T_{stg}		-40 to +125	℃
Mt	To terminals(M4)	1±15%	Nm
Ms	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}	Tvj=150℃ $V_{RD}=V_{RRM}$	—	—	1	mA

Performance Curves

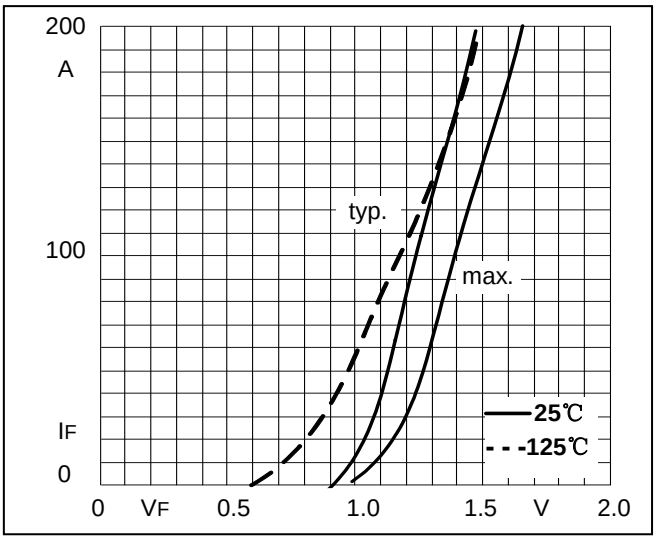


Fig1 Forward Characteristics

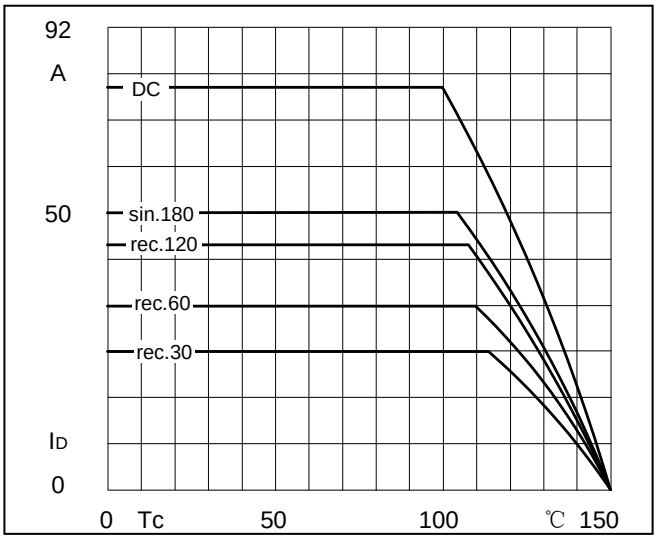


Fig2.Forward Current Derating Curve

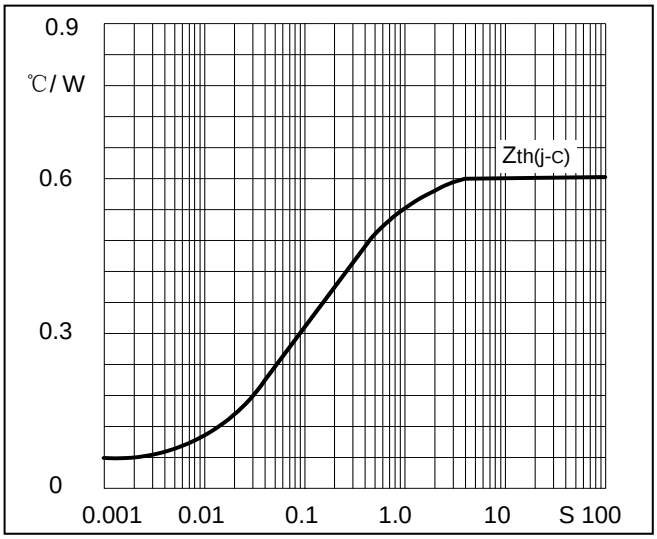


Fig3. Transient thermal impedance

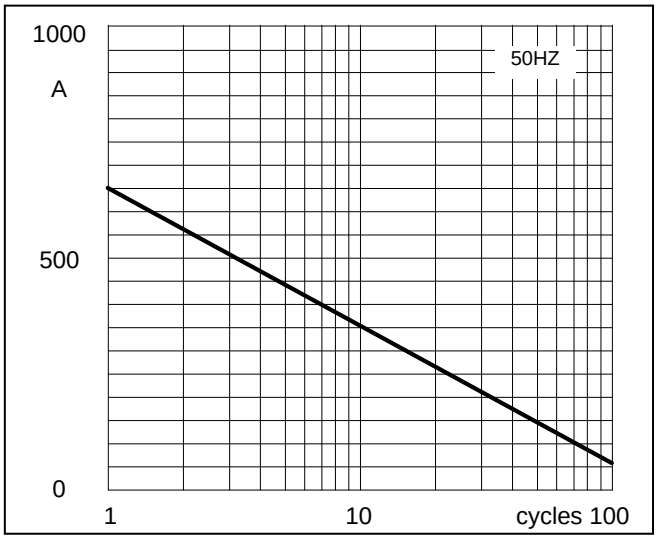
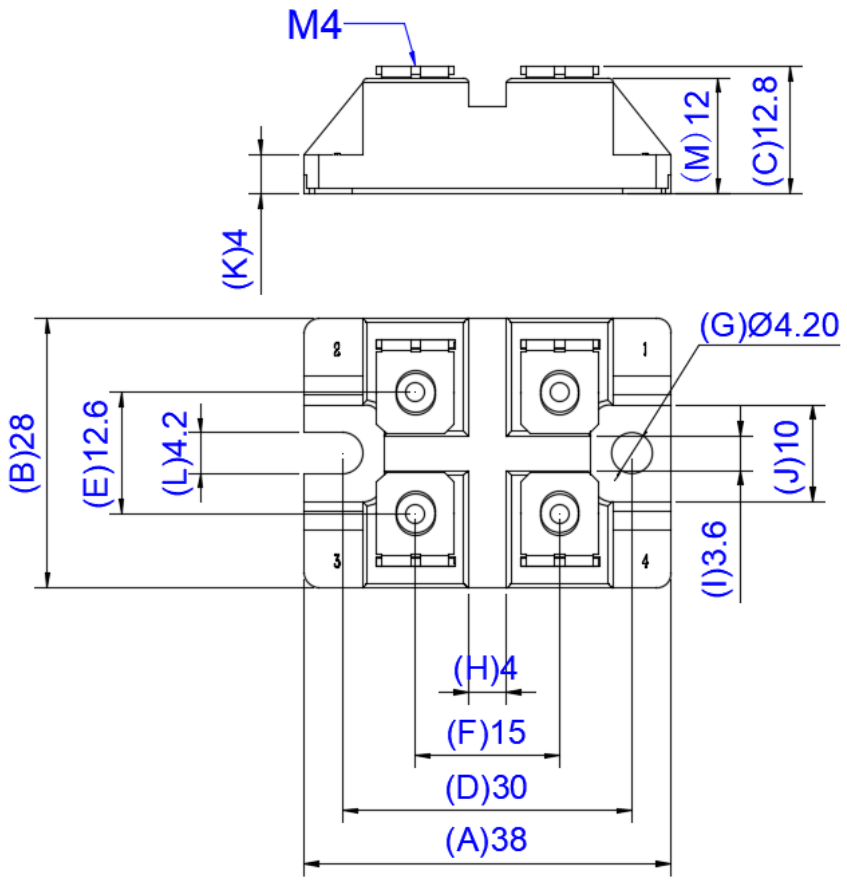


Fig4. Max Non-Repetitive Forward Surge Current

Package Outline Information

CASE:FJ

Dimensions in mm



SMAF		
Dim	Min	Max
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	4.4
H	3.8	4.2
I	3.4	3.8
J	9.5	10.5
K	4	4.5
L	4	4.4
M	12	12.5