MD240K-D2E

RoHS COMPLIANT

Glass Passivated Rectifier Diode Modules

V_{RRM} 800 to 1800V
I_{FAV} 240 A

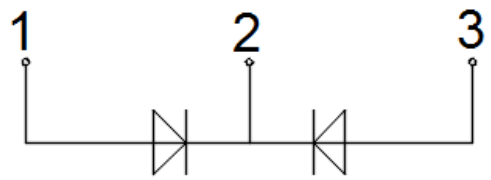
Applications

- 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 ceramic isolated metal baseplate
- Glass passivated chip

Circuit



Module Type

TYPE	V_{RRM}	V_{RSM}
MD240K08D2E	800V	900V
MD240K12D2E	1200V	1300V
MD240K16D2E	1600V	1700V
MD240K18D2E	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{FAV}	Single phase ,half wave 180° conduction Tc=95℃	240	A
I_{FSM}	t=10mS Tvj =45℃	10000	A
i^2t	t=10mS Tvj =45℃	500000	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(M6)	5±15%	Nm
Ms	To heat sink(M6)	5±15%	Nm
Weight	Module (Approximately)	160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.16	℃/W
$R_{th(j-c)}$	Per Module	0.08	℃/W
$R_{th(c-s)}$	Module	0.05	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T=25℃ I_F =300A	—	1.04	1.21	V
I_{RD}	T_{vj}=150℃ V_{RD}=V_{RRM}	—	—	9	mA
r_F	T_J=25℃	-	1.16	-	mΩ
	T_J=150℃	-	1.17	-	mΩ
V_{FO}	T_J=25℃	-	0.79	-	V
	T_J=150℃	-	0.67	-	V

Performance Curves

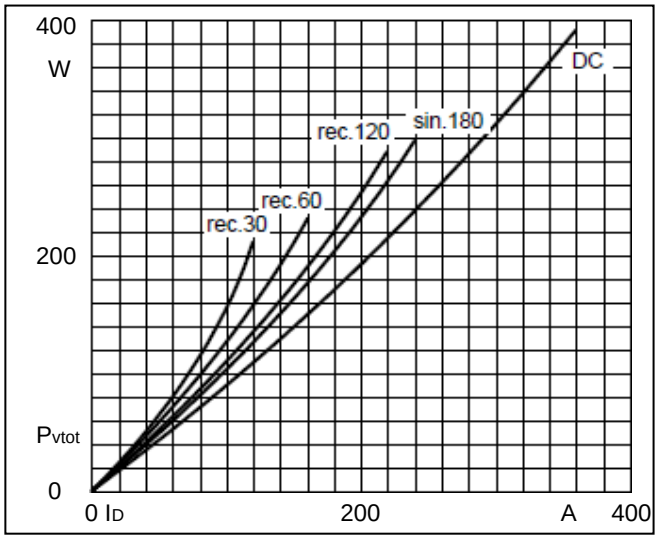


Fig1. Power dissipation

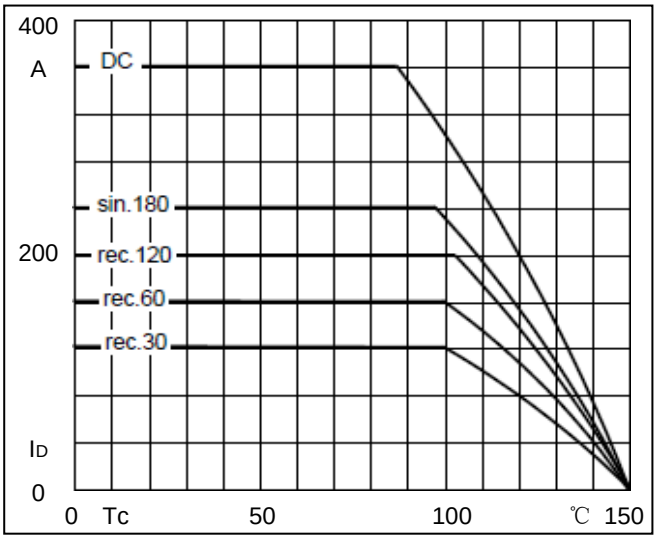


Fig2.Forward Current Derating Curve

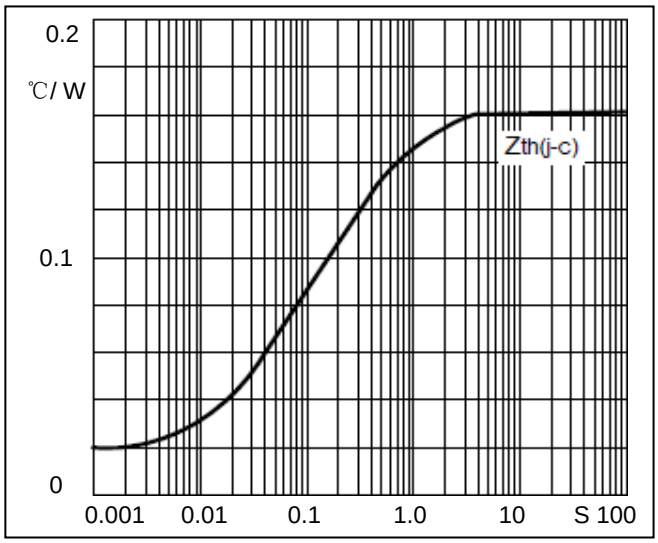


Fig3. Transient thermal impedance

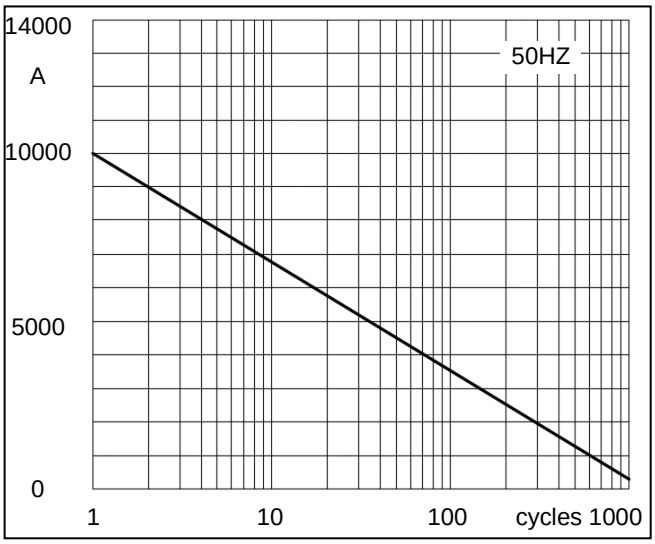


Fig4. Max Non-Repetitive Forward Surge Current

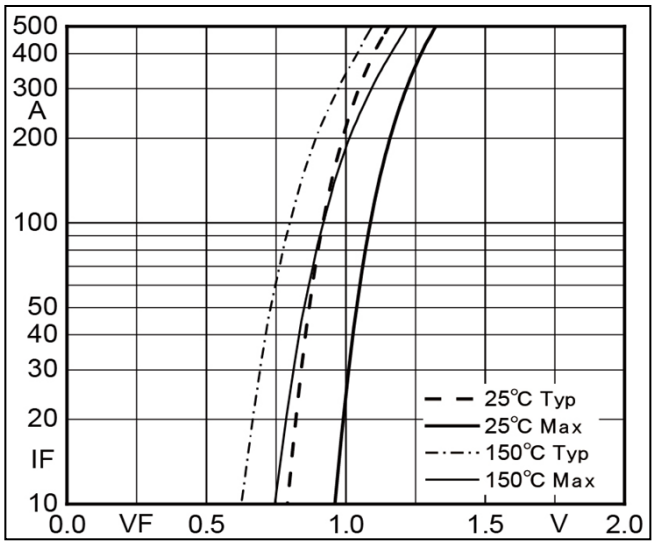
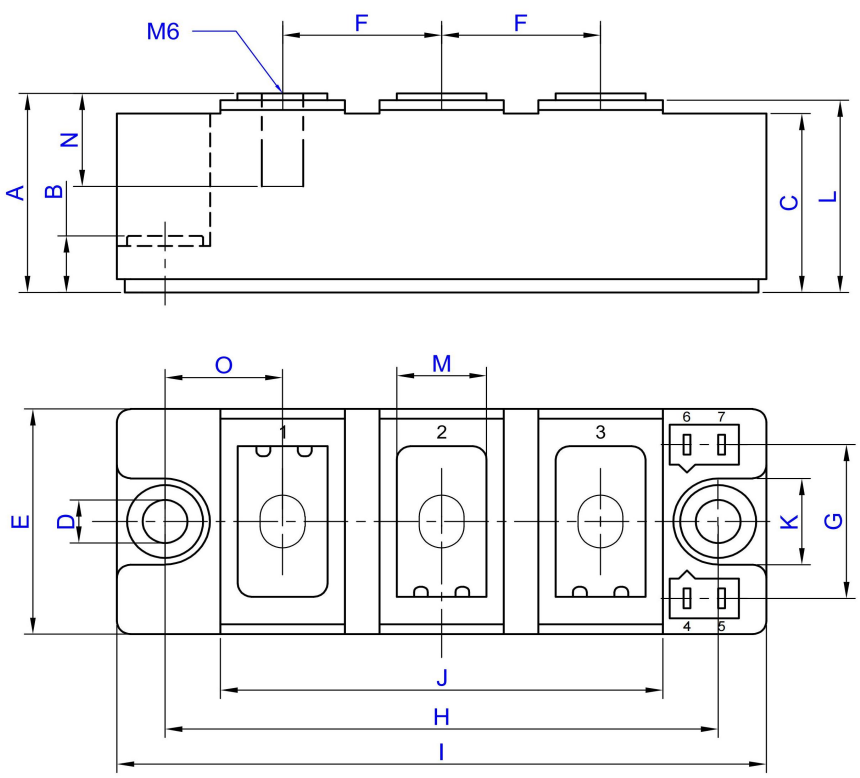


Fig5. Forward Characteristics

Package Outline Information

CASE: D2



DIM	Min (mm)	Max (mm)	Note
A	29.5	30.5	
B	8.0	9.0	
C	26.5	27.5	
D	6.3	6.7	Ø
E	33.5	34.5	
F	22.8	23.2	
G	22.7	23.7	
H	79.5	80.5	
I	93.5	94.5	
J	63.5	64.5	
K	12.5	13.5	
L	28.5	29.5	
M	12.9	13.1	
N	13.5	14.5	
O	16.5	17.5	