MD200C(A/K)-SCD2

Glass Passivated Rectifier Diode Modules

VRRM 800 to 1800V
IFAV 200 A

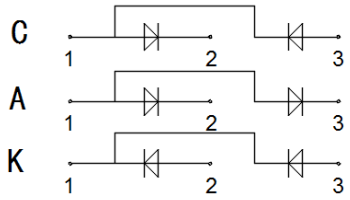
Applications

- 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
- UL recognized applied for file no. E360040

Circuit



Module Type

TYPE			VRRM	VRSM
MD200C08SCD2	MD200A08SCD2	MD200K08SCD2	800V	900V
MD200C12SCD2	MD200A12SCD2	MD200K12SCD2	1200V	1300V
MD200C16SCD2	MD200A16SCD2	MD200K16SCD2	1600V	1700V
MD200C18SCD2	MD200A18SCD2	MD200K18SCD2	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{FAV}	Single phase ,half wave 180° conduction Tc=95℃	200	A
I_{FSM}	t=10ms Tvj =45℃	7500	A
	t=10ms Tvj =150℃	6900	A
i^2t	t=10ms Tvj =45℃	220000	A^2s
	t=10ms Tvj =150℃	240050	A^2s
V_{isol}	a.c.50Hz;r.m.s.;1s / 1min	3600 / 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	0.18	℃/W
$R_{th(c-s)}$	Per Module	0.07	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{FM}	T=25℃ I_F =300A	1	1.10	1.20	V
	T=150℃ I_F =300A	1	1.12	1.22	V
I_{RD}	T_{vj}=150℃ $V_{RD}=V_{RRM}$	—	—	10	mA
r_f	T_{vj}=25℃		1.13		mΩ
	T_{vj}=150℃		1.4		mΩ
V_{fO}	T_{vj}=25℃		0.84		V
	T_{vj}=150℃		0.74		V

Performance Curves

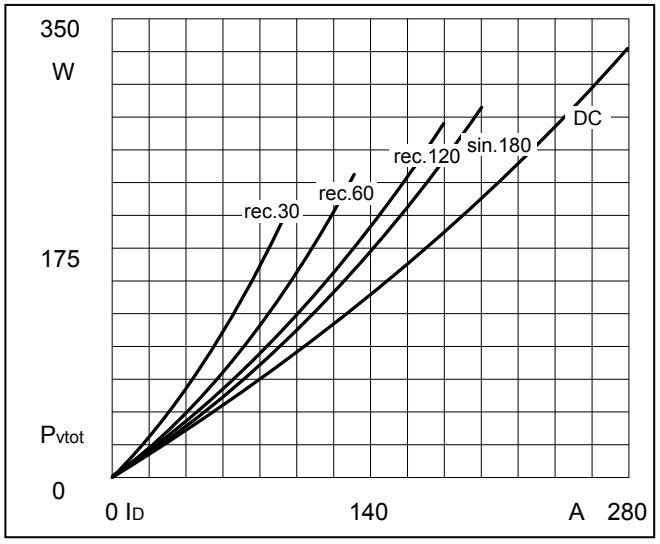


Fig1. Power dissipation vs Forward current

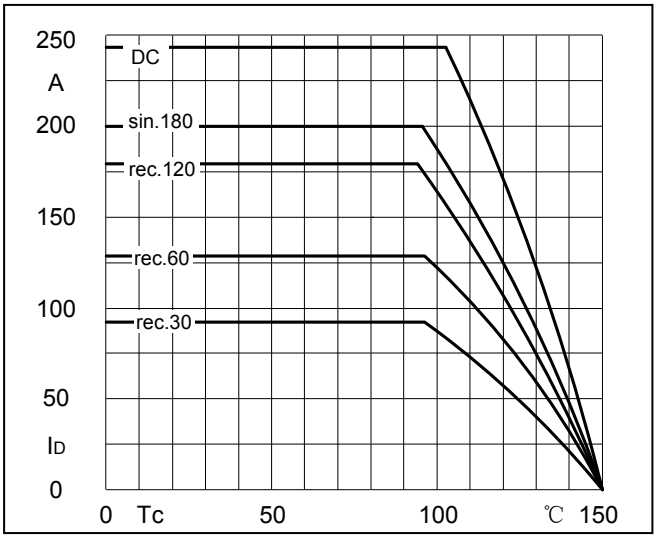


Fig2.Forward current derating curve vs Tc

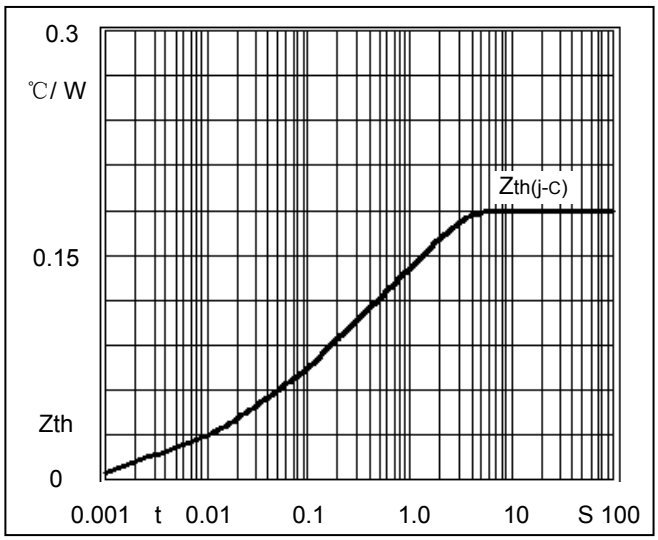


Fig3. Transient thermal impedance vs Time

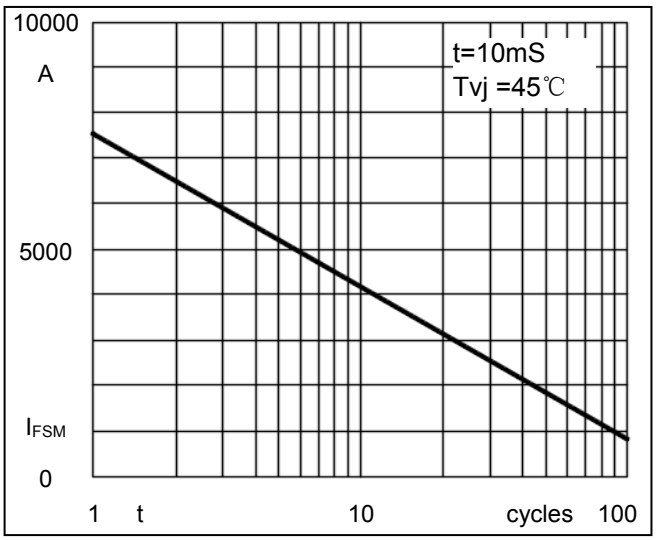


Fig4. Max non-repetitive forward surge current vs Times

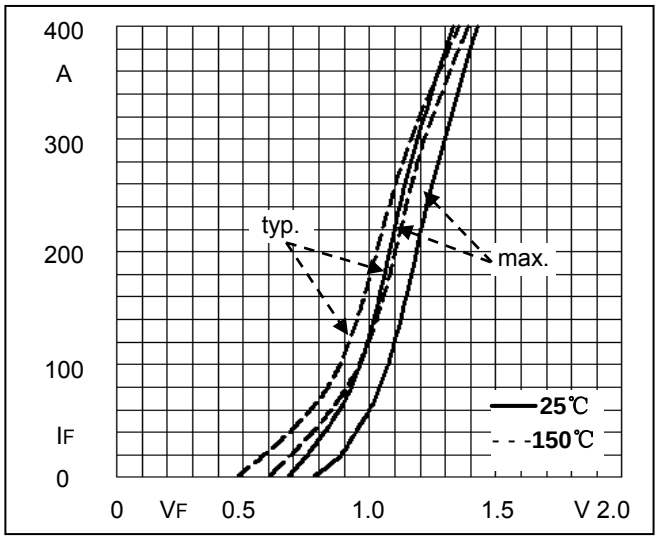
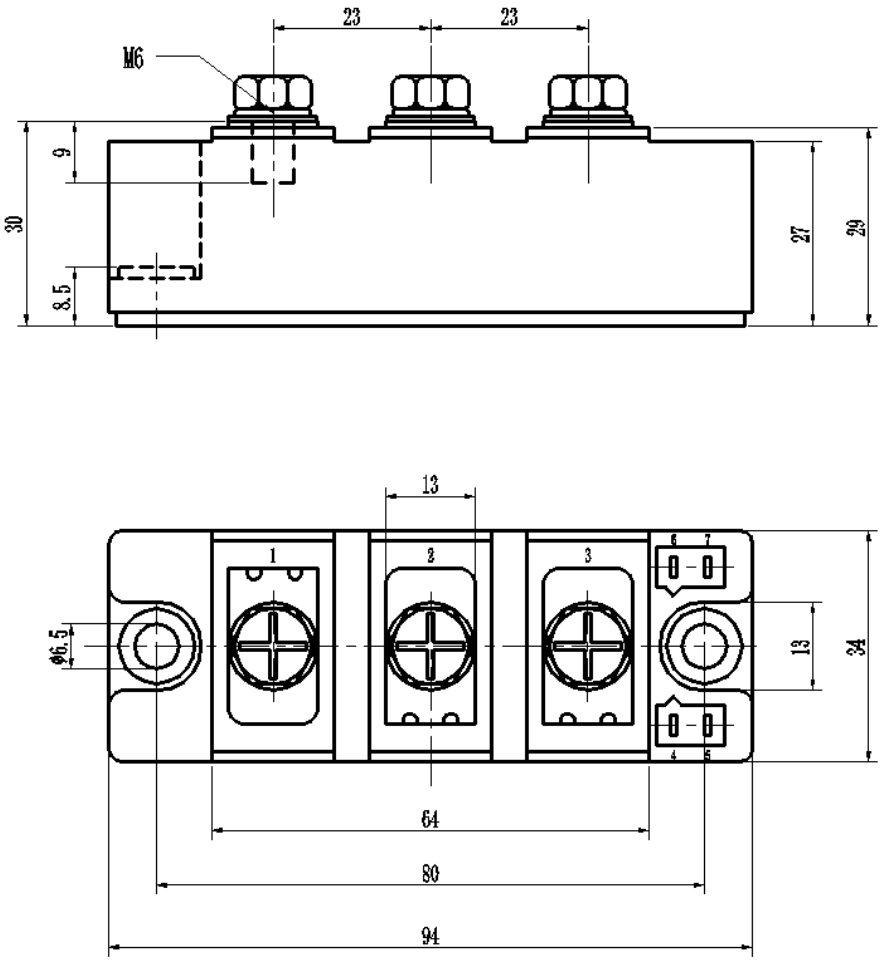


Fig5. Forward Characteristics

Package Outline Information

CASE: D2



Dimensions in mm