

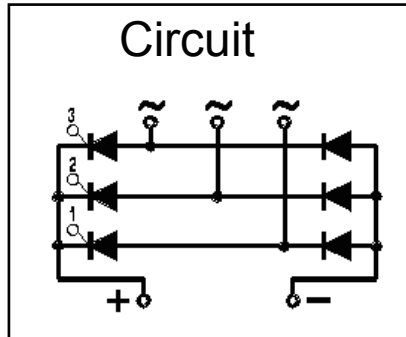
MFS200

Applications

- . Three phase rectifiers for power supplies
- . Rectifiers for DC motor field supplies
- . Battery charger rectifiers
- . Input rectifiers for variable frequency drives

Features

- .Blocking voltage:1200 to 1600V
- .Three Phase Half Controlled
- .Isolated module package



Module Type

TYPE	VRRM	VRSM
MFS 200-12	1200V	1300V
MFS 200-16	1600V	1700V

Maximum Ratings

Symbol	Item	Conditions	Values	Units
ID	Output Current(D.C.)	Three phase, full wave Tc=85°C	200	A
IFSM,ITSM	Surge forward current	t=10mS Tvj =45°C	2240	A
i ² t	Circuit Fusing Consideration	t=10mS Tvj =45°C	25000	A ² s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1min	3000	V
Tvj	Operating Junction Temperature		-40 to +125	°C
Tstg	Storage Temperature		-40 to +125	°C
di/dt	Critical Rate of Rise of On-State Current	Tvj=TvjM, VD=1/2VDRM, IG=100mA	150	A/us
dv/dt	Critical Rate of Rise of Off-State Voltage, min	Tvj=TvjM, VD=2/3VDRM linear voltage rise	500	V/us
Mt	Mounting Torque	To terminals(M 6)	5±15%	Nm
Ms		To heatsink(M 6)	5±15%	Nm
Weight	Module (Approximately)		320	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Units
Rth(j-c)	Thermal Impedance, max	Junction to Case	0.10	°C/W
Rth(c-s)	Thermal Impedance, max	Case to Heatsink	0.03	°C/W

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Electrical Characteristics

Symbol	Item	Conditions	Values			Units
			Min.	Typ.	Max.	
V _{FM} , V _{TM}	Forward Voltage Drop, max	T=25°C I _F =200A	-	-	1.3	V
	Peak On-State Voltage, max.	T=25°C I _T =200A	-	-	1.6	V
I _{RRM} , I _{DRM}	Repetitive Peak Reverse Current, max / Repetitive Peak Off-State Current, max	T _{VJ} =T _{VJM} , V _R =V _{RRM} , V _D =V _{DRM}	-	-	10	mA
V _{TO}	Threshold voltage	T _{VJ} =T _{VJM}	-	-	0.9	V
r _T	Slope resistance, max		-	-	2	mΩ
V _{GT}	Gate Trigger Voltage, max	T _{VJ} =25°C, V _D =6V	-	-	3	V
I _{GT}	Gate Trigger current, max	T _{VJ} =25°C, V _D =6V	-	-	150	mA
V _{GD}	Required DC gate voltage, max	T _{VJ} =125°C, V _D =2/3V _{DRM}	-	-	0.25	V
I _{GD}	Required DC gate current, max	T _{VJ} =125°C, V _D =2/3V _{DRM}	-	-	10	mA
I _L	Latching current, max	T _{VJ} =25°C, R _G =33Ω	-	300	600	mA
I _H	Holding current, max	T _{VJ} =25°C, V _D =6V	-	150	250	mA
t _{gd}	Gate controlled delay time	T _{VJ} =25°C	1			us
t _q	Circuit commutated turn-off time	T _{VJ} =T _{VJM}	100			us

Performance Curves

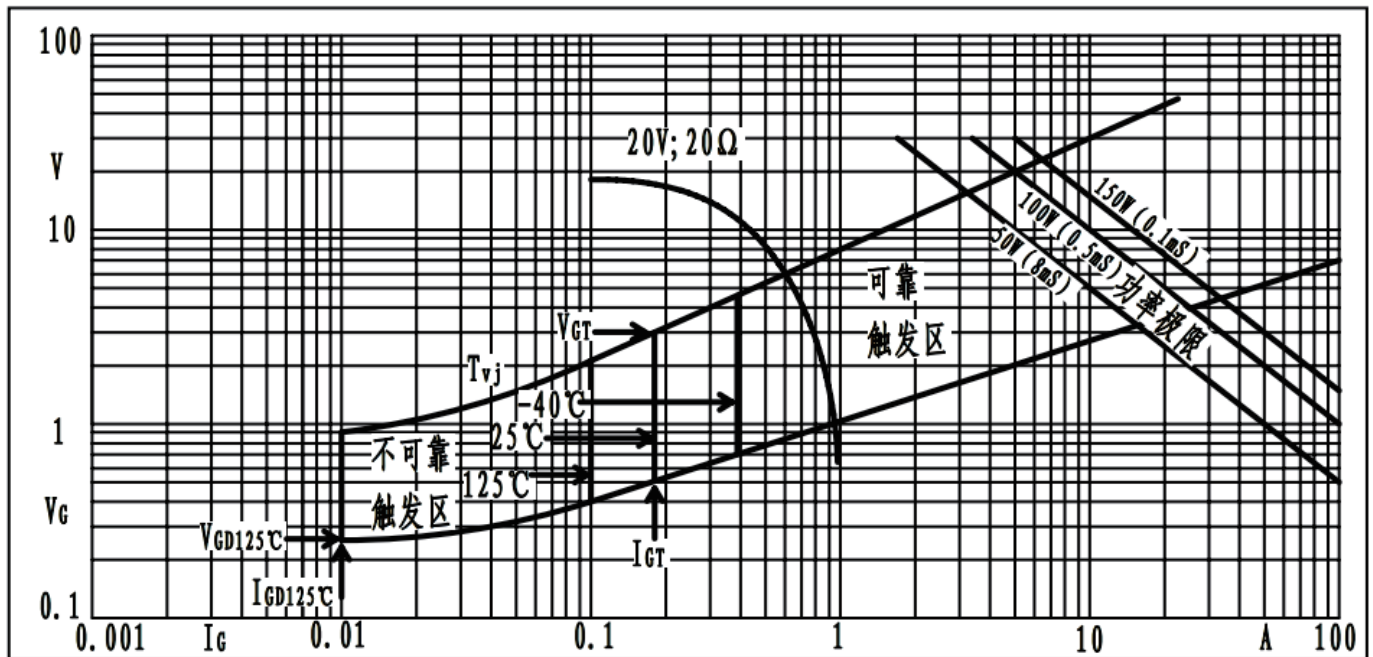


Fig1. Gate trigger characteristics

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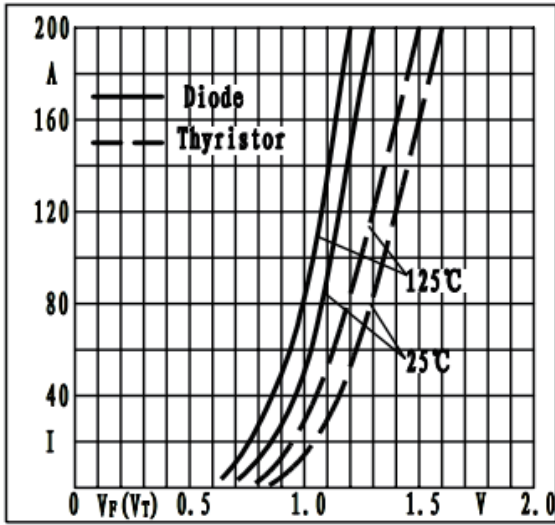


Fig2. Forward characteristics

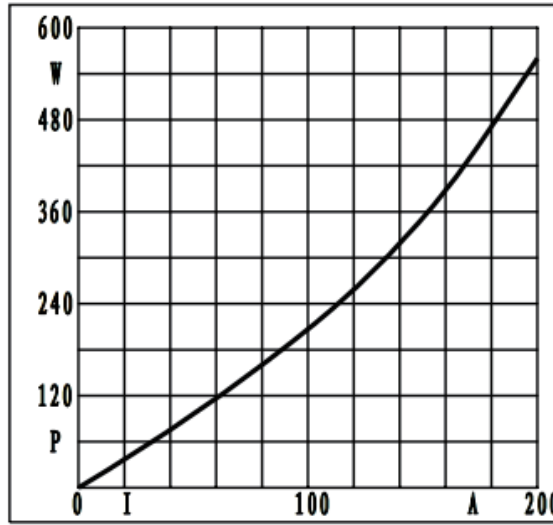


Fig3. Power dissipation

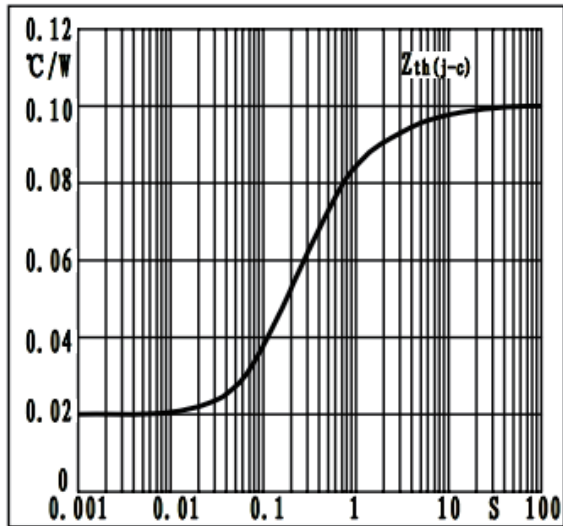


Fig4. Transient thermal impedance

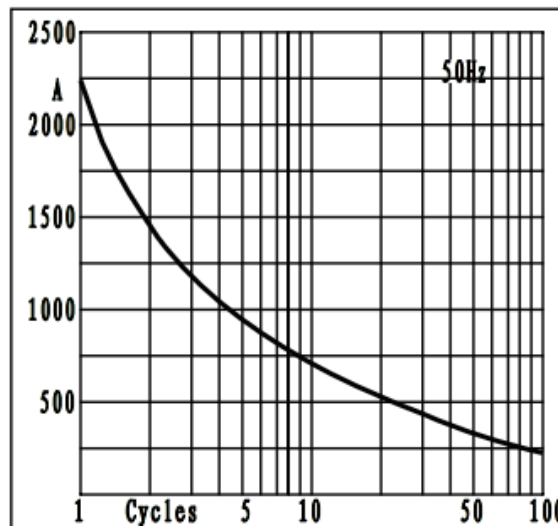


Fig5. Max non-repetitive forward surge current

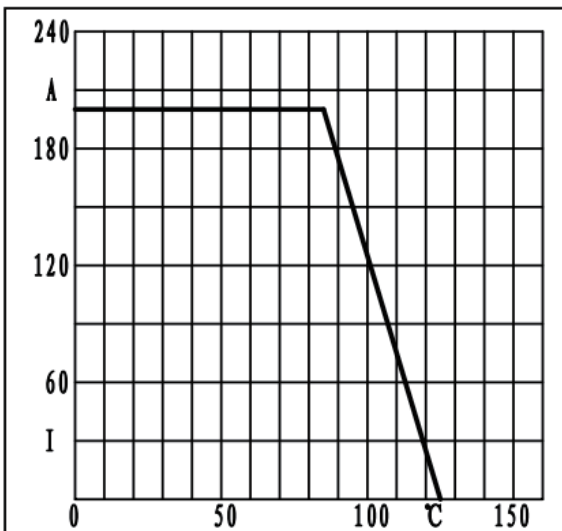
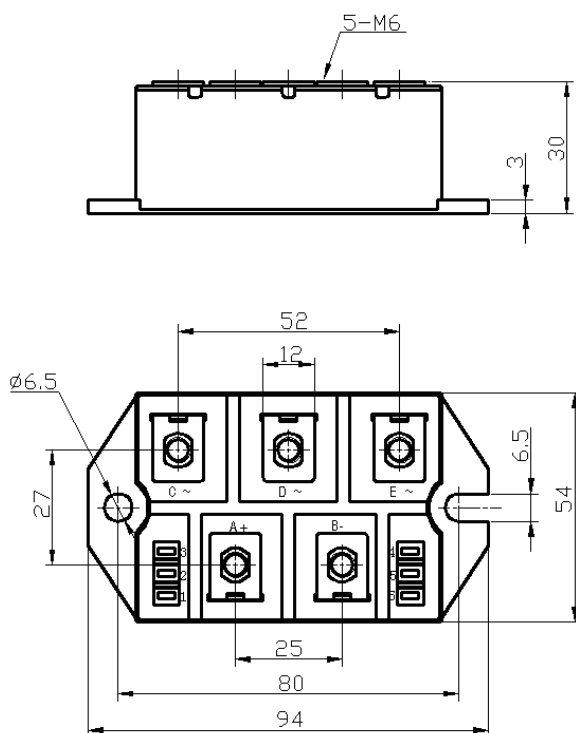


Fig6. Forward current derating curve

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Package Outline Information

CASE: M23



Dimensions in mm