震扬®

ZHEJIANG XINXIN ELECTIRICAL CO., LTD.

产品规格书

Specification of Products

产品名称：可控硅模块

产品型号：MTC90A

ZHEJIANG XINXIN ELECTIRICAL CO., LTD.

电话： 13857067071

邮编： 321404

E-mail:247145749@qq.com

http://www.zjxxdz1.com

拟制	审核	核准
丁国盛	李园利	麻伟阳

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SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j (℃)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled, T_C=85°C	125			90	A
$I_{T(RMS)}$	RMS on-state current	Single side cooled, T_C=85°C	125			141	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	V_{DRM}&V_{RRM} tp=10ms V_{DsM}&V_{RsM}= V_{DRM}&V_{RRM}+200V respectively	125	600		1600	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			10	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=60%V_{RRM}	125			2.00	KA
I^2t	I^2T for fusing coordination					20.4	$A^2 s*10^3$
V_{TO}	Threshold voltage		125			0.80	V
r_T	On-state slop resistance					3.01	$m\Omega$
V_{TM}	Peak on-state voltage	I_{TM}=270A	125			1.4	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=67%V_{DRM}	125			500	V/μs
di/dt	Critical rate of rise of on-state current	From 67%V_{DRM} to 210A,Gate source 1.5A t_r≤0.5 μs Repetitive	125			100	A/μs
I_{GT}	Gate trigger current			30		100	mA
V_{GT}	Gate trigger voltage	V_A=12V, I_A=1A	25	0.8		1.8	V
I_H	Holding current			20		100	mA
V_{GD}	Non-trigger gate voltage	At 67%V_{DRM}	125			0.2	V
$R_{th(j-c)}$	Thermal resistance Junction to heatsink	At 180° sine, Single side cooled				0.280	℃ /W
V_{iso}	Isolation voltage	50Hz, RM. S, t=1min, i_{so}:1mA(MAX)		2500			V
F_m	Thermal connection torque(M5)				2.0		N.m
	Mounting torque(M6)				3.0		N.m
T_{stg}	Stored temperature			-40		140	℃
W_t	Weight				154		g
Outline							

OUTLINE DRAWING & CIRCUIT DIAGRAM

MTC

ZHEJIANG XINXIN ELECTIRICAL CO., LTD.

Rating and Characteristic

Peak On-state Voltage Vs.Peak On-state Current

Max. junction To case Thermai Impedance Vs. Time

Fig. 1

Fig. 2

Max. Power Dissipation Vs.Mean On-state Current

Max. case Temperature Vs.Mean On-state Current

Fig. 3

Fig. 4

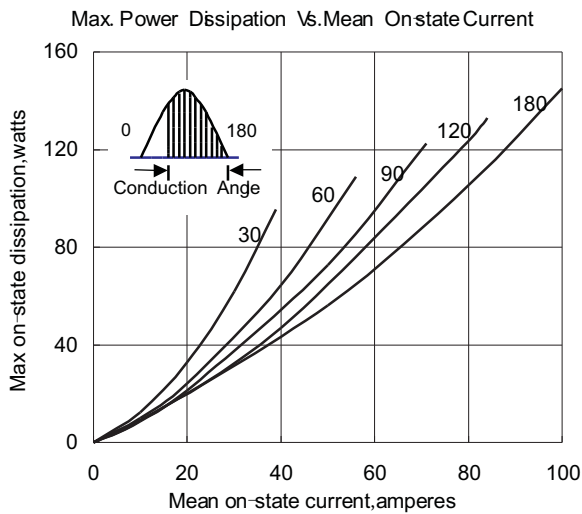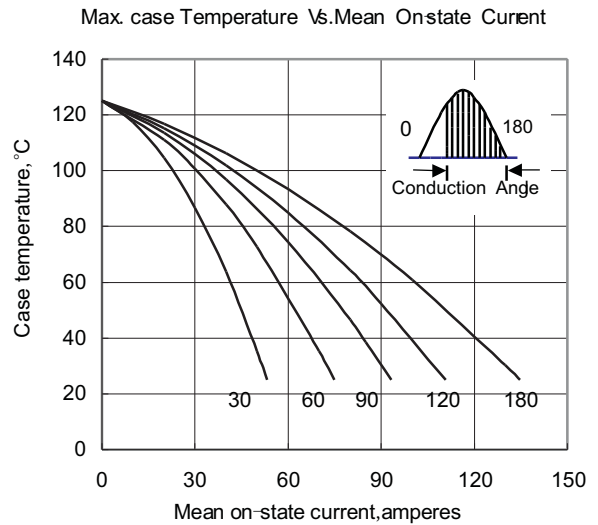Max. Power Dissipation Vs.Mean On-state Current

Max. case Temperature Vs.Mean On-state Current
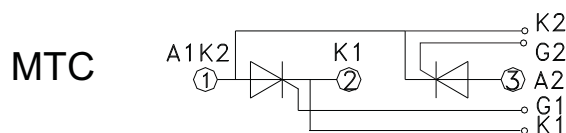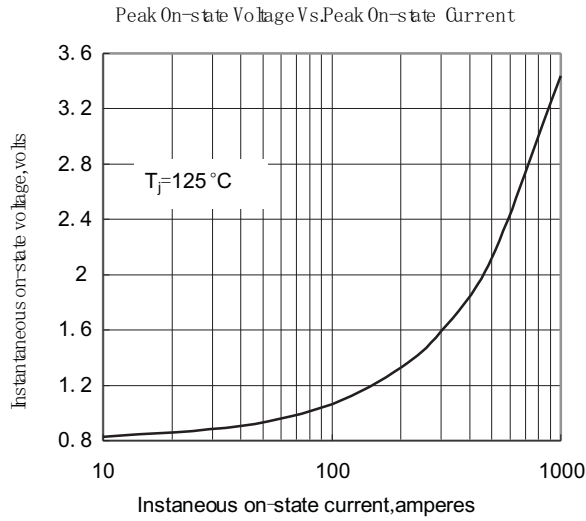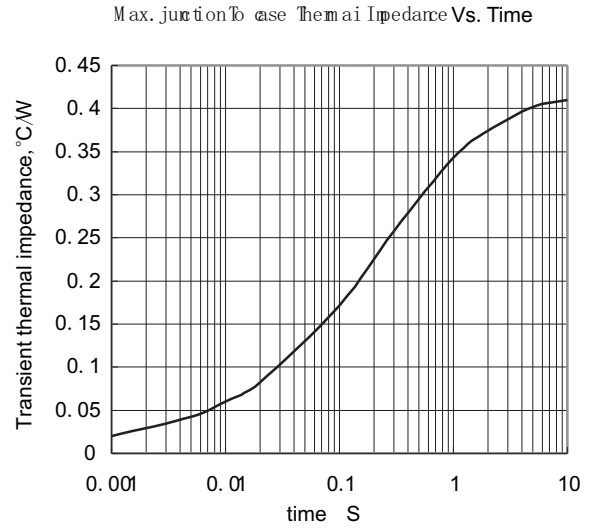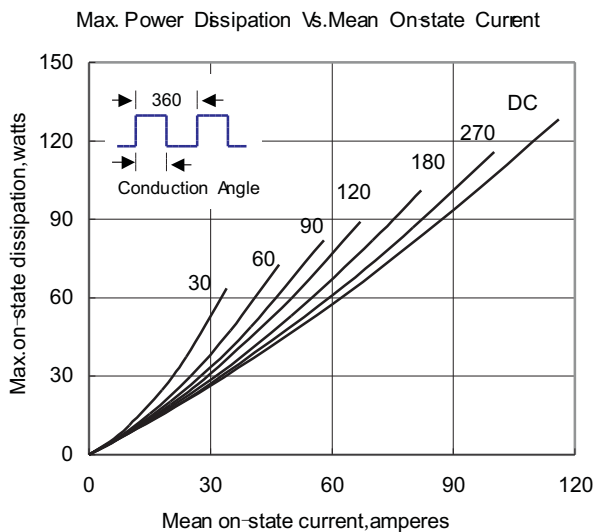
Fig. 5

Fig. 6

Rating and Characteristic

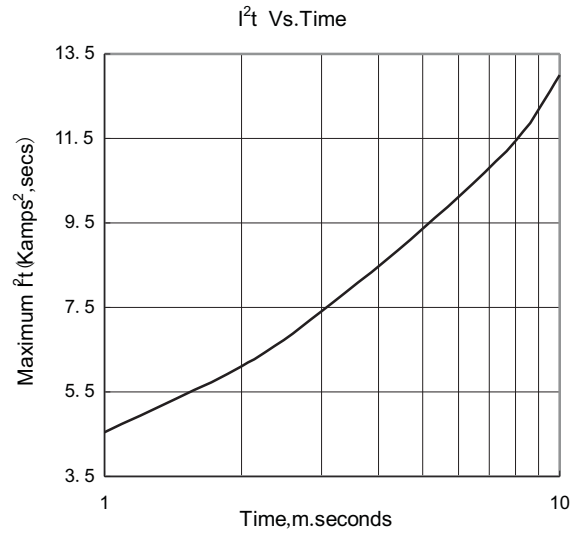**Surge Current Vs. Cycles**

Total peak half-sine surge current,kA vs Cycles at 50Hz

Fig. 7

I²t Vs.Time

Maximum I²t (Kamps², secs) vs Time, m.seconds

Fig. 8

Gate characteristic at 25 junction temperature

Gate voltage, V_{GT} V vs Gate current, I_{GT} A

P_{GM} 50W
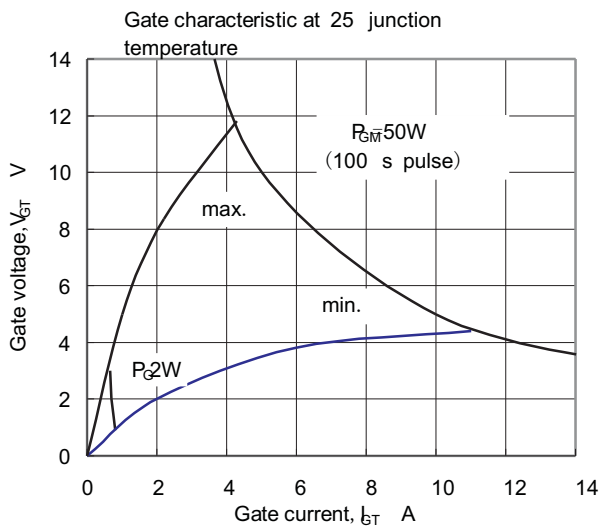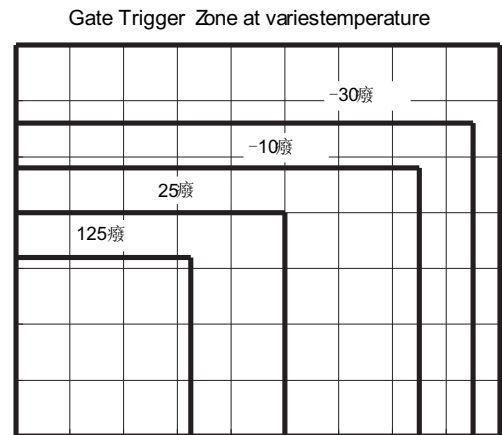（100 s pulse）

max.

min.

P_{G} 2W

Fig. 9

Gate Trigger Zone at variestemperature

−30℃
−10℃
25℃
125℃
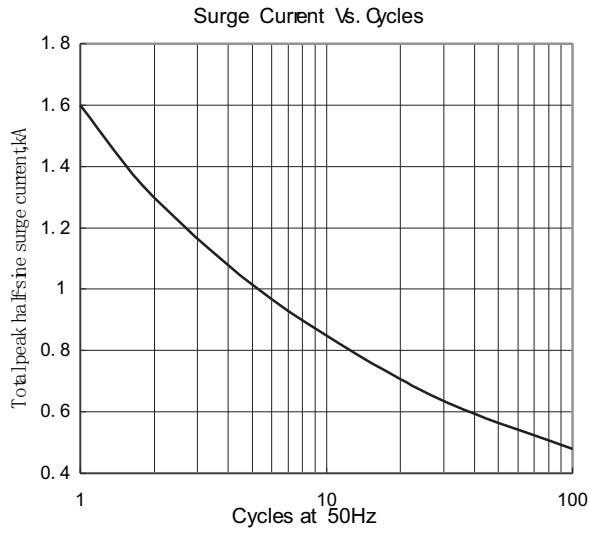
Fig. 10

Outside Dimension

3M5 20 20

36

29

6

80±0.2

92

2Φ6.5

25