ShiLing® 浙江世菱半导体有限公司
ZHEJIANG SHILING SEMICONDUCTOR CO.,LTD.

产品规格书

Specifcation of products

产品名称:可控硅模块

产品型号:MFC500A-Y10

浙江世菱半导体有限公司
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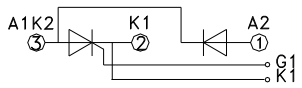
版本号:05 更新日期:2023.8

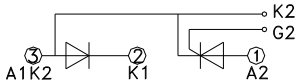
SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(℃)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$ $I_{F(AV)}$	Mean on-state current	180° half sinewave 50Hz Single side cooled, T_C=85°C	125			500	A
$I_{T(RMS)}$	RMS on-state current	Single side cooled, T_C=85°C	125			785	A
V_{DRM} V_{RRM}	Repetitive peakoff-state voltage Repetitive peak reverse voltage	V_{DRM}&V_{RRM} tp=10ms V_{DSM}&V_{RSM}= V_{DRM}&V_{RRM}+200V respectively	125	600		1800	V
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			40	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=60%V_{RRM}	125			16.0	KA
I^2t	I^2T for fusing coordination					1310	A^2s*10^3
V_{TO}	Threshold voltage		125			0.80	V
r_T	On-state slop resistance					0.34	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=1500A	125			1.5	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=67%V_{DRM}	125			800	V/μs
di/dt	Critical rate of rise of on-state current	From 67%V_{DRM} to 1500A,Gate source 1.5A t_r≤0.5μs Repetitive	125			150	A/μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	30		200	mA
V_{GT}	Gate trigger voltage			0.8		3.0	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				0.065	℃/W
V_{iso}	Isolation voltage	50Hz, RM.S, t=1min, I_{iso}:1mA(MAX)		2500			V
F_m	Thermal connection torque(M10)				9.0		N.m
	Mounting torque(M6)				5.0		N.m
T_{stg}	Stored temperature			-40		140	℃
W_t	Weight				1575		g
Outline							

OUTLINE DRAWING & CIRCUIT DIAGRAM

MFC



MFC



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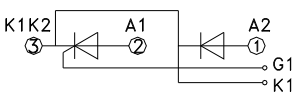

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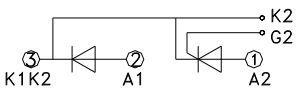

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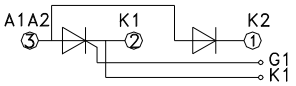


Rating and Characteristic

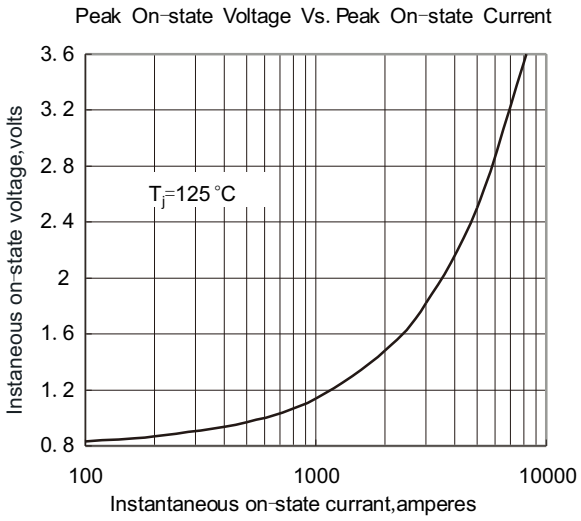


Fig. 1

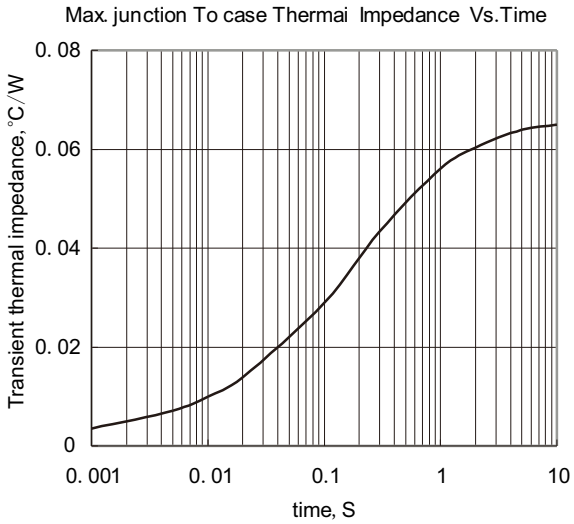
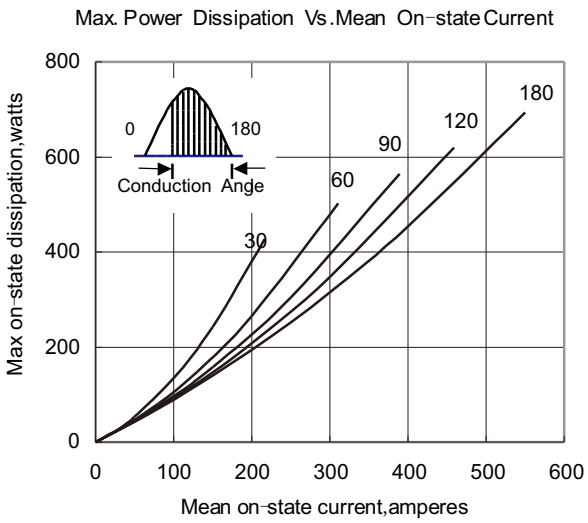


Fig. 2



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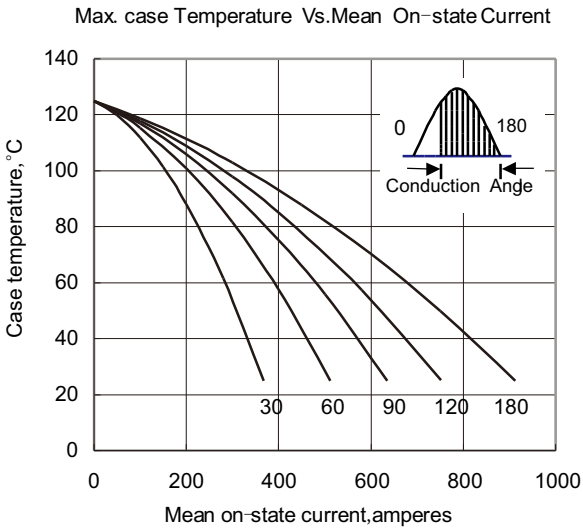

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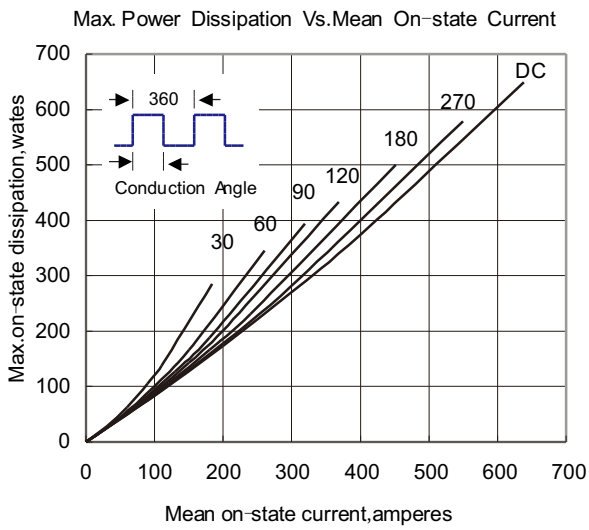

Fig. 5

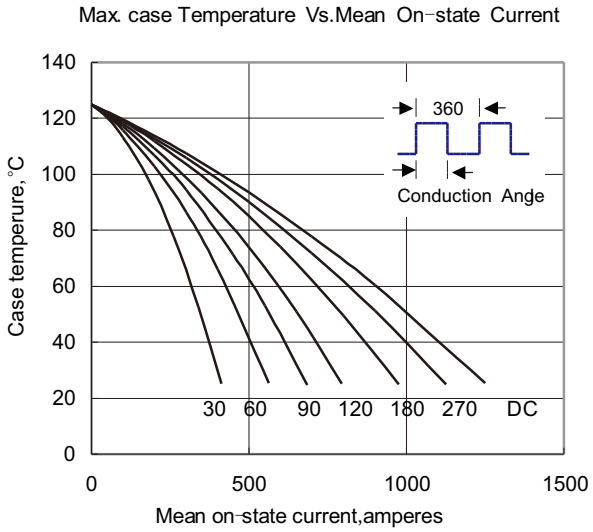

Fig. 6

Rating and Characteristic

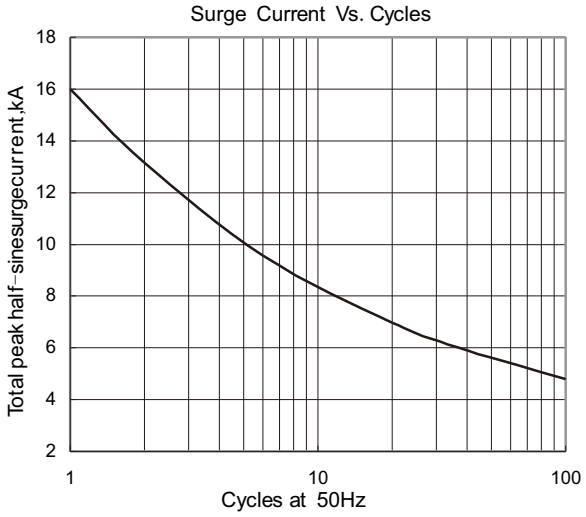

Fig. 7

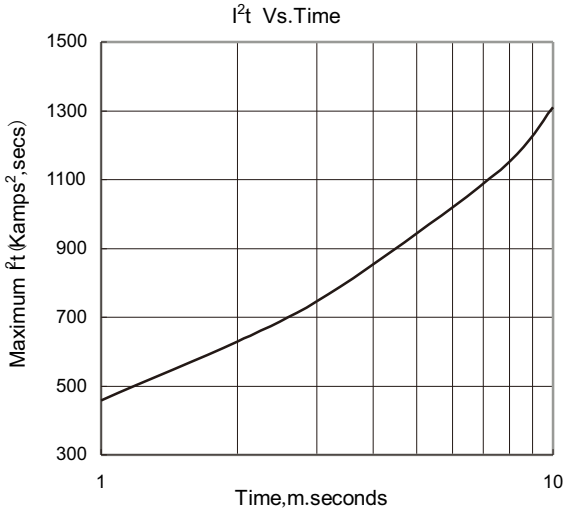

Fig. 8

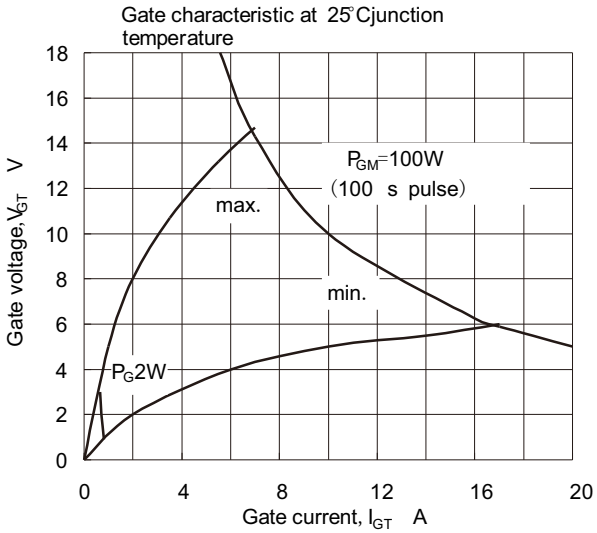

Fig. 9

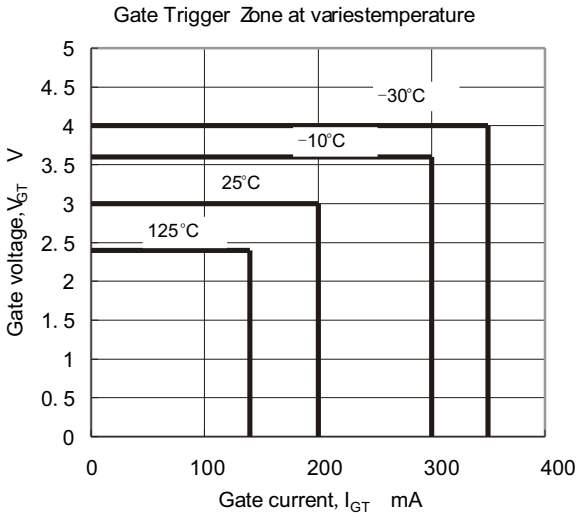

Fig. 10

Outside Dimension