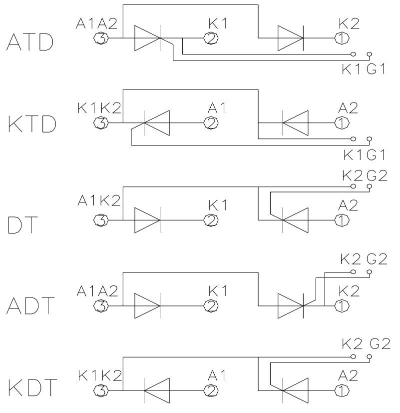
USR Semiconductor Co., Ltd

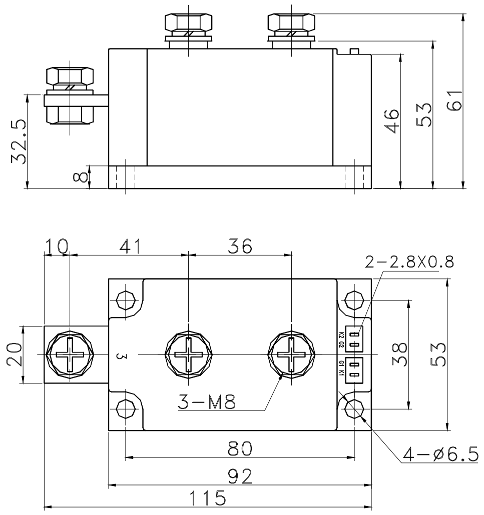
THYRISTOR/DIODE MODULE

TD110 ATD110 KTD110 DT110 ADT110 KDT110

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$ $I_{F(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled,T_C=85°C	125			110	A
$I_{T(RMS)}$	RMS on-state current	Single side cooled,T_C=85°C	125			173	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			12	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=60%V_{RRM}	125			2.40	KA
I^2t	I^2T for fusing coordination					29.3	A^2s*10^3
V_{TO}	Threshold voltage		125			0.8	V
r_T	On-state slop resistance					2.29	mΩ
V_{TM}	Peak on-state voltage	I_{TM}=330A	125			1.69	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 330A, Gate source 1.5A t_r≤0.5μs Repetitive	125			100	A/μs
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	30		100	mA
V_{GT}	Gate trigger voltage			1.0		2.0	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 180^0 sine, Single side cooled				0.250	°C /W
V_{iso}	Isolation voltage	50Hz,R.M.S,t=1min,I_{iso}:1mA(MAX)		2500			V
F_m	Thermal connection torque(M5)				0.2		N·m
	Mounting torque(M6)				0.3		N·m
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				160		g
Outline	202F3						

OUTLINE DRAWING & CIRCUIT DIAGRAM





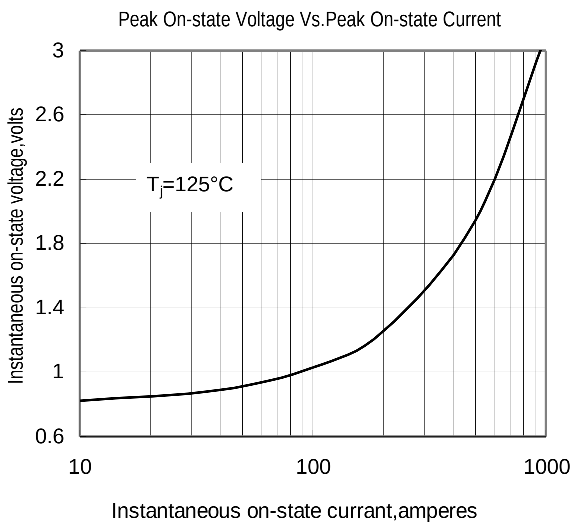

Peak On-state Voltage Vs.Peak On-state Current

Fig.1

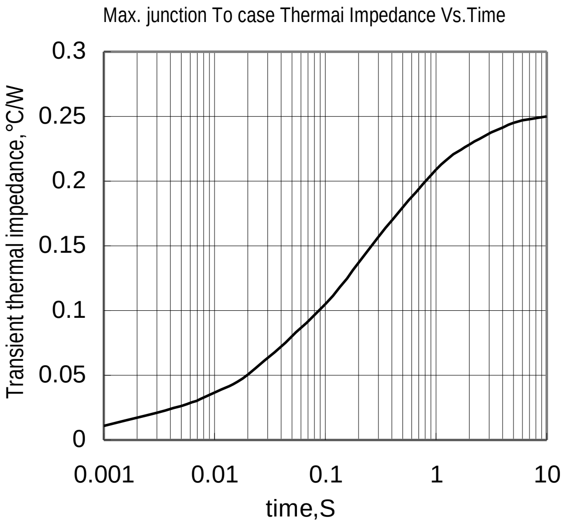

Max. junction To case Thermai Impedance Vs.Time

Fig.2

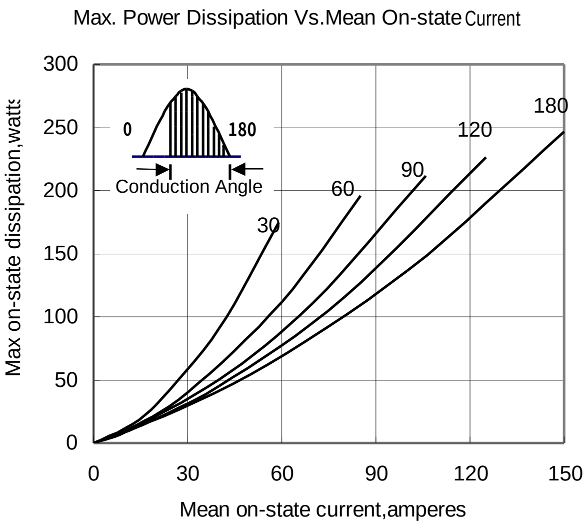

Max. Power Dissipation Vs.Mean On-state Current

Fig.3

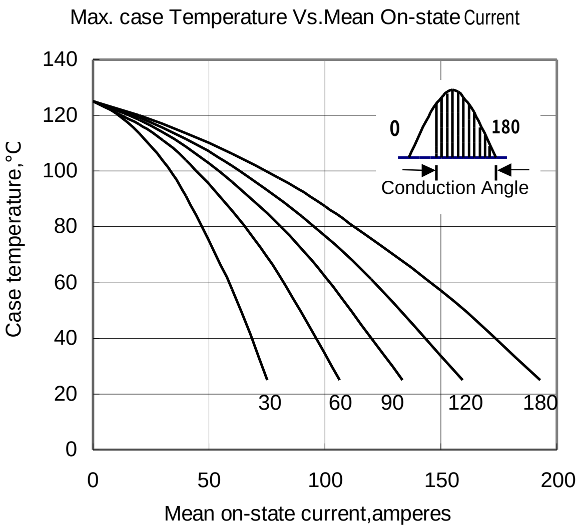

Max. case Temperature Vs.Mean On-state Current

Fig.4

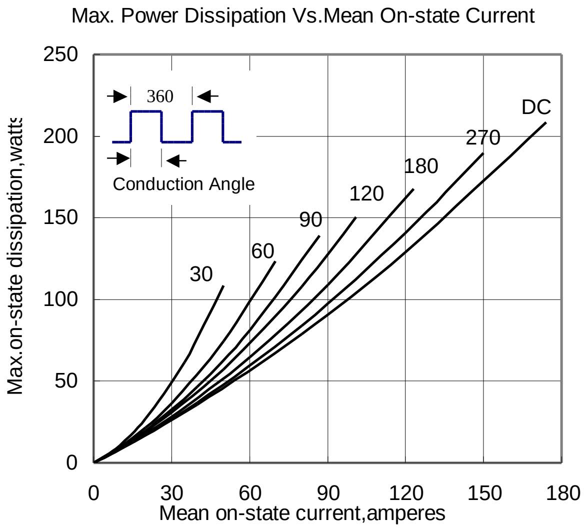

Max. Power Dissipation Vs.Mean On-state Current

Fig.5

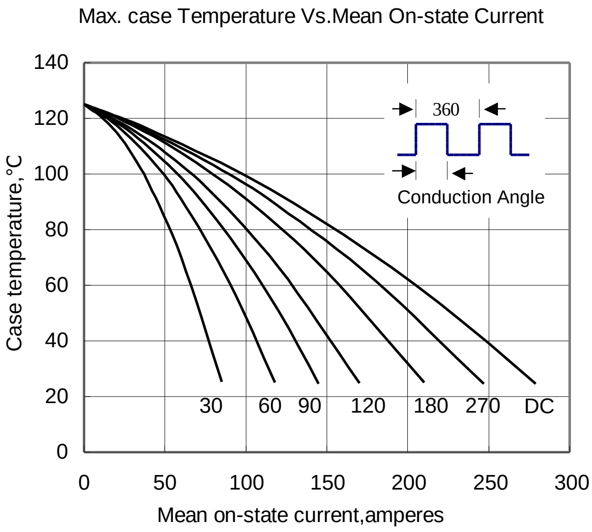

Max. case Temperature Vs.Mean On-state Current

Fig.6

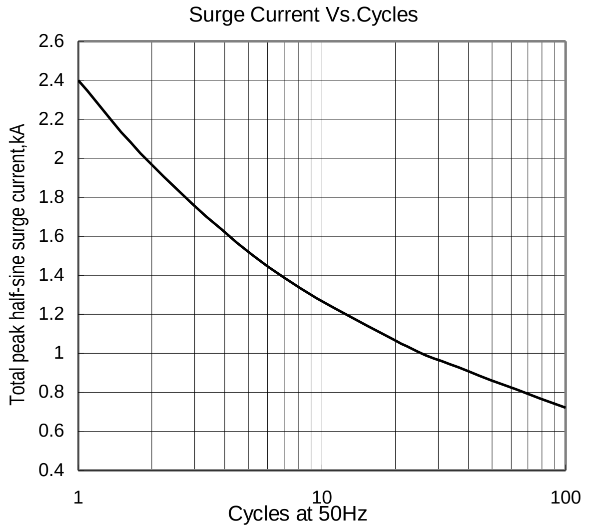


Fig.7

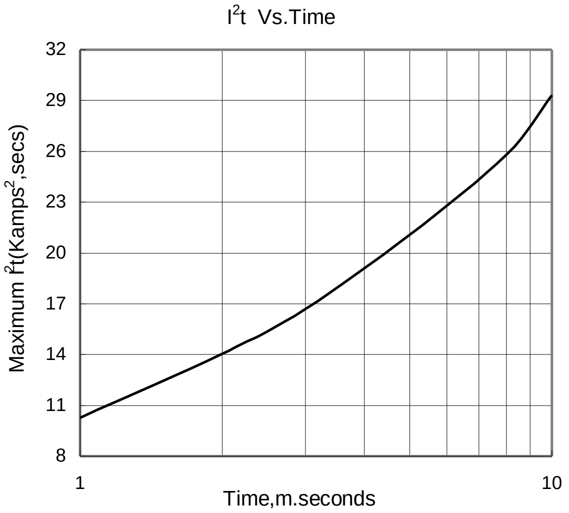


Fig.8

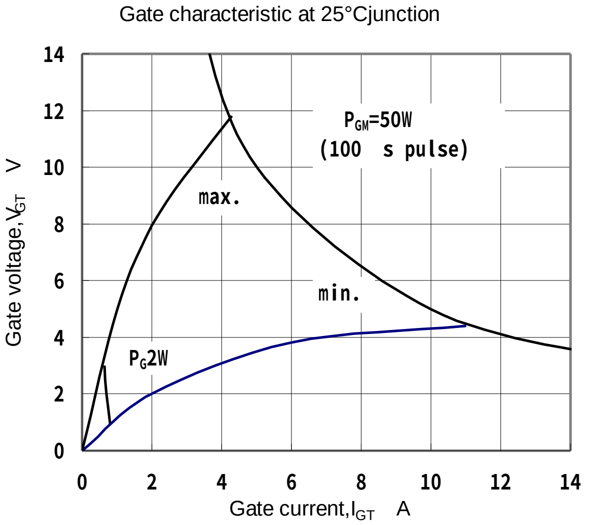


Fig.9

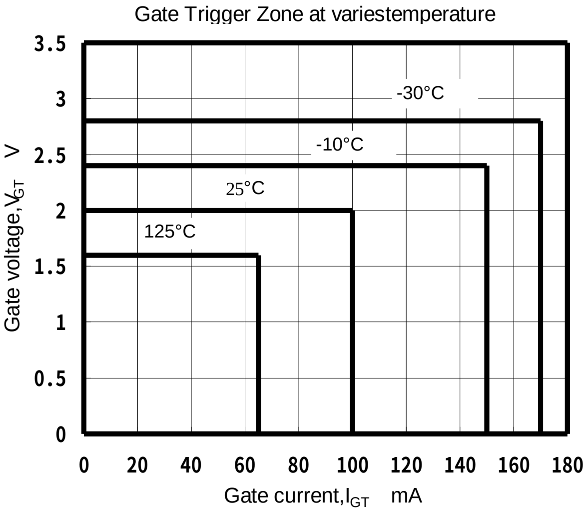


Fig.10