Y30KPA

PHASE CONTROL THYRISTOR

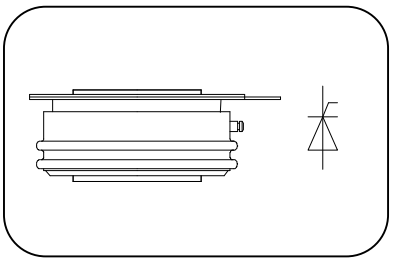
Features:

- **n** Center amplifying gate
- **n** Metal case with ceramic insulator
- **n** Low on-state and switching losses

Typical Applications

- **n** AC controllers
- **n** DC and AC motor control
- **n** Controlled rectifiers

$I_{T(AV)}$	945A
V_{DRM}/V_{RRM}	200~600V
I_{TSM}	11.3 KA
I^2t	638 10^3A^2S



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled, T_{hs}=55°C	125			945	
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}+100V	125	200		600	V
I_{DRM} I_{RRM}	Repetitive peak current	V_{DM}= V_{DRM} V_{RM}= V_{RRM}	125			20	mA
I_{TSM}	Surge on-state current	10ms half sine wave V_R=0.6V_{RRM}	125			11.3	KA
I^2t	I^2T for fusing coordination					638	A^2s*10^3
V_{TO}	Threshold voltage		125			0.83	V
r_T	On-state slop resistance					0.28	mW
V_{TM}	Peak on-state voltage	I_{TM}=1500A, F=8KN	125			1.25	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM}=0.67V_{DRM}	125			300	V/μs
di/dt	Critical rate of rise of on-state current	V_{DM}= 67%V_{DRM} to 1800A, Gate pulse t_r ≤0.5μs I_{GM}=1.5A Repetitive	125			100	A/μs
I_{rm}	Reverse recovery current	I_{TM}=900A,tp=1000μs, di/dt=-20A/μs, V_R =50V	125			137	A
t_{rr}	Reverse recovery time					15	μs
Q_{rr}	Recovery charge					1027	μC
I_{GT}	Gate trigger current	V_A=12V, I_A=1A	25	35		250	mA
V_{GT}	Gate trigger voltage			0.8		2.5	V
I_H	Holding current			20		200	mA
V_{GD}	Non-trigger gate voltage	V_{DM}=67%V_{DRM}	125	0.25			V
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	At 180^0 sine, double side cooled Clamping force 8KN				0.050	°C /W
F_m	Mounting force			5.3		10	KN
T_{stg}	Stored temperature			-40		140	°C
W_t	Weight				80		g
Outline	KT25aT						

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

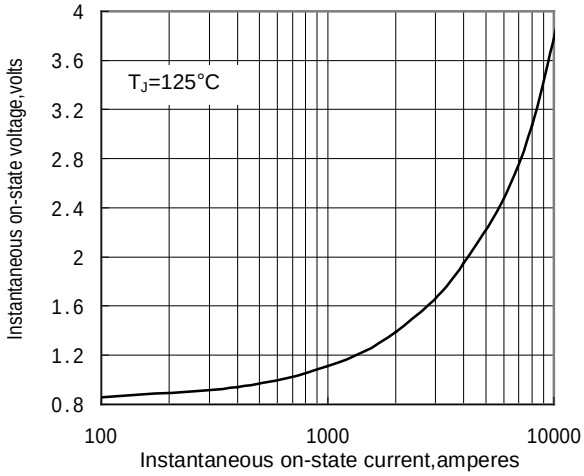


Fig.1

Max. junction To heatsink Thermai Impedance Vs.Time

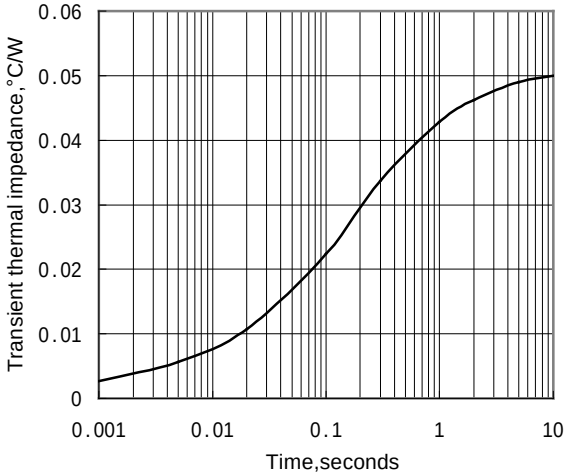


Fig.2

Max. Power Dissipation Vs.Mean On-state Current

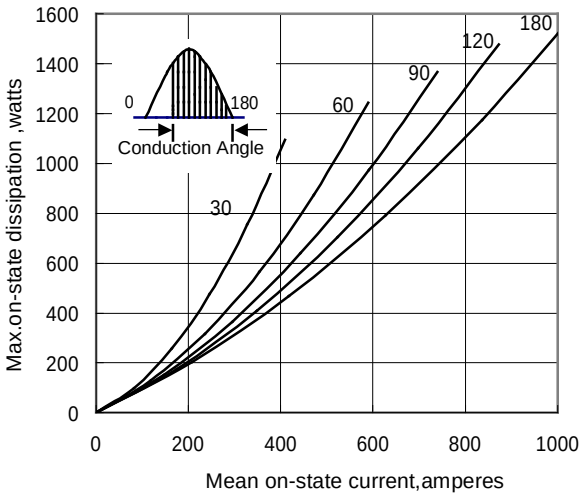


Fig.3

Max. heatsink Temperature Vs.Mean On-state Current

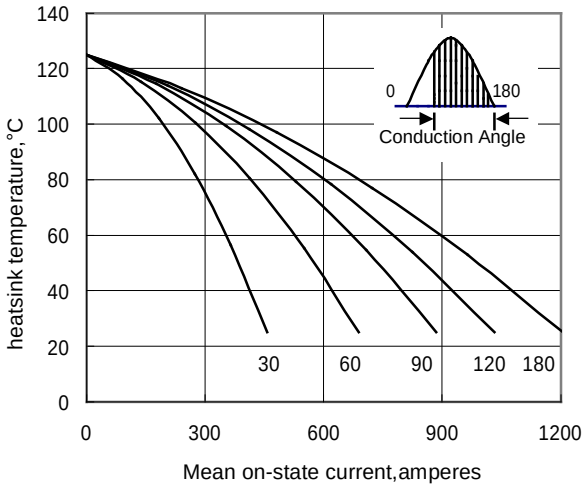


Fig.4

Max. Power Dissipation Vs.Mean On-state Current

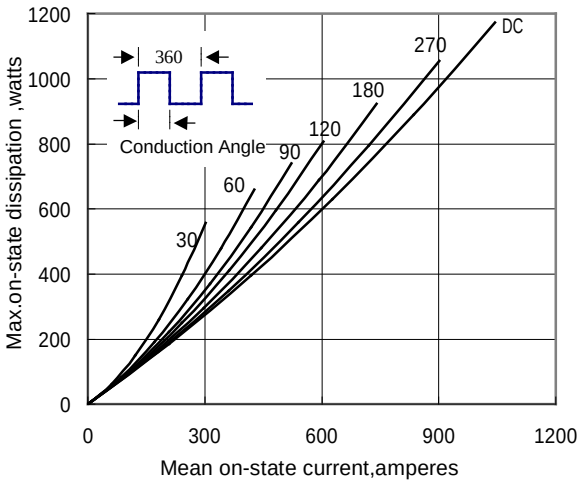


Fig.5

Max. heatsink Temperature Vs.Mean On-state Current

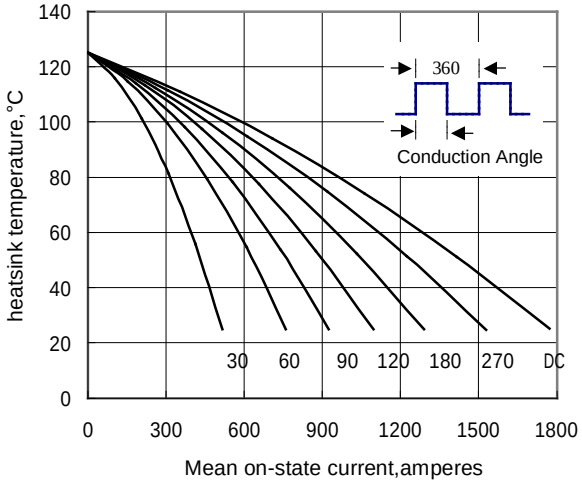


Fig.

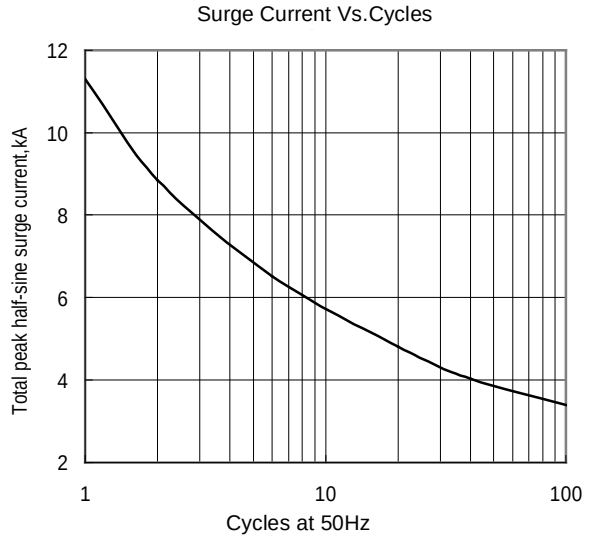


Fig.7

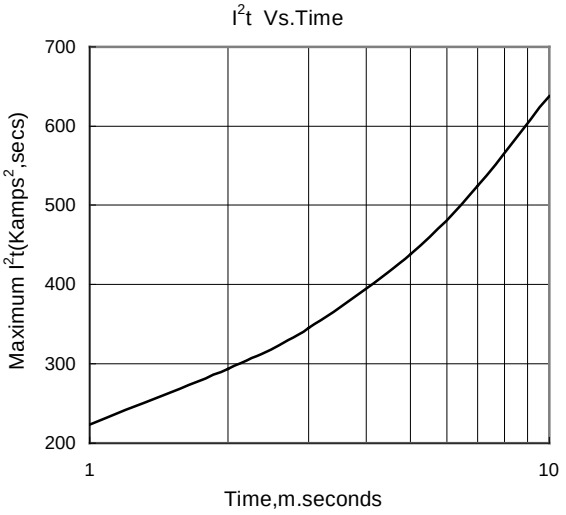


Fig.8

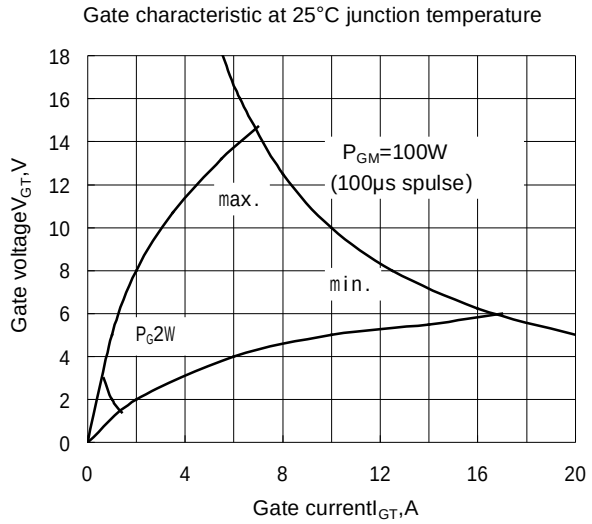


Fig.9

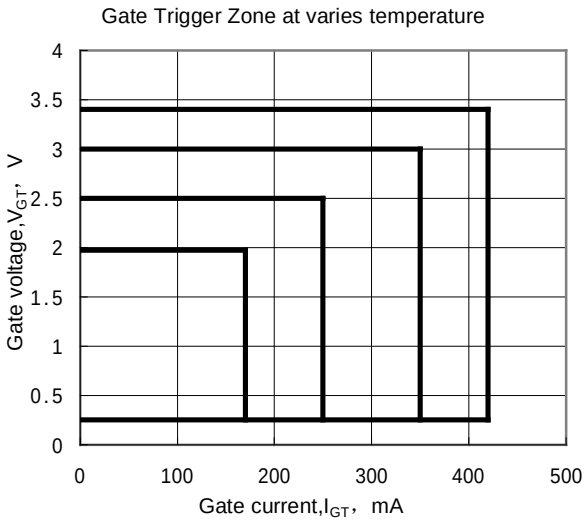


Fig.10

Outline: