



KP3000A-C

PHASE CONTROL THYRISTOR

Features

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

Application

Large power converter
DC and AC switches
Active & Passive inverter

$I_{T(AV)}$	3000 A
V_{DRM}/V_{RRM}	400~1000 V
I_{TSM}	38KA
I^2T	7220 KA ² S

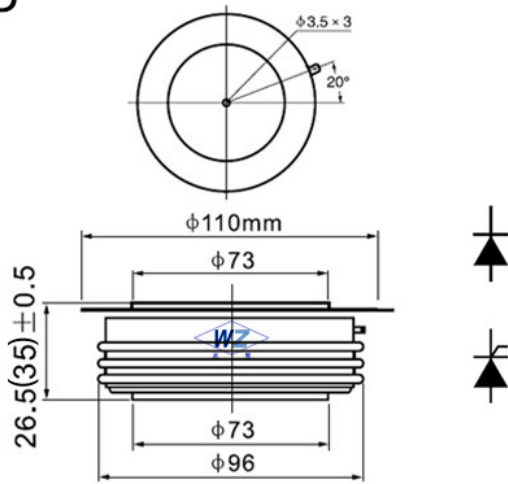
Symb.		parameter	Test Conditions	$T_{J(C)}$	Value	Unit
Current Ratings	$I_{T(AV)}$	Average on-state current	180° half sine wave 50Hz Double side cooled $T_{hs}=75^{\circ}C$	125	3000	A
	$I_{T(AV)}$	Average on-state current	180° half sine wave 50Hz Double side cooled $T_{hs}=55^{\circ}C$	125	3790	A
	I_{TSM}	Surge on-state current	10ms half sine wave $VR=0.6VRRM$	125	38	KA
	I^2t	I^2T for fusing coordination		125	7220	KA ² S
Characteristics	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	400-1000	V
	I_{DRM} I_{RRM}	Repetitive peak current	$V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$	125	Max.200	mA
	V_{TO}	Threshold voltage		125	Max.0.84	V
	V_{TM}	Threshold voltage	$I_{TM}=5000A, F=40KN$	25	Max.2.20	V
	r_T	On-state slop resistance		125	Max.0.09	mΩ
	I_H	Holding current	$V_A=12V, I_A=1A$	25	20-300	mA
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%VDRM$	125	Max.300	V/μs
	di/dt	Critical rate of rise of on-state current	$VDM=67\%VDRM$ to 600A, Gate pulse $tr \leq 0.5\mu s$ $IGM=1.5A$	125	Max.250	A/μs
	t_{rr}	Reverse recovery time	$I_{TM}=500A, tp=1000\mu s, V_R=50V$	125	24	μs
	Q_{rr}	Reverse Recovery charge	$di/dt=-20A/\mu s$	125	3000	μc
Gate Parameters	I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	40-300	mA
	V_{GT}	Gate trigger voltage		25	0.8-3.0	V
	V_{GD}	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$	125	Min.0.3	V

Thermal & Mechanical Data

Symb.	parameter	Test Conditions	T _{J(c)}	Value	Unit
R _{th(j-h)}	Thermal resistance Junction to heat sink	At 180° sine wave, double side cooled Clamping force 40KN		Max.0.011	°C/W
F _m	Mounting force			35-47	KN
T _{stg}	Stored temperature			-40-140	°C
W _t	Weight			1100	g

Dimensions:

C25



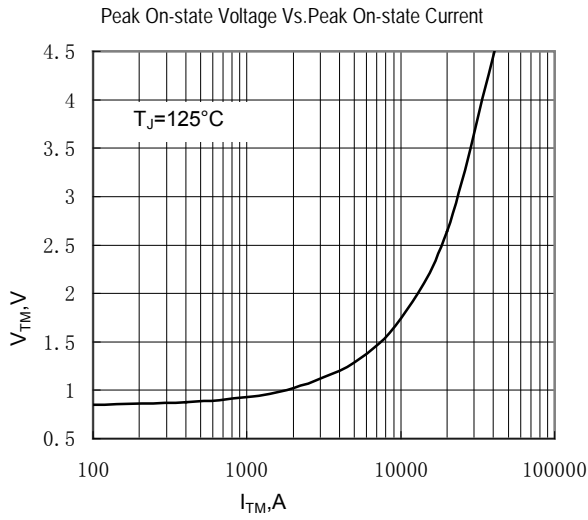


Fig.1

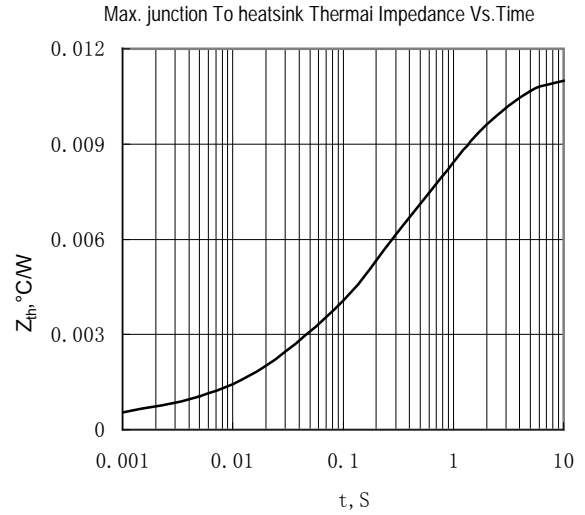


Fig.2

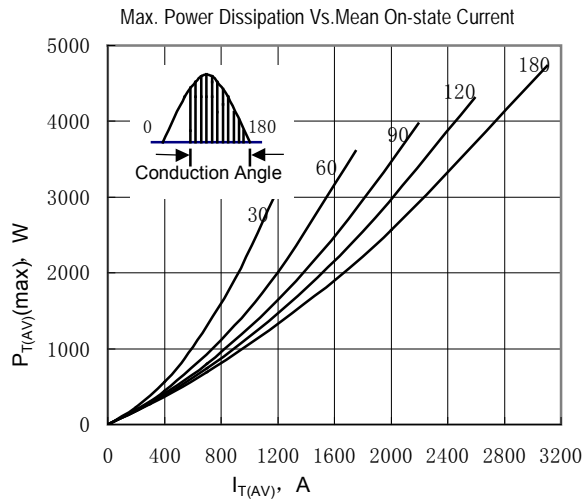


Fig.3

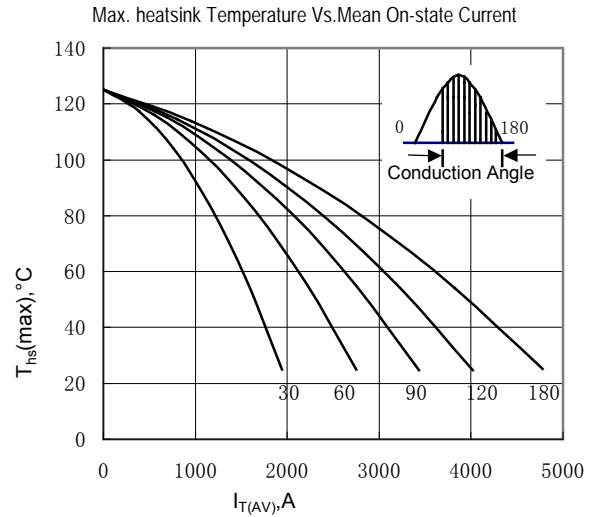


Fig.4

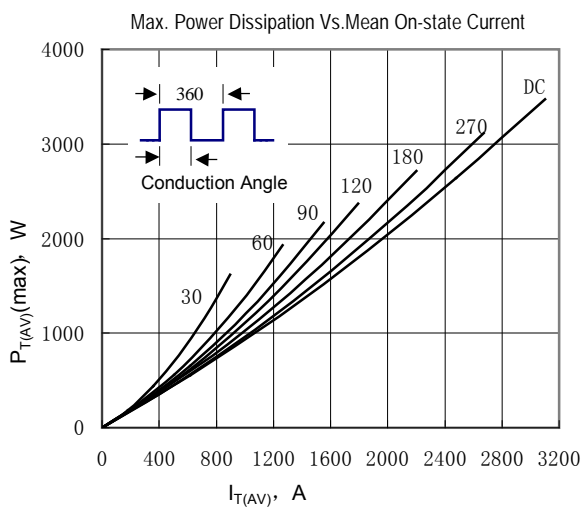


Fig.5

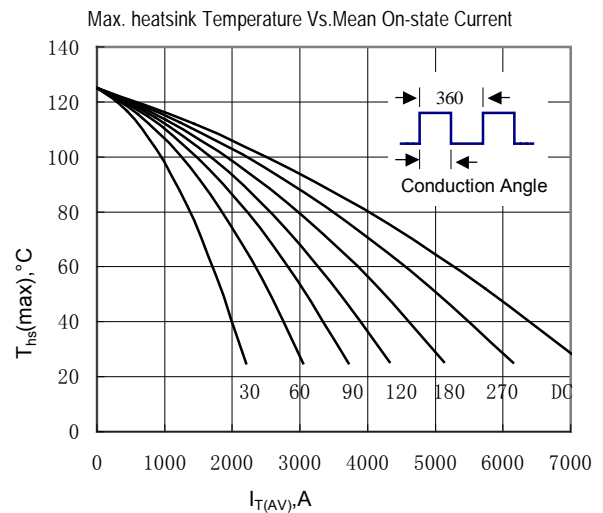


Fig.6

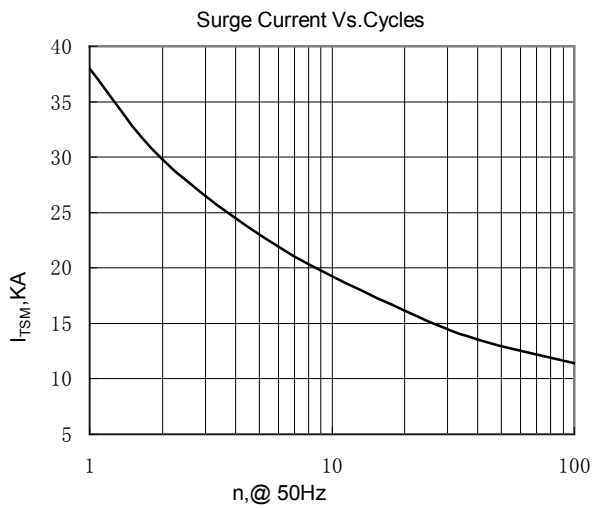


Fig.7

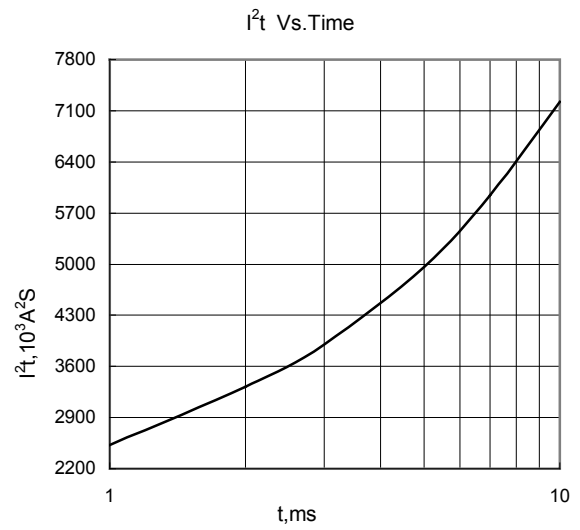


Fig.8

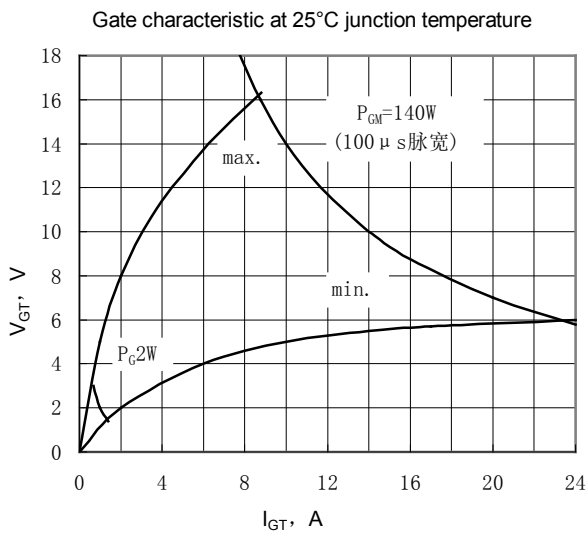


Fig.9

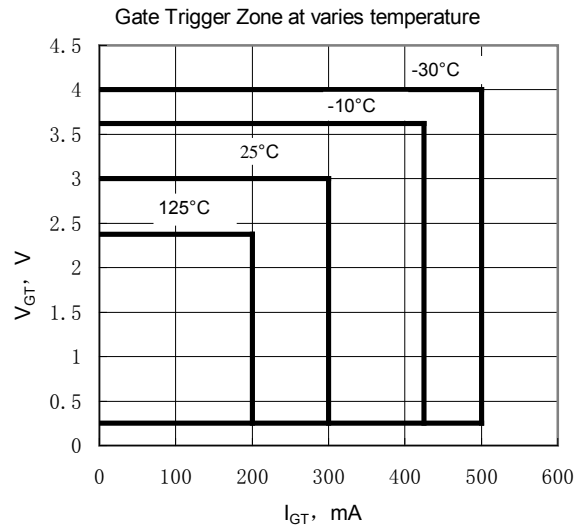


Fig.10

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