

KP1000A-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

$I_{T(AV)}$	1000 A
V_{DRM}/V_{RRM}	400~1000 V
I_{TSM}	13KA
I^2T	845 KA ² S

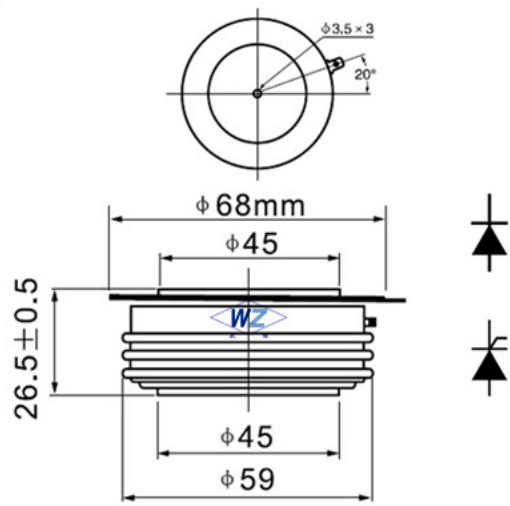
Symb.		parameter	Test Conditions	T _J (°)	Value	Unit
Current Ratings	I _{T(AV)}	Average on-state current	180° half sine wave 50Hz Double side cooled Ths=80°C	125	1000	A
	I _{T(AV)}	Average on-state current	180° half sine wave 50Hz Double side cooled Ths=55°C	125	1361	A
	I _{TSM}	Surge on-state current	10ms half sine wave VR=0.6VRRM	125	13	KA
	I ² t	I2T for fusing coordination		125	845	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.60	mA
	V _{TO}	Threshold voltage		125	Max.0.88	V
	V _{TM}	Threshold voltage	I _{TM} =3000A, F=21KN	25	Max.1.80	V
	r _T	On-state slop resistance		125	Max.0.25	mΩ
	I _H	Holding current	V _A =12V, I _A =1A	25	20-250	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 ≤0.5μs IGM=1.5A	125	Max.150	A/μs
	t _{rr}	Reverse recovery time	I _{TM} =500A,tp=1000μs,V _R =50V di/dt=-20A/μs	125		μs
	Q _{rr}	Reverse Recovery charge		125		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

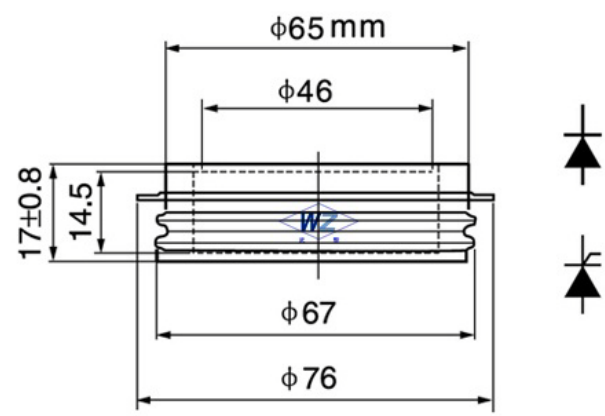
Symb.	parameter	Test Conditions	T _J (°C)	Value	Unit
R _{th(j-h)}	Thermal resistance Junction to heat sink	At 180° sine wave, double side cooled Clamping force 21KN		Max.0.030	°C/W
F _m	Mounting force			18-25	KN
T _{stg}	Stored temperature			-40-140	°C
W _t	Weight			400	g

Dimensions:

C19



C6



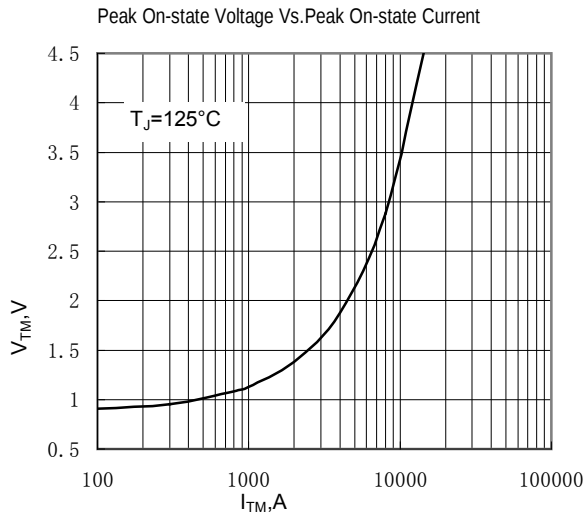


Fig.1

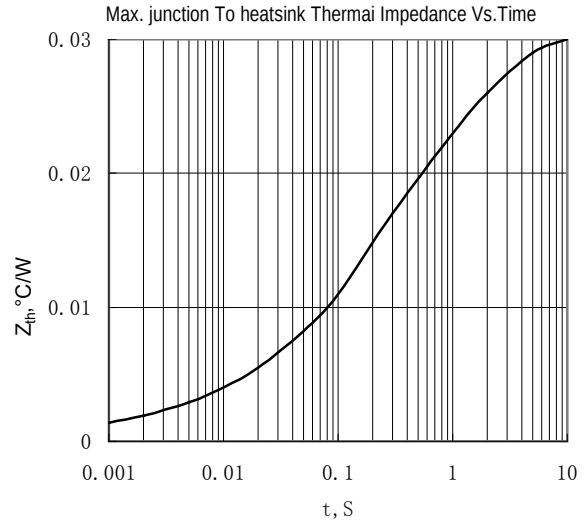


Fig.2

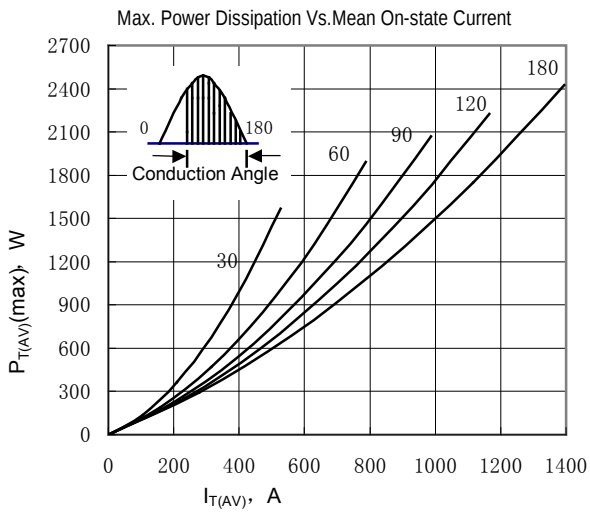


Fig.3

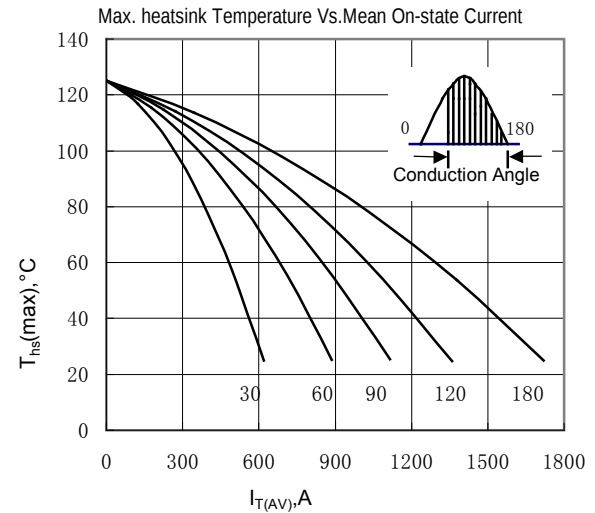


Fig.4

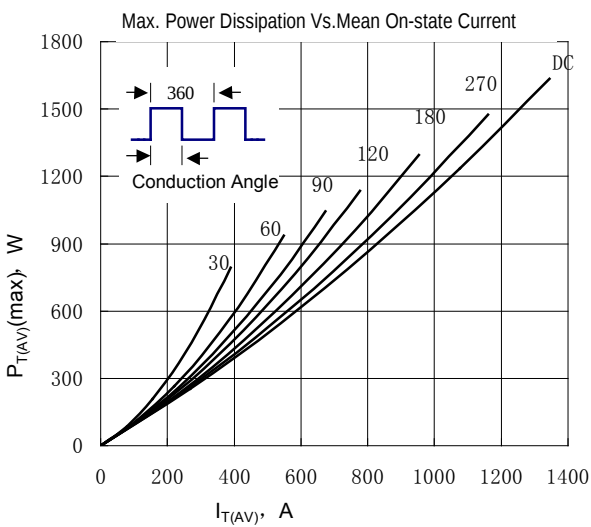


Fig.5

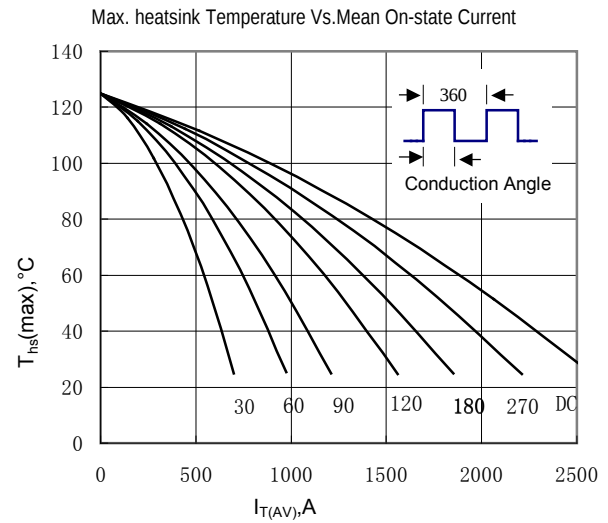


Fig.6

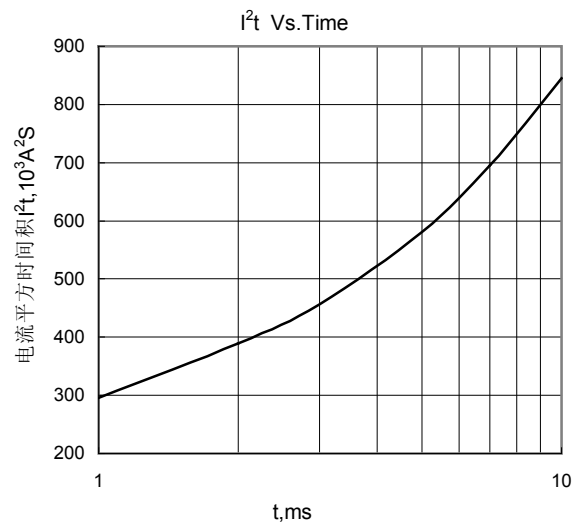
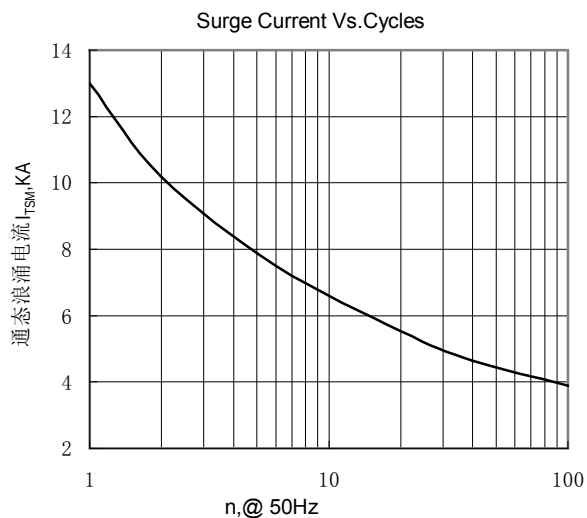


Fig.8

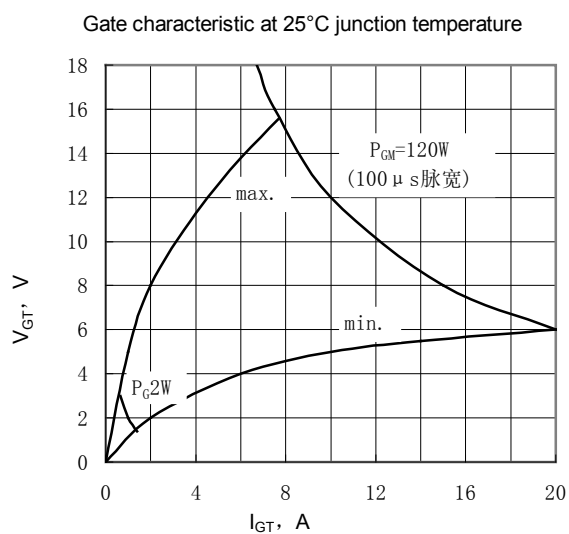


Fig.9

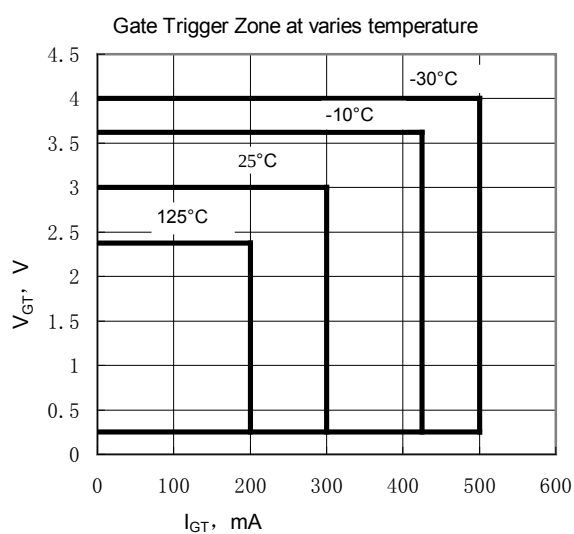


Fig.10

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