

# KP500A-C

## PHASE CONTROL THYRISTOR



### Features

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

### Application

AC controllers  
DC and AC motor control  
Controlled rectifiers

$I_{T(AV)}$	500 A
$V_{DRM}/V_{RRM}$	400~1000 V
$I_{TSM}$	5.0KA
$I^2T$	125 KA <sup>2</sup> S

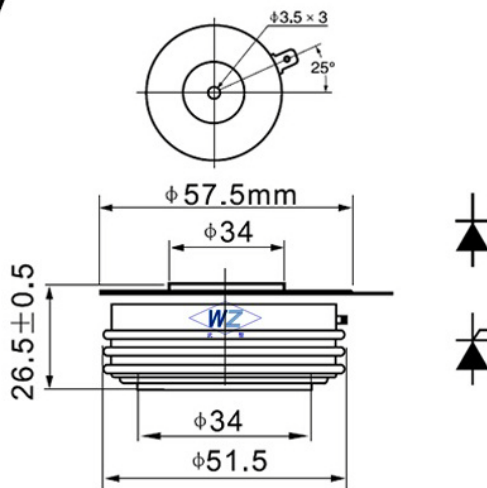
Symb.		parameter	Test Conditions	$T_{J(c)}$	Value	Unit
Current Ratings	$I_{T(AV)}$	Average on-state current	180° half sine wave 50Hz Double side cooled $\theta_{hs}=98^{\circ}C$	125	500	A
	$I_{T(AV)}$	Average on-state current	180° half sine wave 50Hz Double side cooled $\theta_{hs}=55^{\circ}C$	125	874	A
	$I_{TSM}$	Surge on-state current	10ms half sine wave $V_R=0.6V_{RRM}$	125	5.0	KA
	$I^2t$	$I^2T$ for fusing coordination		125	125	KA <sup>2</sup> S
Characteristics	$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM}\&V_{RRM}$ $t_p=10ms$ $V_{DSM}\&V_{RSM}=V_{DRM}\&V_{RRM}+100V$	125	400-1000	V
	$I_{DRM}$ $I_{RRM}$	Repetitive peak current	$V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$	125	Max.40	mA
	$V_{TO}$	Threshold voltage		125	Max.0.89	V
	$V_{TM}$	Threshold voltage	$I_{TM}=900A$ , $F=5.0KN$	25	Max.1.80	V
	$r_T$	On-state slop resistance		125	Max.0.65	m $\Omega$
	$I_H$	Holding current	$V_A=12V$ , $I_A=1A$	25	20-200	ma
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	125	Max.300	V/ $\mu$ s
	di/dt	Critical rate of rise of on-state current	$V_{DM}=67\%V_{DRM}$ to 600A, Gate pulse $t_r \leq 0.5 \mu s$ $I_{GM}=1.5A$	125	Max.100	A/ $\mu$ s
	$t_{rr}$	Reverse recovery time	$I_{TM}=500A$ , $t_p=1000\mu s$ , $V_R=50V$	125		$\mu$ s
	$Q_{rr}$	Reverse Recovery charge	$di/dt=-20A/\mu s$	125		$\mu$ c
Gate Parameters	$I_{GT}$	Gate trigger current	$V_A=12V$ , $I_A=1A$	25	35-250	mA
	$V_{GT}$	Gate trigger voltage		25	0.5-2.5	V
	$V_{GD}$	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$	125	Min.0.3	V

## Thermal & Mechanical Data

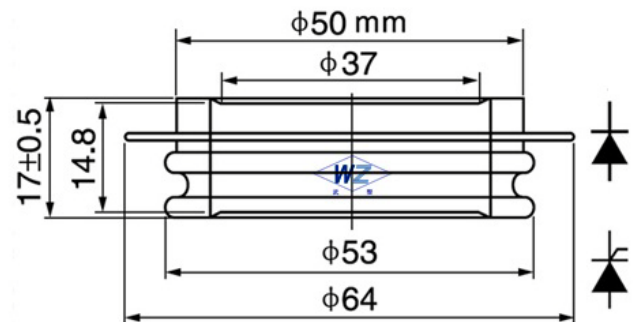
Symb.	parameter	Test Conditions	T <sub>J(c)</sub>	Value	Unit
R <sub>th(j-h)</sub>	Thermal resistance Junction to heat sink	At 180° sine, double side cooled Clamping force 15KN		Max.0.035	°C/W
F <sub>m</sub>	Mounting force			10-20	KN
T <sub>stg</sub>	Stored temperature			-40-140	°C
W <sub>t</sub>	Weight			270	g

## Dimensions:

C17



C4



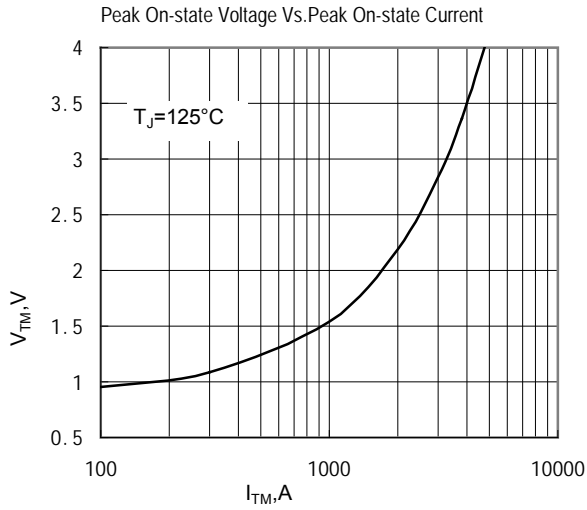


Fig.1

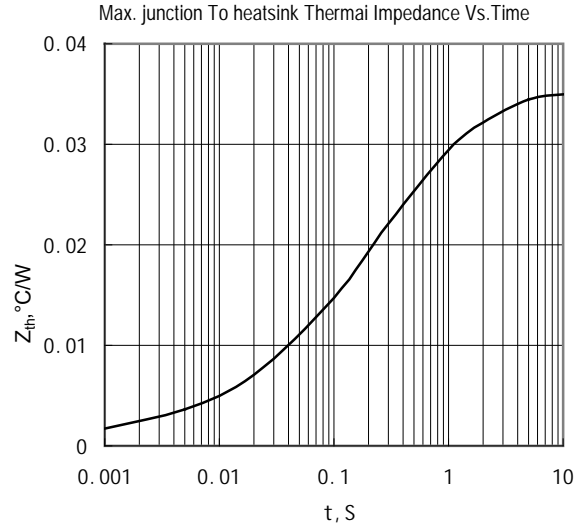


Fig.2

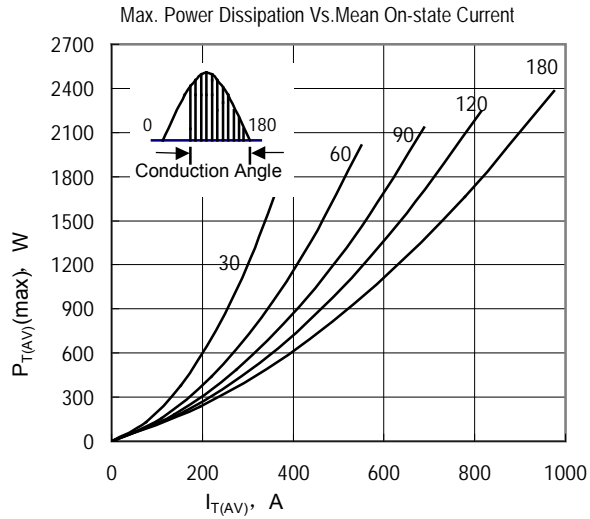


Fig.3

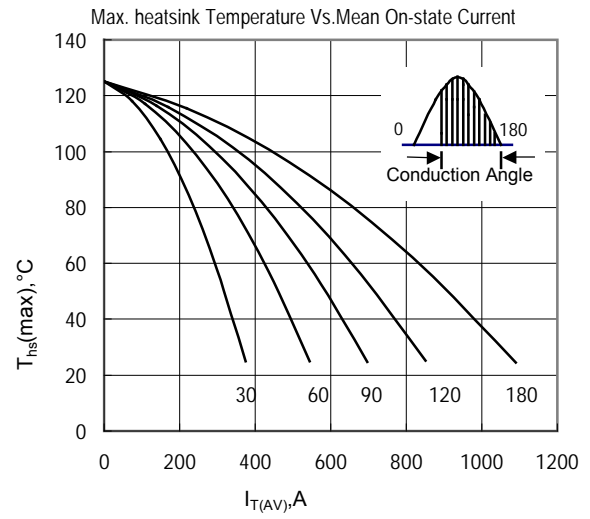


Fig.4

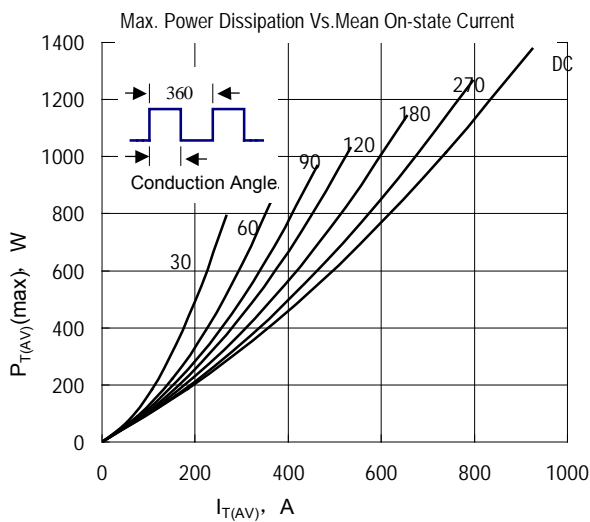


Fig.5

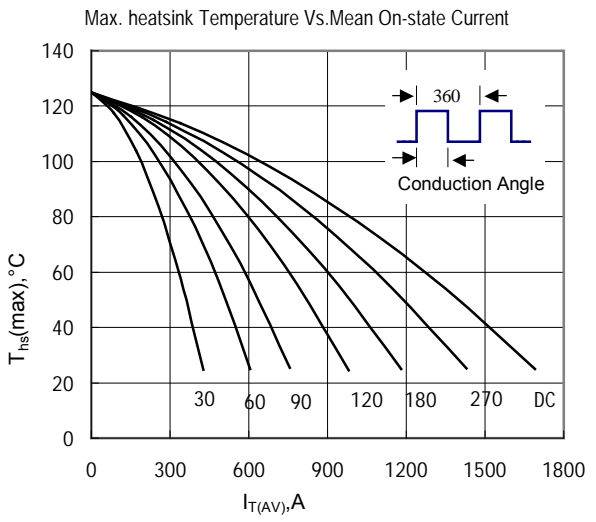


Fig.6

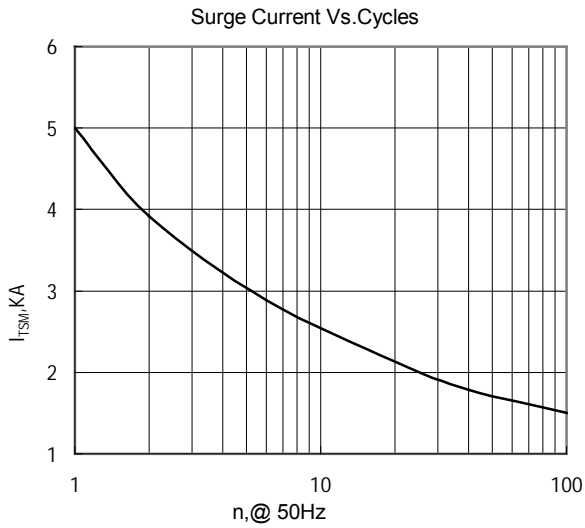


Fig.7

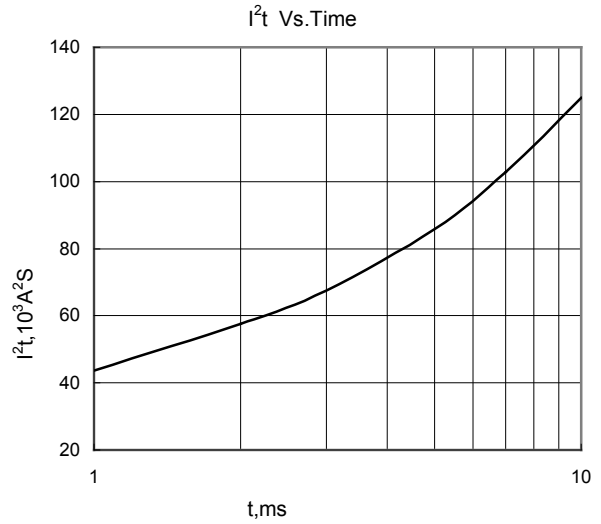


Fig.8

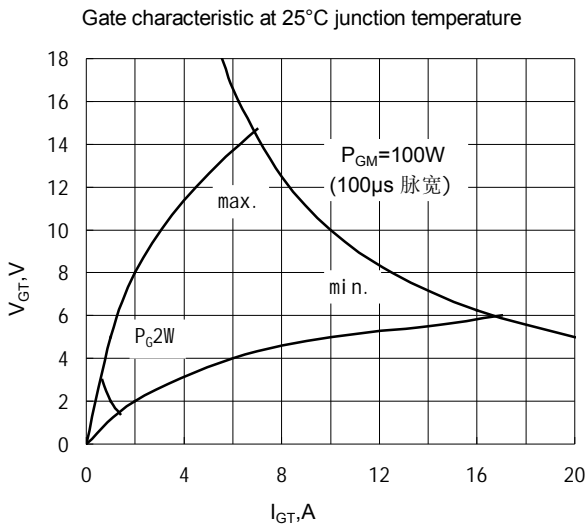


Fig.9

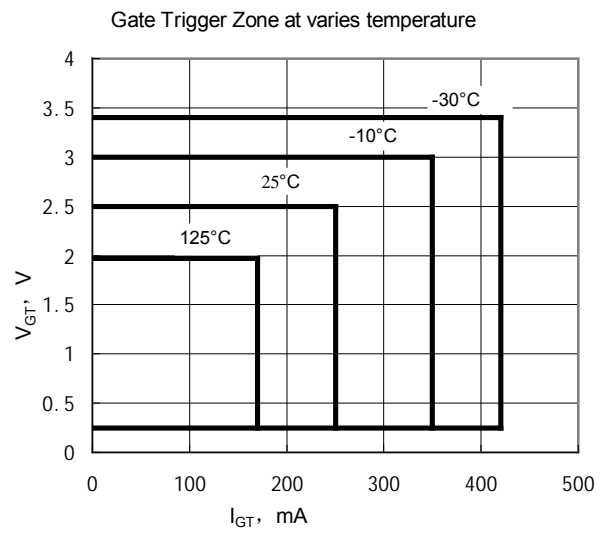


Fig.10

## Wuhan Wuzheng Rectifier Co., Ltd

**Add:** NO. 73 Gaoxin Five Road, East Lake New Technology Development Zone, Wuhan City, Hubei province.

**Tel :** 86-27-87001995

**Fax:** 86-27-87180920

**Email:** info@techele.com

**Web:** www.techele.com/en

cntechele.en.alibaba.com