

# Y65KPE

## PHASE CONTROL THYRISTOR

### Features

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

### Typical Applications

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

$I_{T(AV)}$       **2460A**  
 $V_{DRM}/V_{RRM}$     **1100~1800V**  
 $I_{TSM}$             **35 kA**  
 $I^2t$                 **6125 10<sup>3</sup>A<sup>2</sup>S**



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T <sub>J</sub> (°C)	VALUE			UNIT
				Min	Type	Max	
I <sub>T(AV)</sub>	Mean on-state current	180° half sine wave 50Hz Double side cooled,	125			2890	A
						2460	
						2000	
V <sub>DRM</sub> V <sub>RRM</sub>	Repetitive peak off-state voltage Repetitive peak reverse voltage	V <sub>DRM</sub> &V <sub>RRM</sub> tp=10ms V <sub>DSM</sub> &V <sub>RSM</sub> = V <sub>DRM</sub> &V <sub>RRM</sub> +100V	125	1100		1800	V
I <sub>DRM</sub> I <sub>RRM</sub>	Repetitive peak current	V <sub>DM</sub> = V <sub>DRM</sub> V <sub>RM</sub> = V <sub>RRM</sub>	125			120	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave	125			35	kA
I <sup>2</sup> t	I <sup>2</sup> T for fusing coordination	V <sub>R</sub> =0.6V <sub>RRM</sub>				6125	A <sup>2</sup> s*10 <sup>3</sup>
V <sub>TO</sub>	Threshold voltage		125			0.87	V
r <sub>T</sub>	On-state slop resistance					0.14	m
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =3220A, F=32kN	125			1.32	V
dv/dt	Critical rate of rise of off-state voltage	V <sub>DM</sub> =0.67V <sub>DRM</sub>	125			1000	V/μs
di/dt	Critical rate of rise of on-state current	V <sub>DM</sub> = 67%V <sub>DRM</sub> to3000A, Gate pulse t <sub>r</sub> 0.5μs I <sub>GM</sub> =1.5A	125			200	A/μs
Q <sub>rr</sub>	Recovery charge	I <sub>TM</sub> =2000A, tp=2000μs, di/dt=-20A/μs, V <sub>R</sub> =50V	125		1800		μC
I <sub>GT</sub>	Gate trigger current	V <sub>A</sub> =12V, I <sub>A</sub> =1A	25	40		300	mA
V <sub>GT</sub>	Gate trigger voltage			0.8		3.0	V
I <sub>H</sub>	Holding current			20		300	mA
V <sub>GD</sub>	Non-trigger gate voltage	V <sub>DM</sub> =67%V <sub>DRM</sub>	125	0.3			V
R <sub>th(j-c)</sub>	Thermal resistance Junction to case					0.013	

R<sub>th(c-h)</sub>

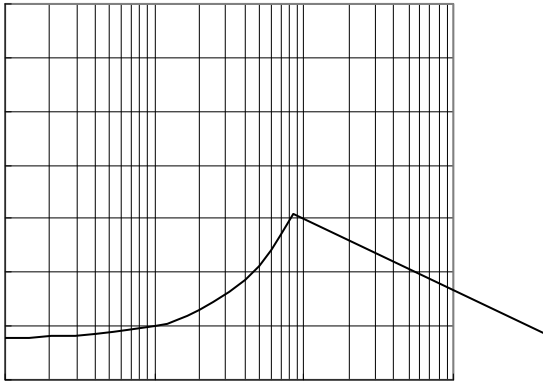


Fig.1

Fig.2

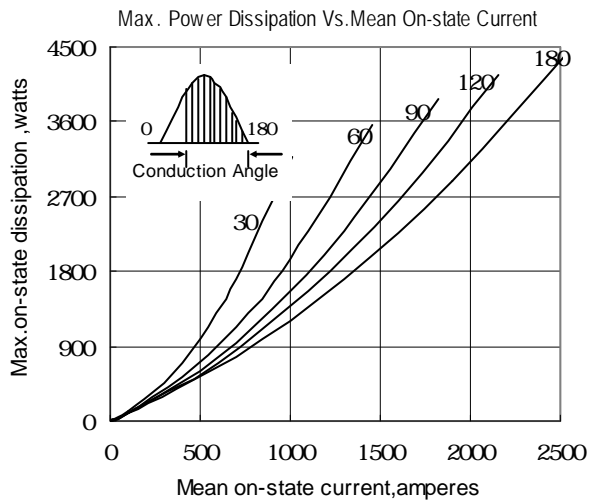


Fig.3

Fig.4

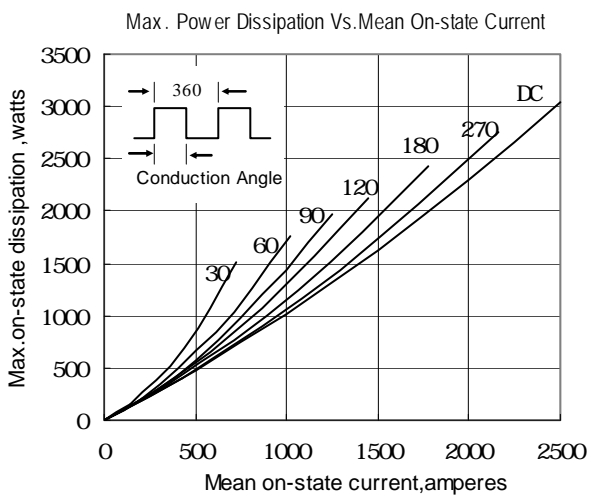


Fig.5

Fig.6

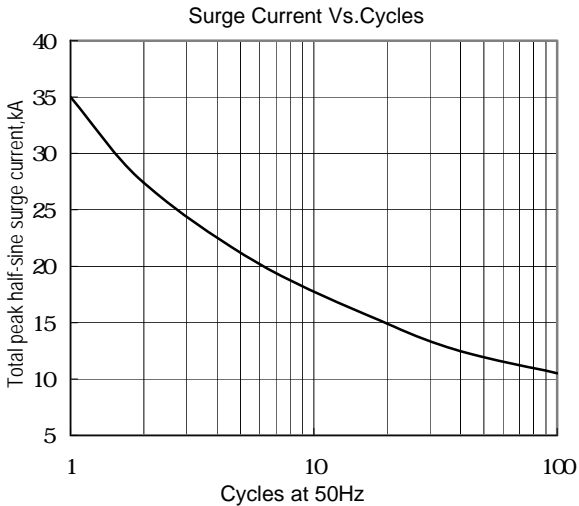


Fig.7

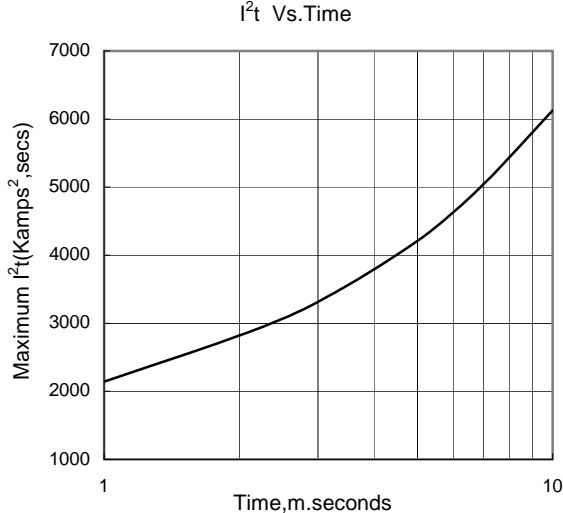


Fig.8

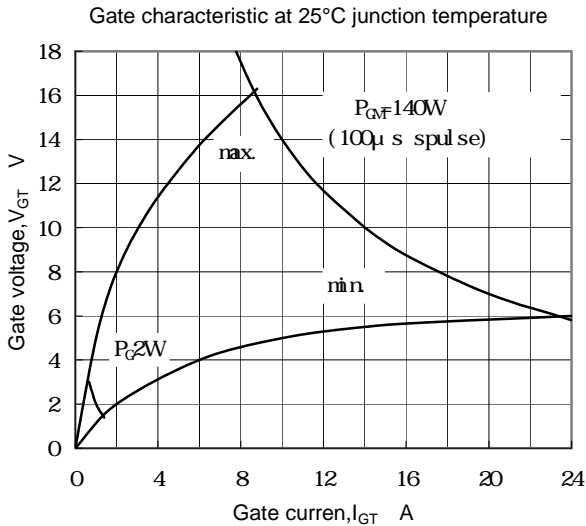


Fig.9

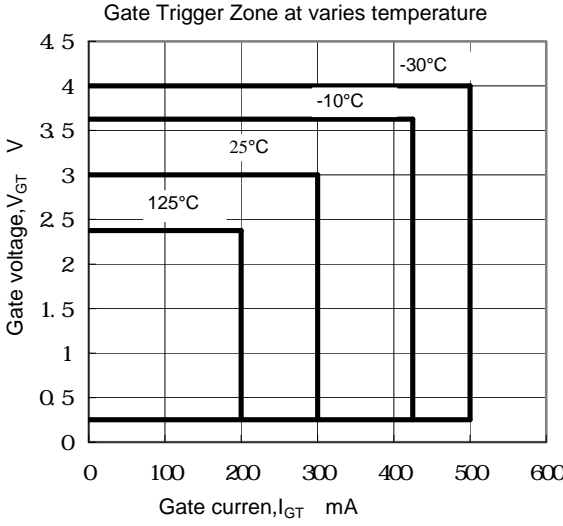


Fig.10

Outline:

