

# Y30KPC

## PHASE CONTROL THYRISTOR

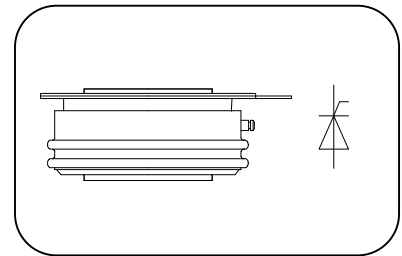
### Features:

- 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

$I_{T(AV)}$             **668A**  
 $V_{DRM}/V_{RRM}$     **800~1200V**  
 $I_{TSM}$                 **8.0 KA**  
 $I^2t$                     **320 10<sup>3</sup>A<sup>2</sup>S**



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T <sub>f</sub> (°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Double side cooled, T <sub>hs</sub> =55°C	125			668	
$V_{DRM}$ $V_{RRM}$	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	800		1200	V
$I_{DRM}$ $I_{RRM}$	Repetitive peak current	$V_{DM} = V_{DRM}$ $V_{RM} = V_{RRM}$	125			30	mA
$I_{TSM}$	Surge on-state current	10ms half sine wave	125			8.0	KA
$I^2t$	I <sup>2</sup> T for fusing coordination	$V_R = 0.6V_{RRM}$				320	A <sup>2</sup> s*10 <sup>3</sup>
$V_{TO}$	Threshold voltage		125			0.70	V
$r_T$	On-state slop resistance					0.85	mW
$V_{TM}$	Peak on-state voltage	$I_{TM} = 1200A, F = 8KN$	125			1.72	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 1300A, Gate pulse t <sub>r</sub> ≤ 0.5 μ s I <sub>GM</sub> = 1.5A Repetitive	125			100	A/μs
$I_{rm}$	Reverse recovery current	$I_{TM} = 700A, tp = 1000μs, di/dt = -20A/μs,$ $V_R = 50V$	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	0.3			V
$R_{th(j-h)}$	Thermal resistance Junction to heat sink	At 180° sine double side cooled Clamping force 8KN				0.055	°C /W
$F_m$	Mounting force			5.3		10	KN
$T_{stg}$	Stored temperature			-40		140	°C
$W_t$	Weight				80		g
Outline	KT25aT						

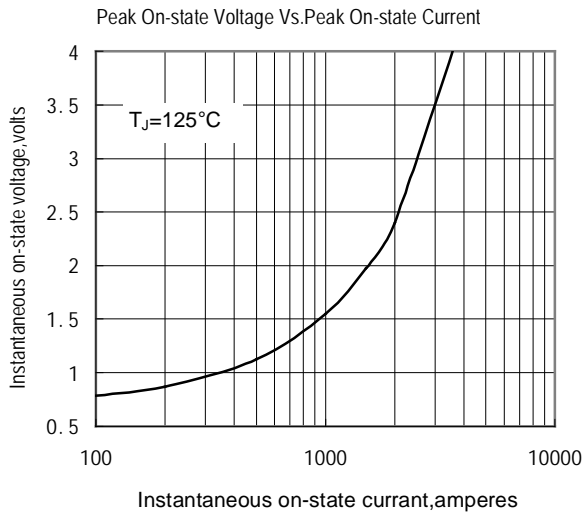


Fig.1

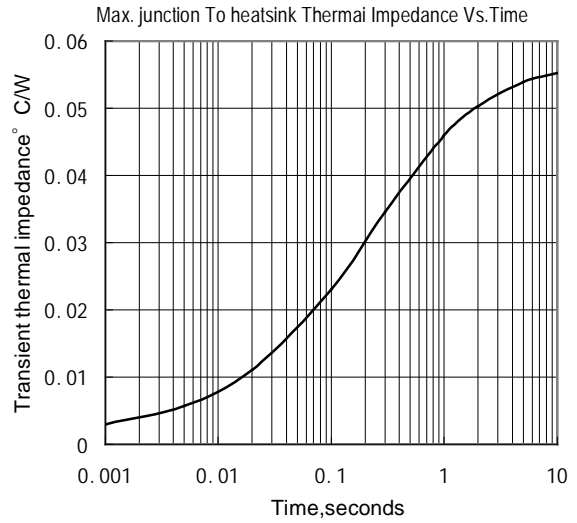


Fig.2

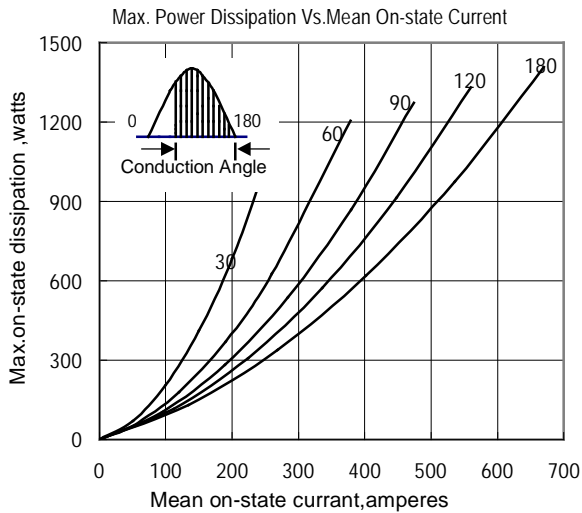


Fig.3

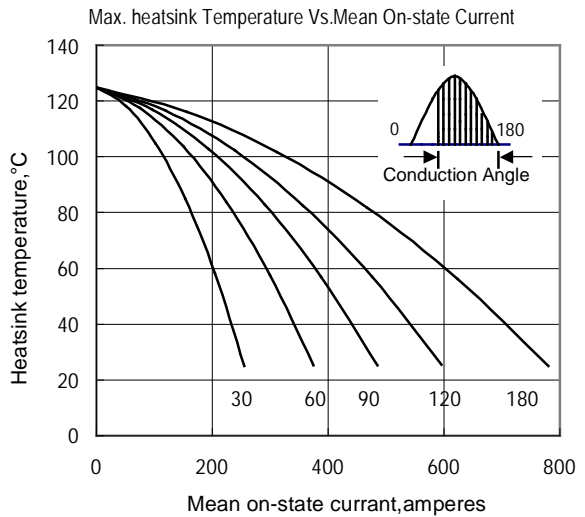


Fig.4

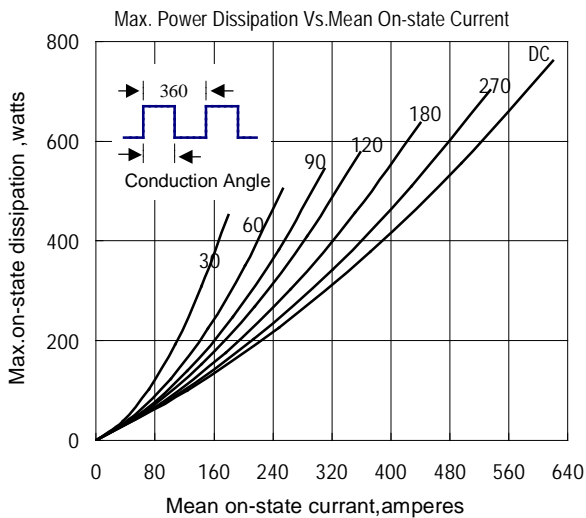


Fig.5

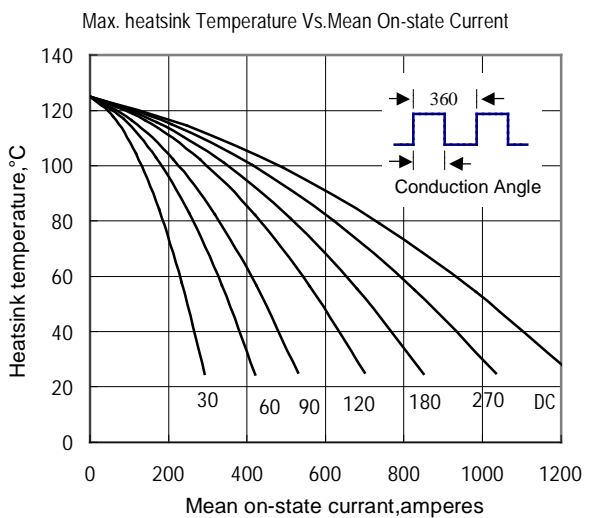


Fig.6

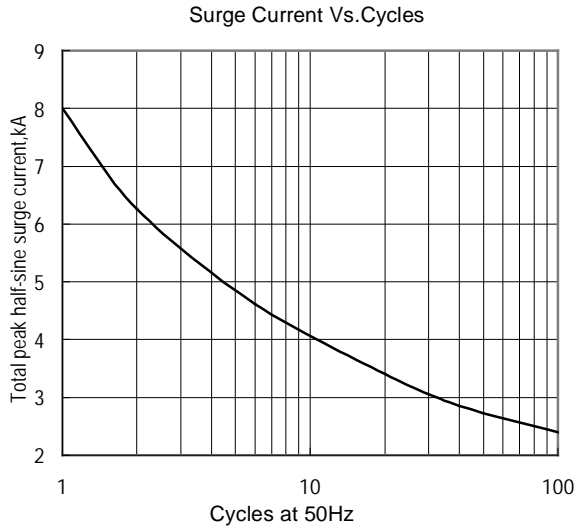


Fig.7

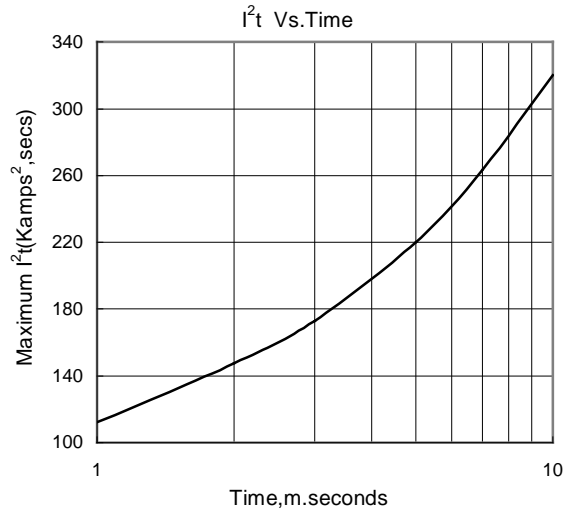


Fig.8

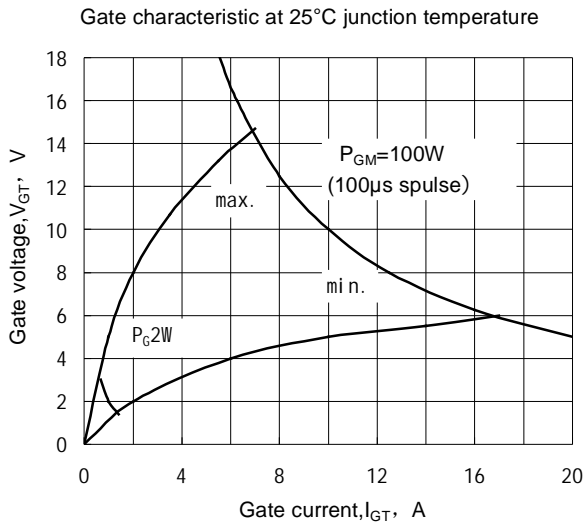


Fig.9

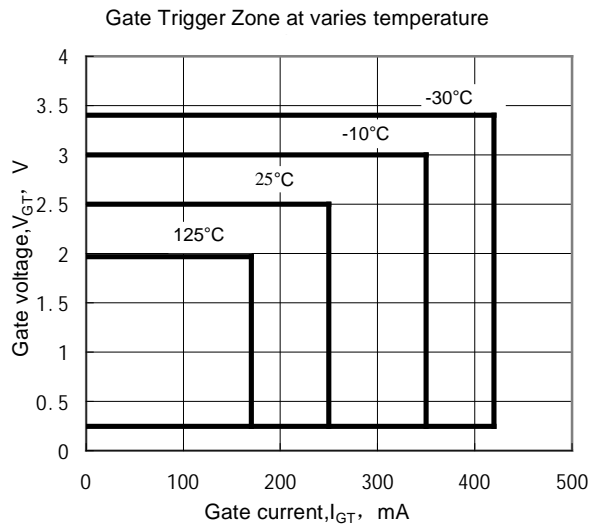


Fig.10

Outline:

