

Y50KPC

PHASE CONTROL THYRISTOR

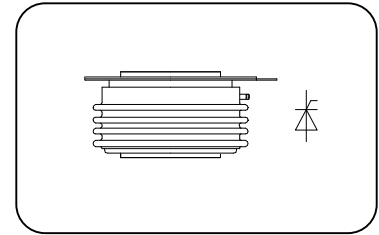
Features:

- 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

$I_{T(AV)}$ **1853A**
 V_{DRM}/V_{RRM} **800~1200V**
 I_{TSM} **22.2 KA**
 I^2t **2464 10³A²S**



| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | T _f (°C) | VALUE | | | UNIT |
|------------------------|--|---|---------------------|-------|------|-------|----------------------------------|
| | | | | Min | Type | Max | |
| $I_{T(AV)}$ | Mean on-state current | 180° half sine wave 50Hz Double side cooled, $t_{hs}=55^{\circ}C$ | 125 | | | 1853 | A |
| 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 | 800 | | 1200 | V |
| I_{DRM} I_{RRM} | Repetitive peak current | $V_{DM} = V_{DRM}$ $V_{RM} = V_{RRM}$ | 125 | | | 80 | mA |
| I_{TSM} | Surge on-state current | 10ms half sine wave $V_R = 0.6V_{RRM}$ | 125 | | | 22.2 | KA |
| I^2t | I^2T for fusing coordination | | | | | 2464 | A ² s*10 ³ |
| V_{TO} | Threshold voltage | | 125 | | | 0.89 | V |
| r_T | On-state slop resistance | | | | | 0.15 | mW |
| V_{TM} | Peak on-state voltage | $I_{TM}=3000A, F=24KN$ | 125 | | | 1.34 | V |
| dv/dt | Critical rate of rise of off-state voltage | $V_{DM}=0.67V_{DRM}$ | 125 | | | 300 | V/ μ s |
| di/dt | Critical rate of rise of on-state current | $V_{DM} = 67\%V_{DRM}$ to 3000A, Gate pulse $t_r \leq 0.5 \mu s$ $I_{GM}=1.5A$ Repetitive | 125 | | | 200 | A/ μ s |
| I_{rm} | Reverse recovery current | | 125 | | | 150 | A |
| t_{rr} | Reverse recovery time | $I_{TM}=1800A, t_p=1000\mu s, di/dt=-20A/\mu s,$ $V_R=50V$ | | | | 20 | μ s |
| Q_{rr} | Recovery charge | | | | | 1500 | μ C |
| I_{GT} | Gate trigger current | | 25 | 40 | | 300 | mA |
| V_{GT} | Gate trigger voltage | $V_A=12V, I_A=1A$ | | 0.8 | | 3.0 | V |
| I_H | Holding current | | | 20 | | 300 | 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 24KN | | | | 0.024 | °C /W |
| F_m | Mounting force | | | 19 | | 26 | KN |
| T_{stg} | Stored temperature | | | -40 | | 140 | °C |
| W_t | Weight | | | | 470 | | g |
| Outline | KT50cT | | | | | | |

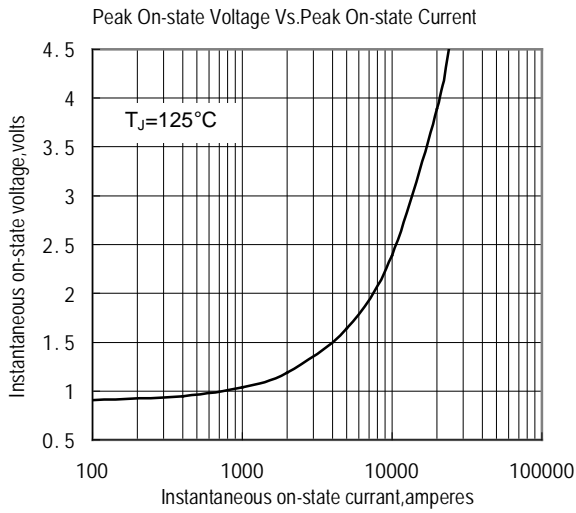


Fig.1

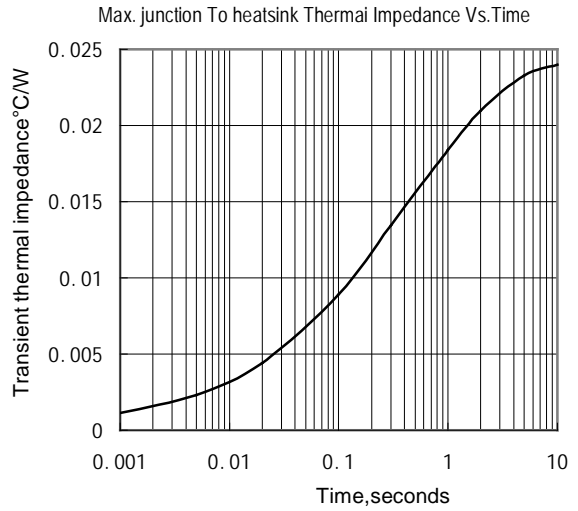


Fig.2

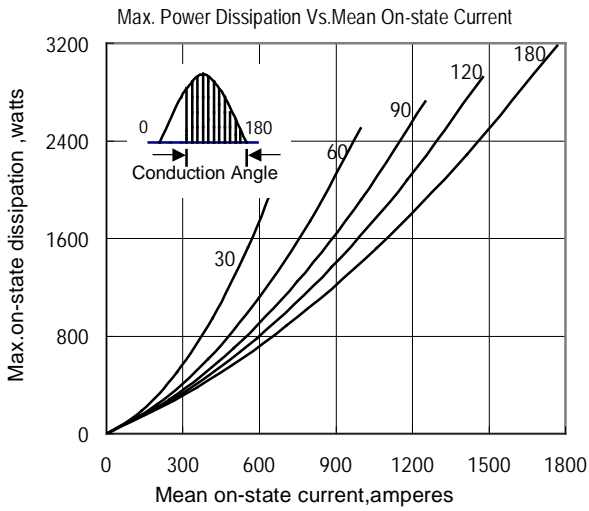


Fig.3

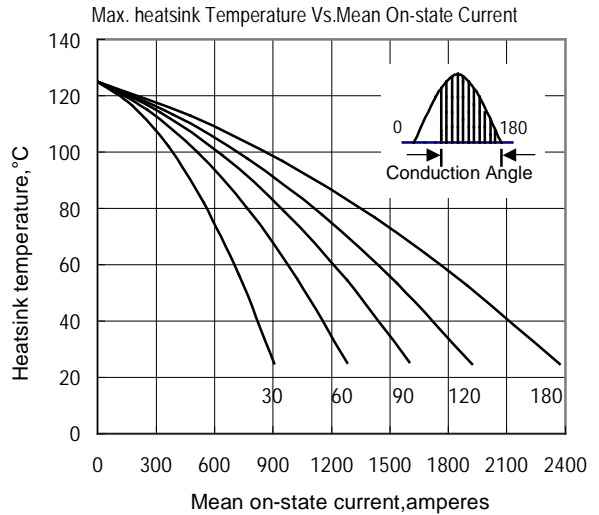


Fig.4

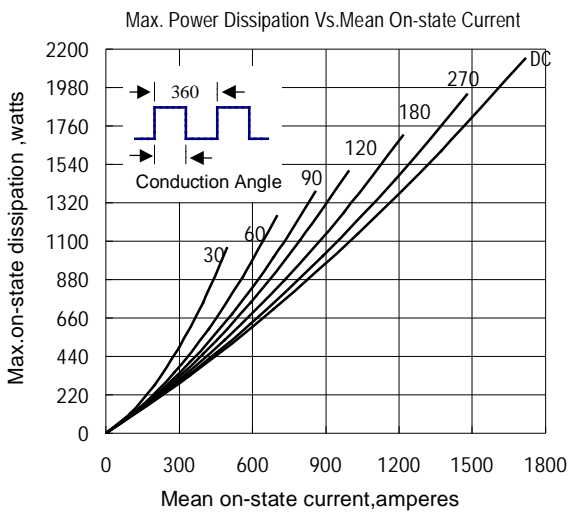


Fig.5

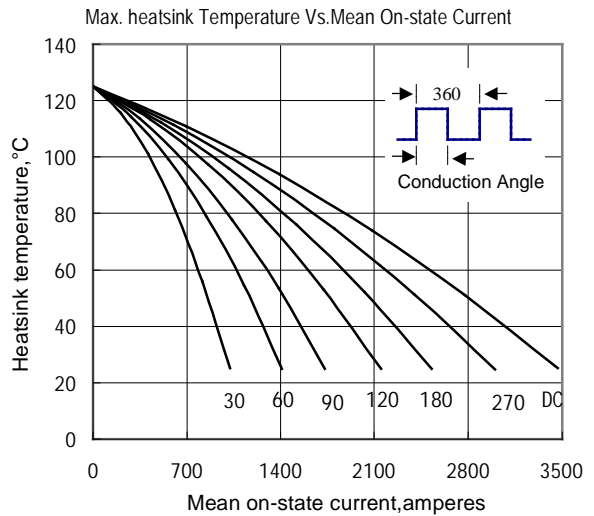


Fig.6

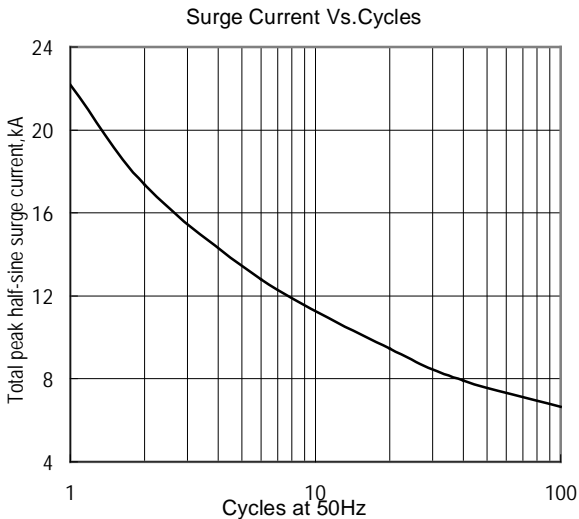


Fig.7

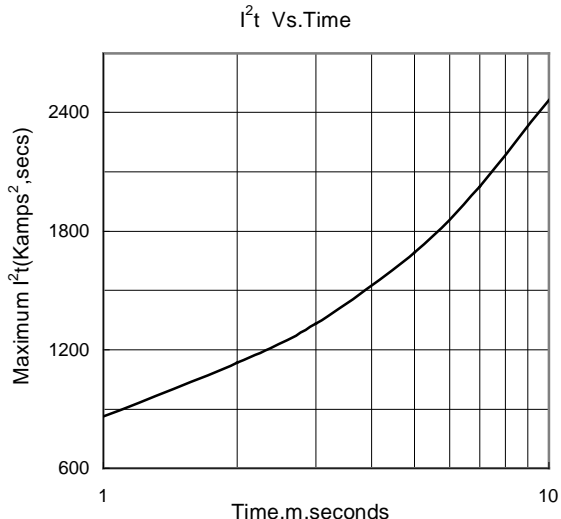


Fig.8

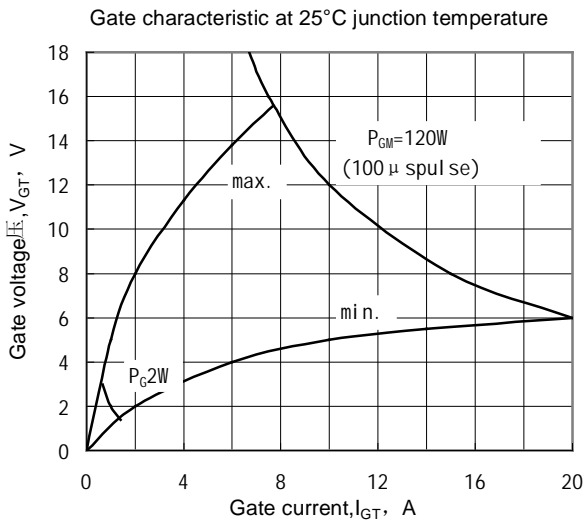


Fig.9

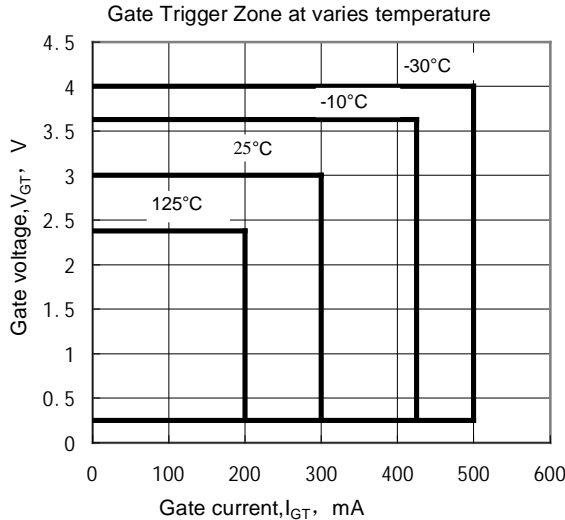


Fig.10

Outline:

