

Y38KPH

PHASE CONTROL THYRISTOR

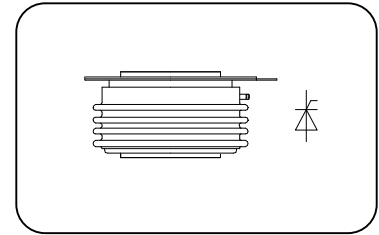
Features:

- 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

$I_{T(AV)}$ **897A**
 V_{DRM}/V_{RRM} **1900~3000V**
 I_{TSM} **10.8 KA**
 I^2t **583 10³A²S**



| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | T _J (°C) | VALUE | | | UNIT |
|------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------|-------|------|-------|----------------------------------|
| | | | | Min | Type | Max | |
| $I_{T(AV)}$ | Mean on-state current | 180° half sine wave 50Hz Double side cooled, T _{hs} =55°C | 125 | | | 897 | A |
| 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 | 1900 | | 3000 | V |
| I_{DRM} I_{RRM} | Repetitive peak current | $V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$ | 125 | | | 40 | mA |
| I_{TSM} | Surge on-state current | 10ms half sine wave | 125 | | | 10.8 | KA |
| I^2t | I ² T for fusing coordination | $V_R=0.6V_{RRM}$ | | | | 583 | A ² S*10 ³ |
| V_{TO} | Threshold voltage | | 125 | | | 1.05 | V |
| r_T | On-state slop resistance | | | | | 0.63 | mW |
| V_{TM} | Peak on-state voltage | $I_{TM}=1800A$, F=15KN | 125 | | | 2.18 | V |
| dv/dt | Critical rate of rise of off-state voltage | $V_{DM}=0.67V_{DRM}$ | 125 | | | 500 | V/μs |
| di/dt | Critical rate of rise of on-state current | $V_{DM}= 67\%V_{DRM}$ to 1600A, Gate pulse t _r ≤0.5 μ s I _{GM} =1.5A Repetitive | 125 | | | 100 | A/μs |
| I_{rm} | Reverse recovery current | $I_{TM}=1000A$, tp=1000μs, di/dt=-20A/μs, $V_R =50V$ | 125 | | | 110 | A |
| t_{rr} | Reverse recovery time | | | | | 15 | μs |
| Q_{rr} | Recovery charge | | | | | 800 | μC |
| I_{GT} | Gate trigger current | $V_A=12V$, $I_A=1A$ | 25 | 35 | | 300 | mA |
| V_{GT} | Gate trigger voltage | | | 0.8 | | 2.5 | V |
| I_H | Holding current | | | 20 | | 250 | mA |
| V_{GD} | Non-trigger gate voltage | $V_{DM}=0.67V_{DRM}$ | 125 | 0.3 | | | V |
| $R_{th(j-h)}$ | Thermal resistance Junction to heatsink | At 180° sine' double side cooled Clamping force15KN | | | | 0.032 | °C /W |
| F_m | Mounting force | | | 10 | | 20 | KN |
| T_{stg} | Stored temperature | | | -40 | | 140 | °C |
| W_t | Weight | | | | 270 | | g |
| Outline | KT33cT | | | | | | |

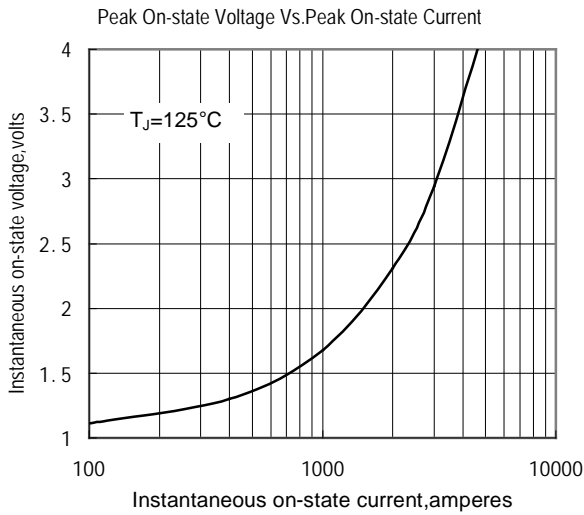


Fig.1

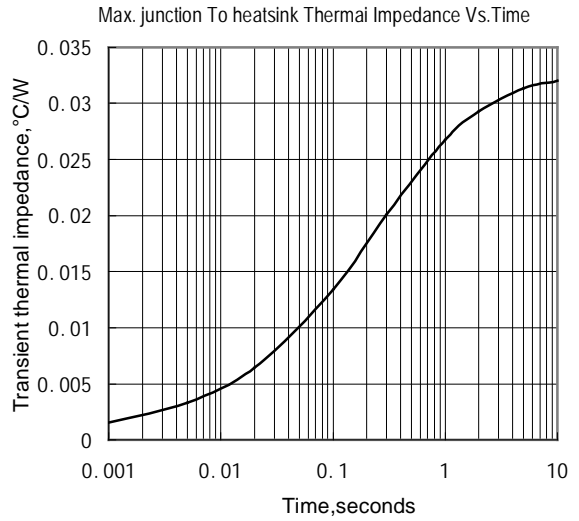


Fig.2

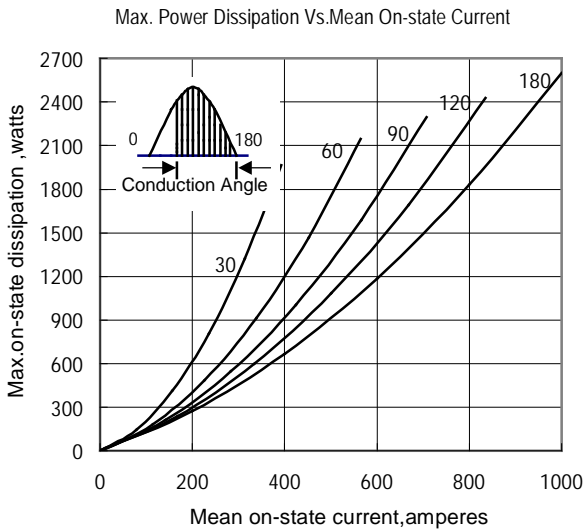


Fig.3

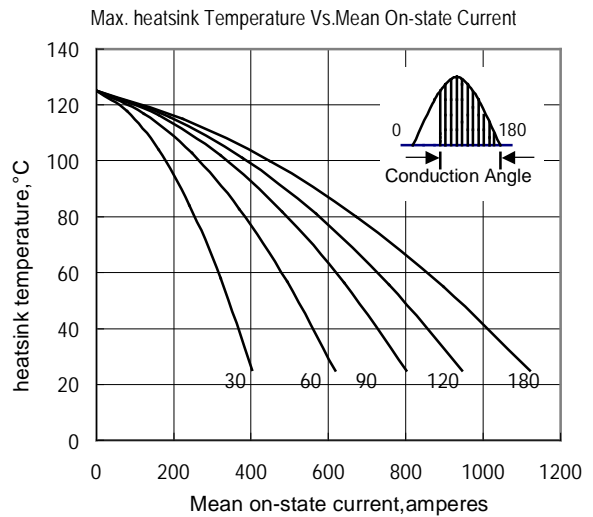


Fig.4

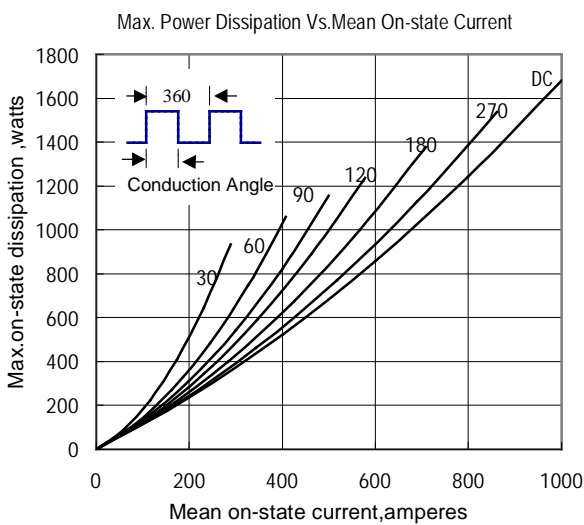


Fig.5

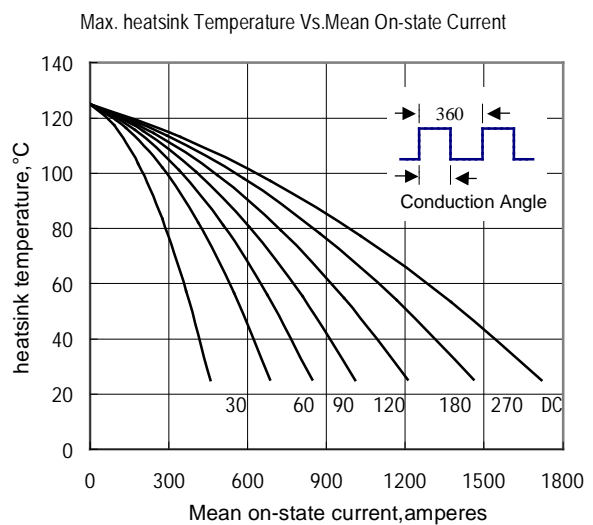


Fig.6

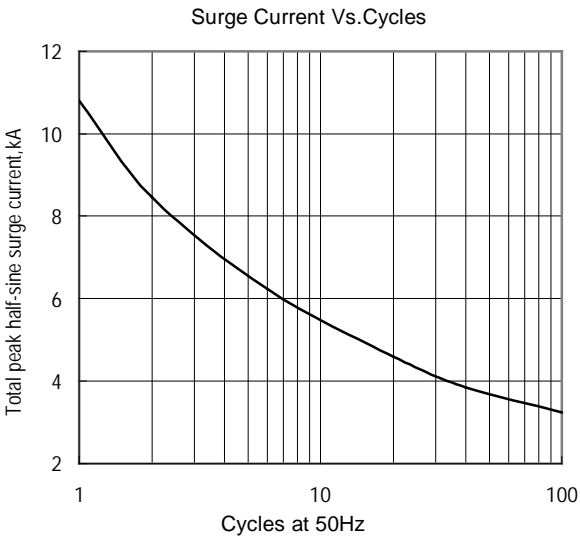


Fig.7

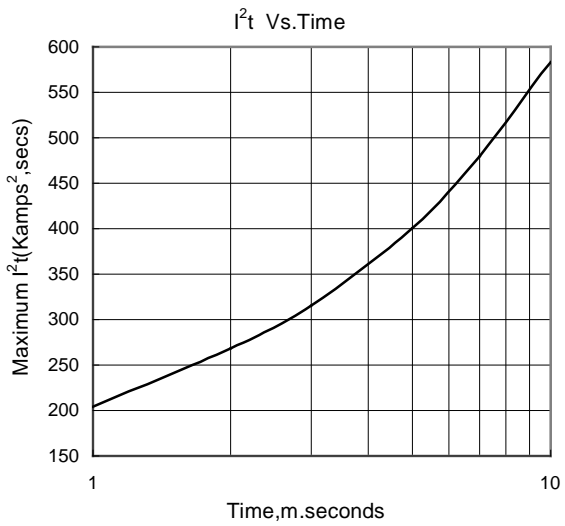


Fig.8

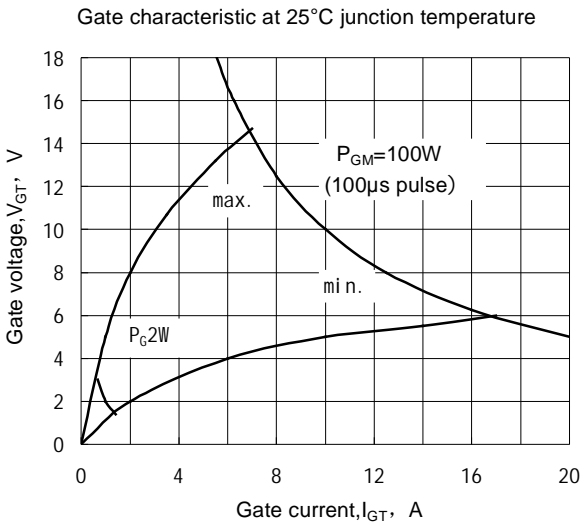


Fig.9

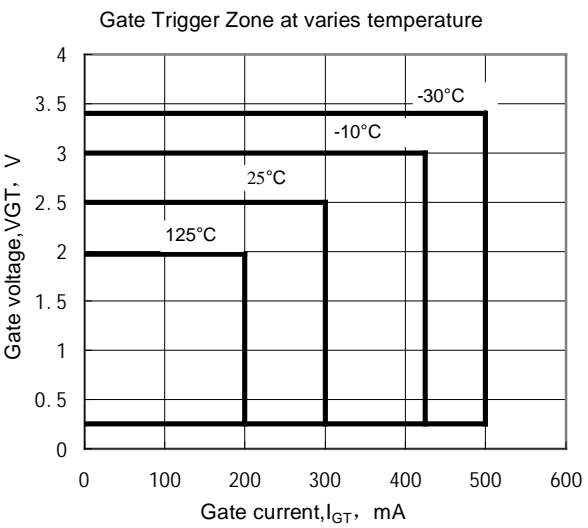


Fig.10

Outline:

