

Y89KPH

PHASE CONTROL THYRISTOR

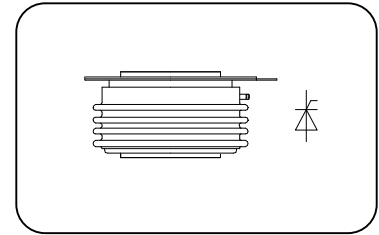
Features:

- 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

$I_{T(AV)}$ **3835 A**
 V_{DRM}/V_{RRM} **1900-3000V**
 I_{TSM} **46 KA**
 I^2t **10580 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 _{ns} =55°C | 125 | | | 3835 | 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 | | | 250 | mA |
| I_{TSM} | Surge on-state current | 10ms half sine wave | 125 | | | 46 | KA |
| I^2t | I ² T for fusing coordination | V_R =0.6 V_{RRM} | | | | 10580 | A ² s*10 ³ |
| V_{TO} | Threshold voltage | | 125 | | | 0.99 | V |
| r_T | On-state slop resistance | | | | | 0.11 | mW |
| V_{TM} | Peak on-state voltage | I_{TM} =5000A, F=78KN | 125 | | | 1.54 | V |
| dv/dt | Critical rate of rise of off-state voltage | V_{DM} =0.67 V_{DRM} | 125 | | | 500 | V/μs |
| di/dt | Critical rate of rise of on-state voltage current | V_{DM} = 67% V_{DRM} to 4000A, Gate pulse t _r ≤0.5 μ s I _{GM} =1.5A Repetitive | 125 | | | 250 | A/μs |
| I_{rm} | Reverse recovery current | I_{TM} =2000A, tp=1000μs, di/dt=-20A/μs, V_R =50V | 125 | | | 250 | A |
| t_{rr} | Reverse recovery time | | | | | 26 | μs |
| Q_{rr} | Recovery charge | | | | | 3250 | μC |
| I_{GT} | Gate trigger current | V_A =12V, I _A =1A | 25 | 40 | | 300 | mA |
| V_{GT} | Gate trigger voltage | | | 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 78.0KN | | | | 0.009 | °C /W |
| F_m | Mounting force | | | 70 | | 85 | KN |
| T_{stg} | Stored temperature | | | -40 | | 140 | °C |
| W_t | Weight | | | | 1100 | | g |
| Outline | KT84dT | | | | | | |

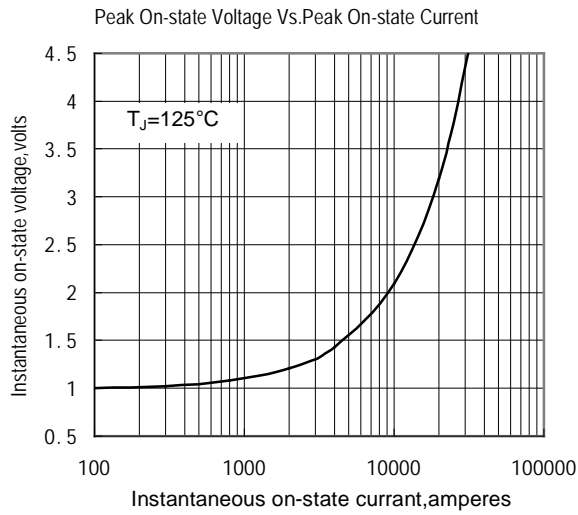


Fig.1

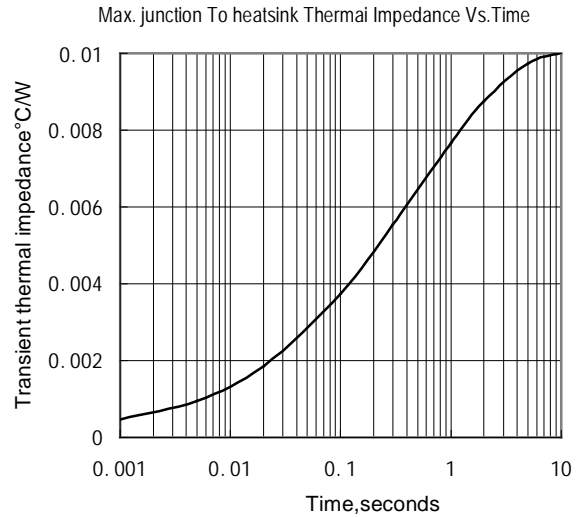


Fig.2

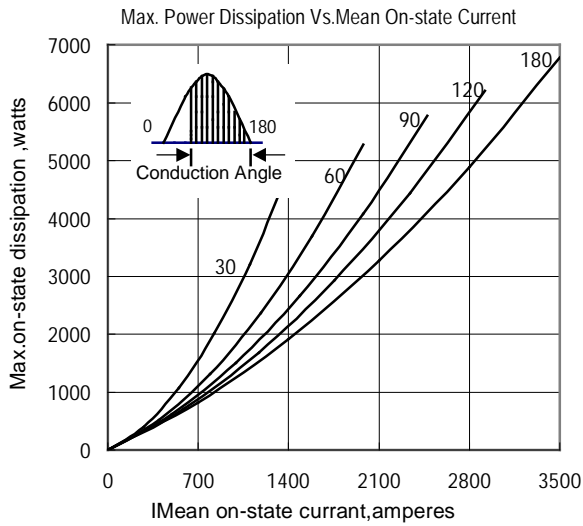


Fig.3

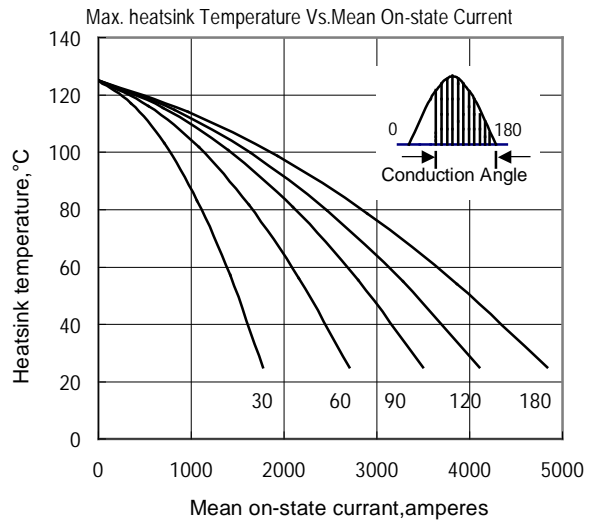


Fig.4

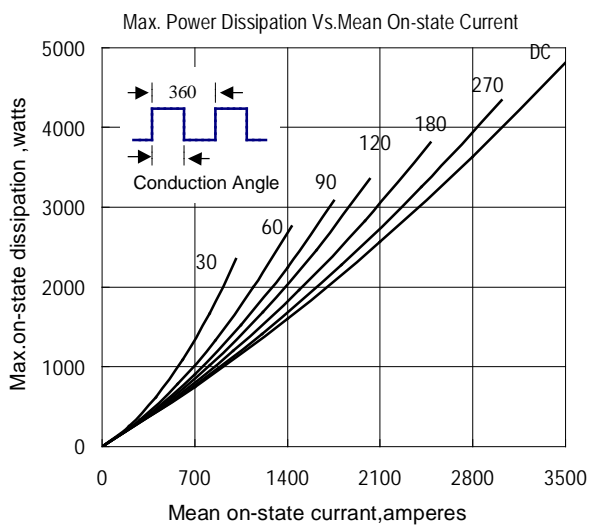


Fig.5

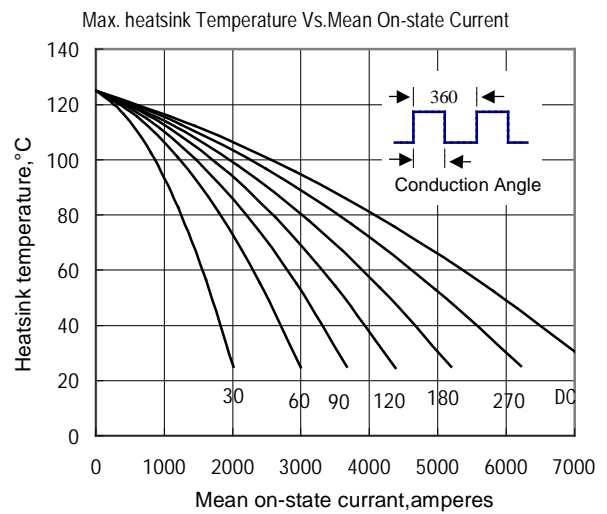


Fig.6

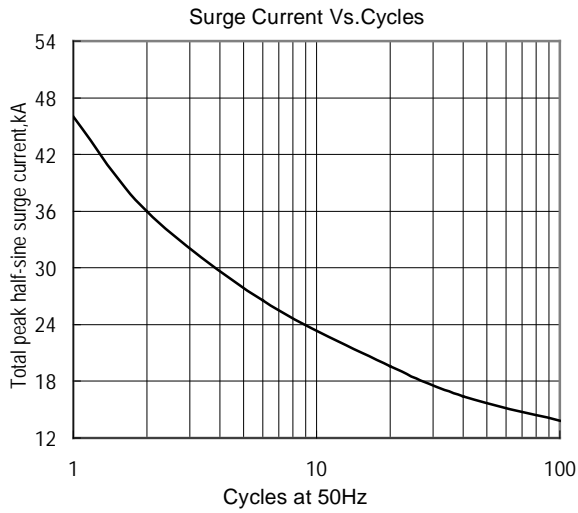


Fig.7

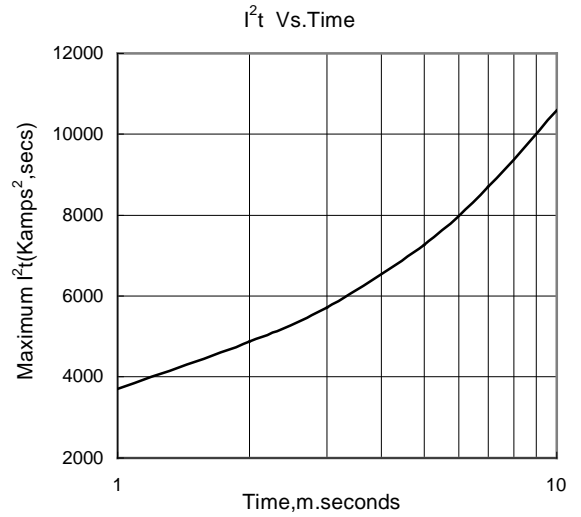


Fig.8

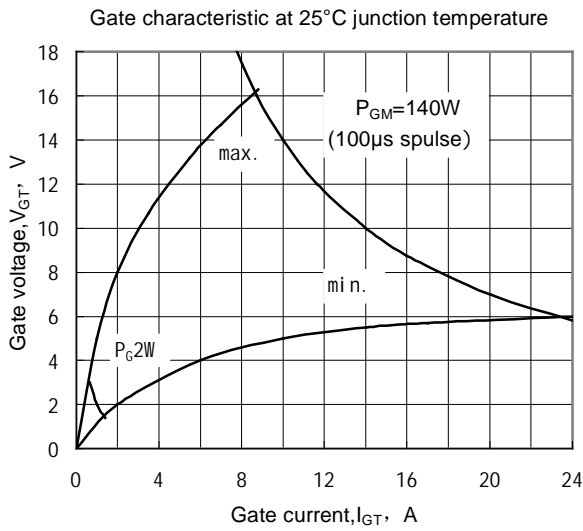


Fig.9

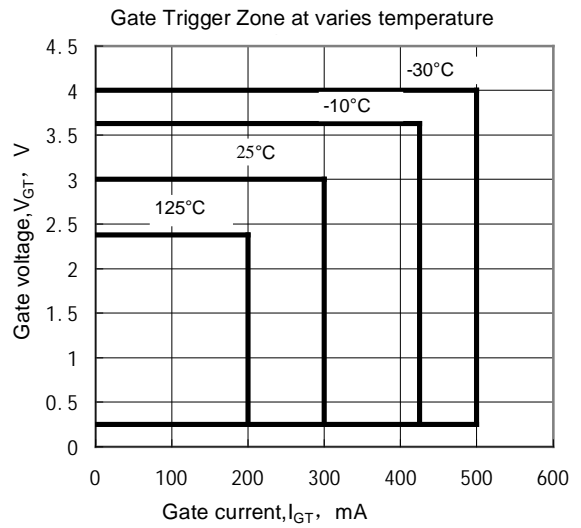


Fig.10

Outline:

