圣合

*锦州市圣合科技电子有限责任公司*

***JinZhou ShengHe Power Electronic Co.,Ltd***

# KK1800A/2400-3000V

## FAST TURN-OFF THYRISTOR

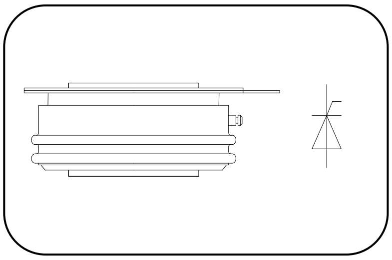
### Features

- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses

### Typical Applications

- Inductive heating
- Electronic welders
- Self-commutated inverters

| | |
|---|---|
| $I_{T(AV)}$ | **1800A** |
| $V_{DRM}/V_{RRM}$ | **2400~3000V** |
| $t_q$ | **30~60μs** |
| $I_{TSM}$ | **21 kA** |
| $I^2t$ | **2205 $10^3A^2S$** |



| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | $T_j$(°C) | VALUE | | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | Min | Type | Max | |
| $I_{T(AV)}$ | Mean on-state current | 180° half sine wave 50Hz<br>Double side cooled, $T_C$=55°C | 125 | | 1800 | 1920 | A |
| $V_{DRM}$<br>$V_{RRM}$ | Repetitive peak off-state voltage<br>Repetitive peak reverse voltage | $V_{DRM}$&$V_{RRM}$ , tp=10ms<br>$V_{DSM}$&$V_{RSM}$= $V_{DRM}$&$V_{RRM}$+100V | 125 | 2400 | | 3000 | V |
| $I_{DRM}$<br>$I_{RRM}$ | Repetitive peak current | $V_D$= $V_{DRM}$<br>$V_R$= $V_{RRM}$ | 125 | | | 140 | mA |
| $I_{TSM}$ | Surge on-state current | 10ms half sine wave | 125 | | | 21 | kA |
| $I^2t$ | $I^2T$ for fusing coordination | | | | | 2205 | $A^2s*10^3$ |
| $V_{TO}$ | Threshold voltage | | 125 | | | 1.48 | V |
| $r_T$ | On-state slop resistance | | | | | 0.28 | mΩ |
| $V_{TM}$ | Peak on-state voltage | $I_{TM}$=4000A, F=32kN | 25 | | | 3.20 | V |
| dv/dt | Critical rate of rise of off-state voltage | $V_{DM}$=0.67$V_{DRM}$ | 125 | | | 1000 | V/μs |
| di/dt | Critical rate of rise of on-state current | $V_{DM}$= 67%$V_{DRM}$, ITM=(2-3)IT(AV),t=5s ,<br>Gate pulse $t_r$≤0.5μs $I_{GM}$=1.5A f=50Hz | 125 | | | 600 | A/μs |
| $Q_{rr}$ | Recovery charge | $I_{TM}$=1800A,tp=1000μs,<br>di/dt=-20A/μs,$V_R$=100V | 125 | | 860 | | μC |
| tq | Circuit commutated turn-off time | $I_{TM}$=1800A,tp=1000μs, $V_R$ =100V<br>dv/dt=30V/μs ,di/dt=-20A/μs | 125 | 30 | | 60 | μs |
| $I_{GT}$ | Gate trigger current | $V_A$=12V, $I_A$=1A | 25 | 40 | | 250 | mA |
| $V_{GT}$ | Gate trigger voltage | | | 0.9 | | 2.5 | V |
| $I_H$ | Holding current | | | 20 | | 400 | mA |
| $V_{GD}$ | Non-trigger gate voltage | $V_{DM}$=67%$V_{DRM}$ | 125 | | | 0.3 | V |
| $R_{th(j-c)}$ | Thermal resistance<br>Junction to case | At $180^0$ sine, double side cooled<br>Clamping force 32kN | | | | 0.013 | °C /W |
| $R_{th(c-h)}$ | Thermal resistance<br>case to heat sink | | | | | 0.0035 | |
| $F_m$ | Mounting force | | | 27 | | 36 | kN |
| $T_{stg}$ | Stored temperature | | | -40 | | 140 | °C |
| $W_t$ | Weight | | | | 820/1080 | | g |
| Outline | KT70cT/dT | | | | | | |

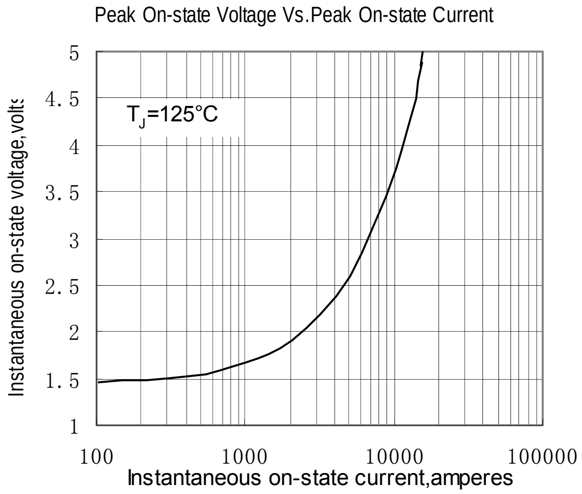


Fig.1

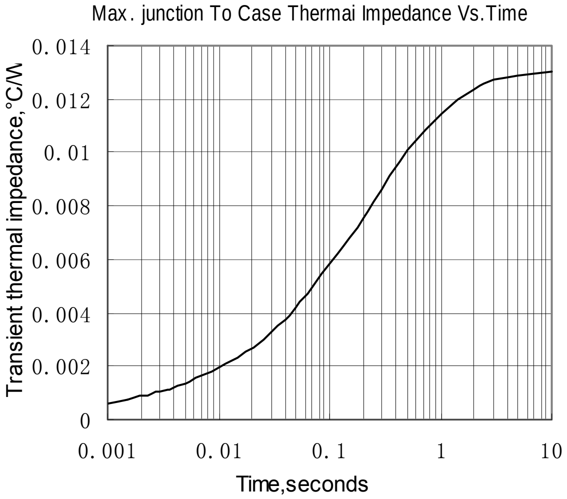


Fig.2

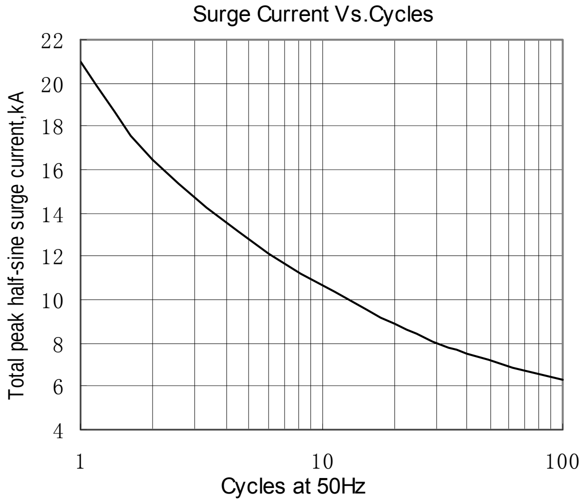


Fig.3

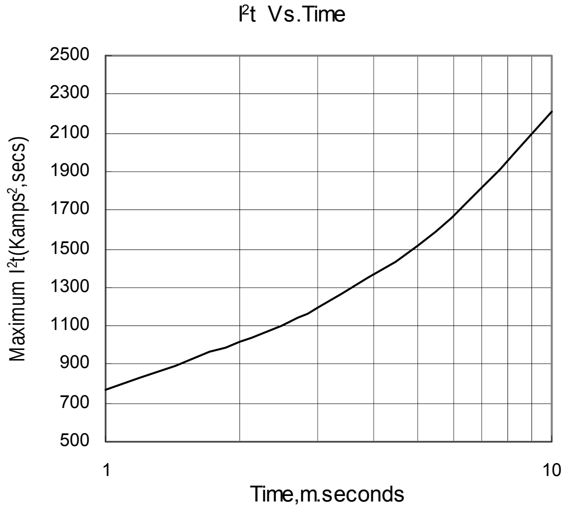


Fig.4

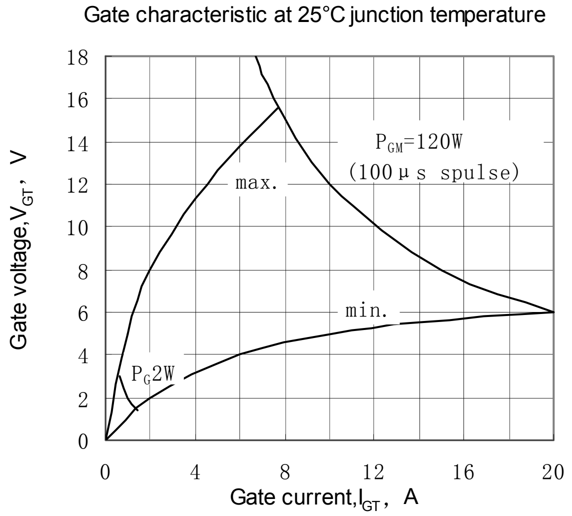


Fig.5

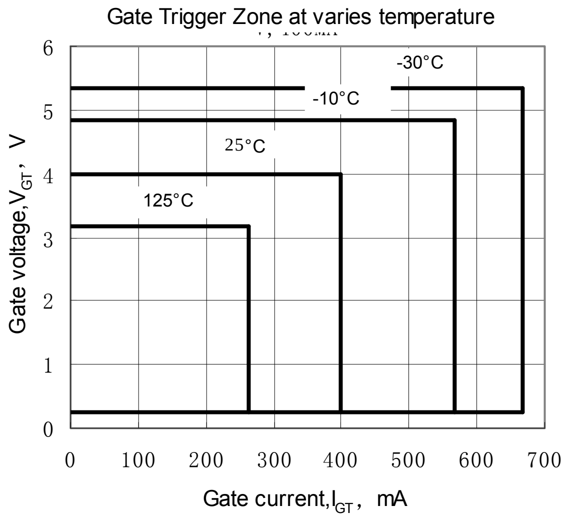


Fig.6

**Outline:**

图12-KT70cT

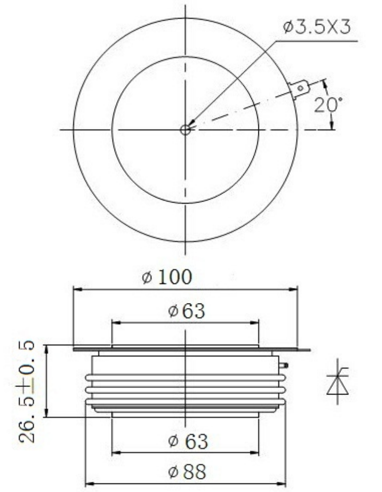


图13-KT70dT