



Features

- Center amplifying gate
- Metal case with ceramic insulator
- Low on-state and switching losses

Typical Applications

- AC controllers
- DC and AC motor control
- Controlled rectifiers

Part No. Y38KPJ-KT33cT

| | |
|---|--------------------|
| I_{T(AV)} | 590A |
| V_{DRM}, V_{RDM} | 3200V 3500V |
| | 4000V 4200V |

| 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 _C =70°C | 125 | | | 590 | A |
| V _{DRM} V _{RDM} | Repetitive peak off-state voltage Repetitive peak reverse voltage | tp=10ms | 125 | 3100 | | 4200 | V |
| I _{DRM} I _{RDM} | Repetitive peak current | at V _{DRM} at V _{RDM} | 125 | | | 50 | mA |
| I _{TSM} | Surge on-state current | 10ms half sine wave | 125 | | | 7 | kA |
| I ² t | I ² t for fusing coordination | V _R =0.6V _{RDM} | | | | 245 | A ² s*10 ³ |
| V _{TO} | Threshold voltage | | 125 | | | 1.18 | V |
| r _T | On-state slope resistance | | | | | 1.00 | mΩ |
| V _{TM} | Peak on-state voltage | I _{TM} =1000A, F=15kN | 25 | | | 3.00 | V |
| dv/dt | Critical rate of rise of off-state voltage | V _{DM} =0.67V _{DRM} | 125 | | | 1000 | V/μs |
| di/dt | Critical rate of rise of on-state current | V _{DM} = 67%V _{DRM} to800A, Gate pulse t _r ≤0.5μs I _{GM} =1.5A | 125 | | | 100 | A/μs |
| Q _{rr} | Recovery charge | I _{TM} =1000A, tp=4000μs, di/dt=-20A/μs, V _R =100V | 125 | | 1400 | | 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 |
| I _L | Latching current | | | | | 500 | mA |
| V _{GD} | Non-trigger gate voltage | V _{DM} =0.67V _{DRM} | 125 | | | 0.3 | V |
| R _{th(j-c)} | Thermal resistance Junction to case | At 180° sine double side cooled Clamping force15kN | | | | 0.035 | °C /W |
| R _{th(c-h)} | Thermal resistance case to heatsink | | | | | 0.008 | |
| F _m | Mounting force | | | 10 | | 20 | kN |
| T _{vj} | Junction temperature | | | -40 | | 125 | °C |
| T _{stg} | Stored temperature | | | -40 | | 140 | °C |
| W _i | Weight | | | | 240 | | g |
| Outline | KT33cT | | | | | | |

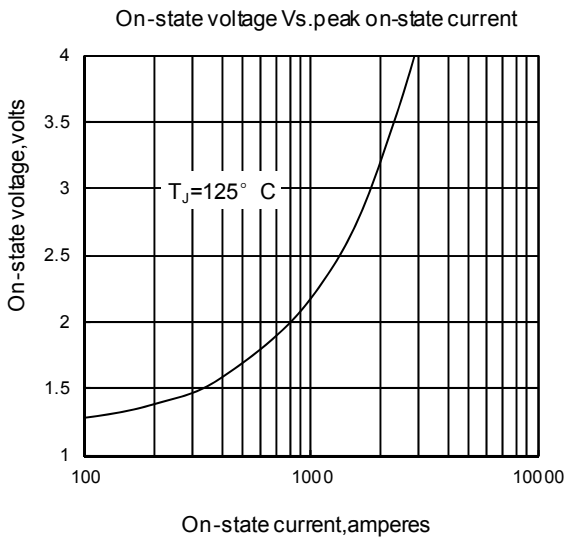


Fig1

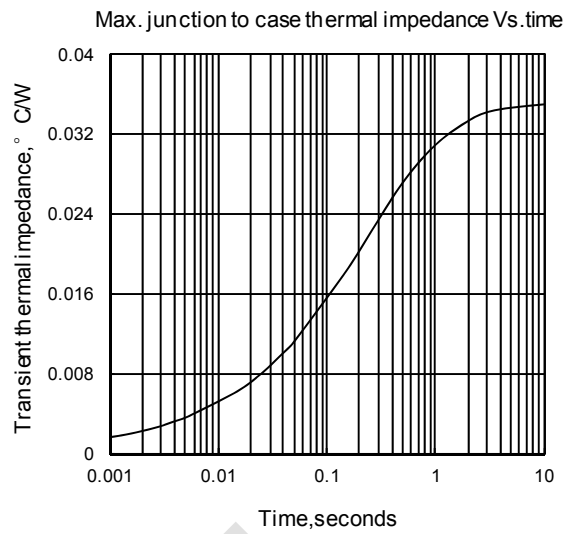


Fig2

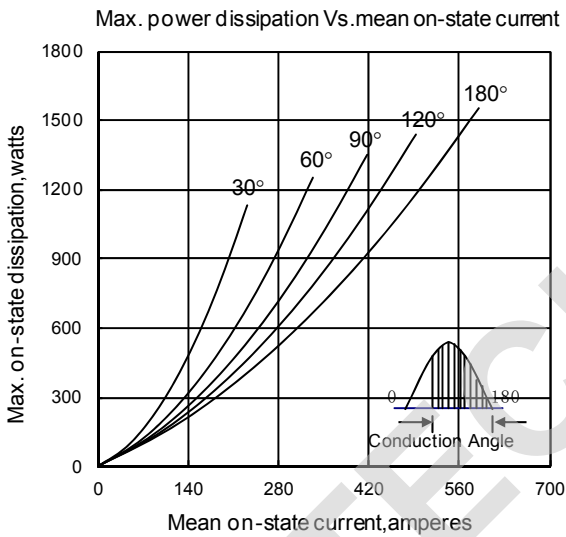


Fig3

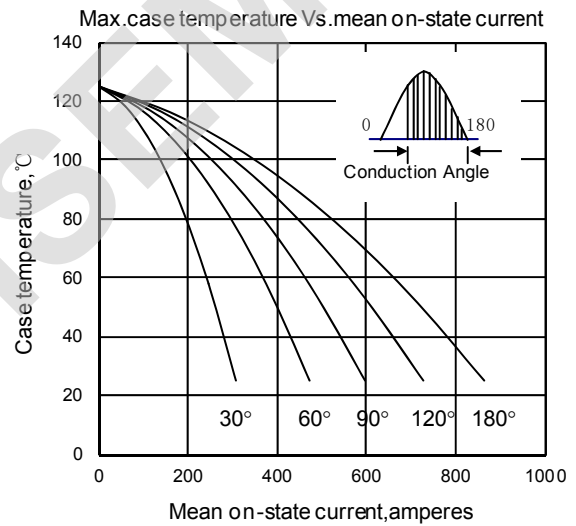


Fig4

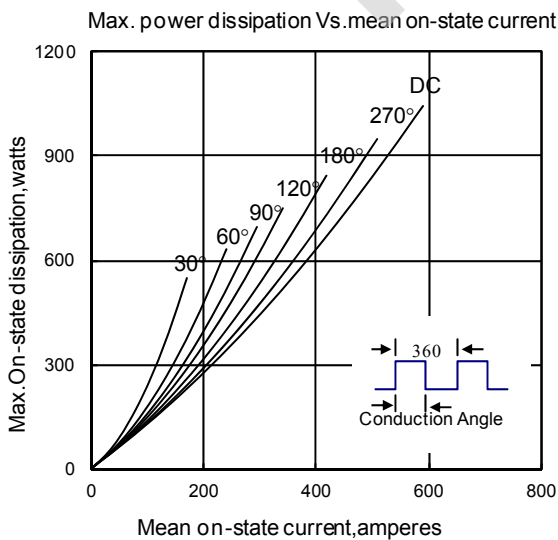


Fig5

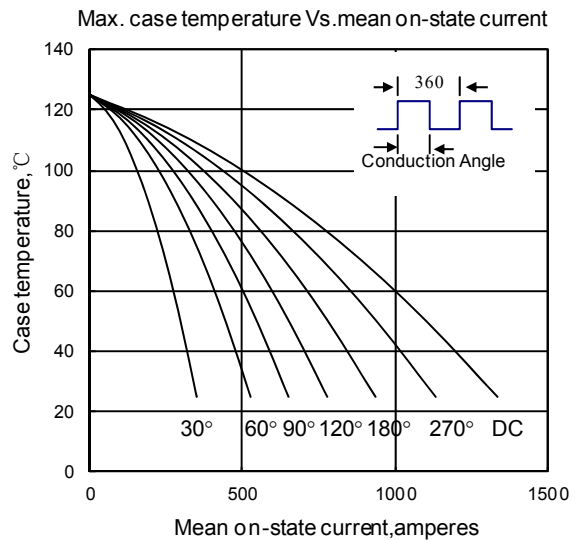


Fig6

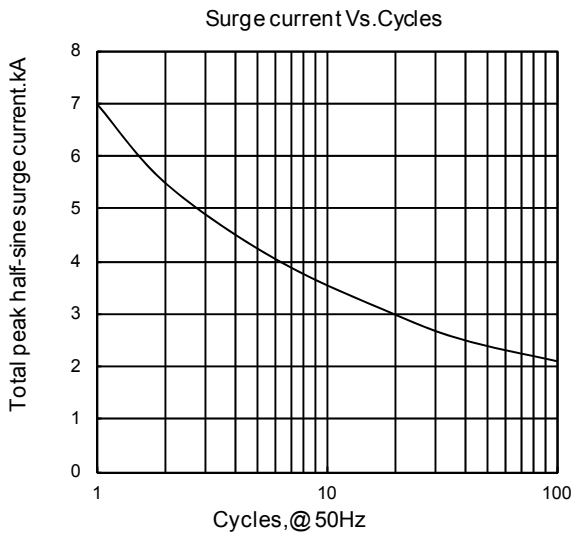


Fig7

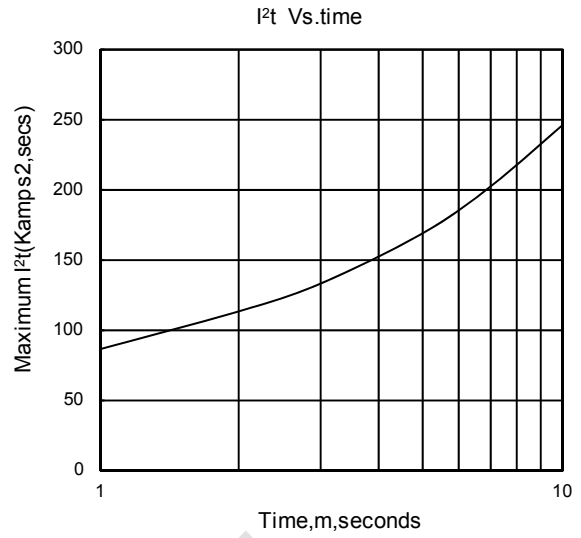


Fig8

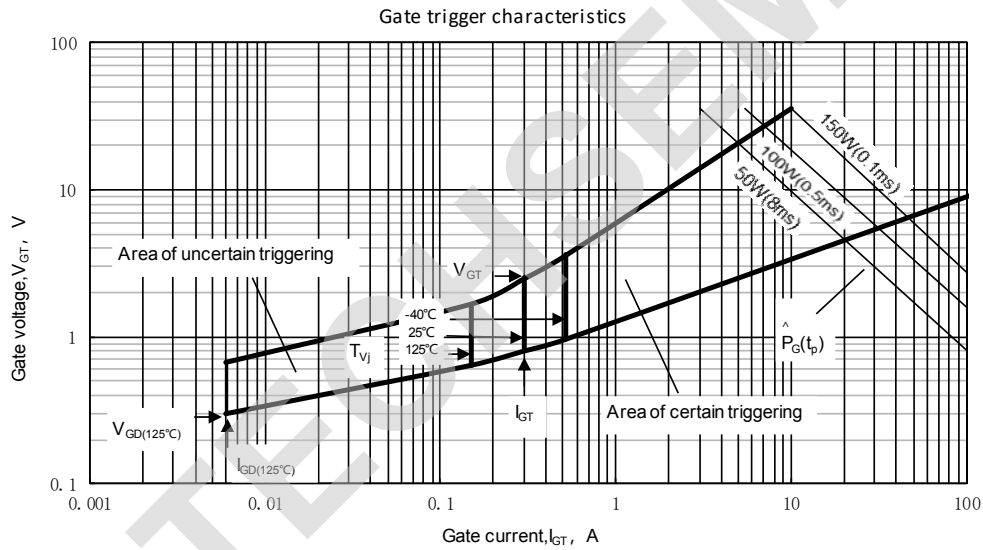
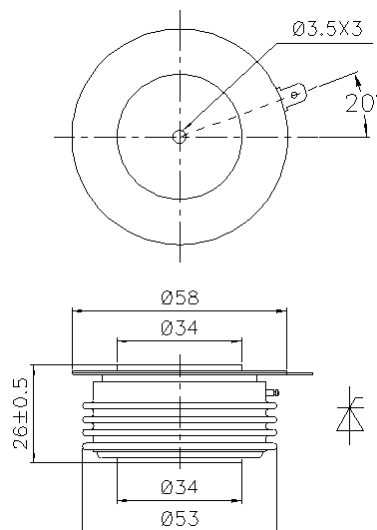


Fig.9

Outline:



TECHSEM reserves the right to change specifications without notice.