

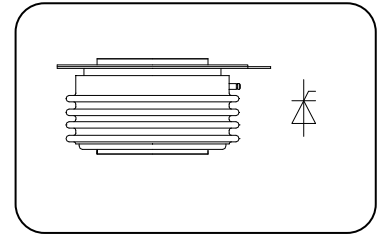
### Features

- 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

$I_{T(AV)}$       **2150A**  
 $V_{DRM}/V_{RRM}$     **200~600V**  
 $I_{TSM}$             **32 kA**  
 $I^2t$                 **5120 10<sup>3</sup>A<sup>2</sup>S**



| SYMBOL                               | CHARACTERISTIC   | TEST CONDITIONS   | T <sub>j</sub> (°C) | VALUE |      |       | UNIT                             |
|--------------------------------------|--|---|---------------------|-------|------|-------|----------------------------------|
|                                      |  |   |                     | Min   | Type | Max   |                                  |
| I <sub>T(AV)</sub>                   | Mean on-state current  | 180° half sine wave 50Hz<br>Double side cooled  | 125                 |       |      | 2540  | A                                |
|                                      |  |   |                     |       |      | 2150  |                                  |
| V <sub>DRM</sub><br>V <sub>RRM</sub> | Repetitive peak off-state voltage<br>Repetitive peak reverse voltage | V <sub>DRM</sub> &V <sub>RRM</sub> tp=10ms<br>V <sub>DSM</sub> &V <sub>RSM</sub> = V <sub>DRM</sub> &V <sub>RRM</sub> +100V | 125                 | 200   |      | 600   | V                                |
| I <sub>DRM</sub><br>I <sub>RRM</sub> | Repetitive peak current  | V <sub>DM</sub> = V <sub>DRM</sub><br>V <sub>RM</sub> = V <sub>RRM</sub>  | 125                 |       |      | 80    | mA                               |
| I <sub>TSM</sub>                     | Surge on-state current   | 10ms half sine wave<br>V <sub>R</sub> =0.6V <sub>RRM</sub>  | 125                 |       |      | 32    | kA                               |
| I <sup>2</sup> t                     | I <sup>2</sup> T for fusing coordination                             |   |                     |       |      | 5120  | A <sup>2</sup> s*10 <sup>3</sup> |
| V <sub>TO</sub>                      | Threshold voltage  |   | 125                 |       |      | 0.75  | V                                |
| r <sub>T</sub>                       | On-state slop resistance   |   |                     |       |      | 0.10  | mΩ                               |
| V <sub>TM</sub>                      | Peak on-state voltage  | I <sub>TM</sub> =3000A, F=24kN  | 125                 |       |      | 1.05  | V                                |
| dv/dt                                | Critical rate of rise of off-state voltage                           | V <sub>DM</sub> =0.67V <sub>DRM</sub>   | 125                 |       |      | 1000  | V/μs                             |
| di/dt                                | Critical rate of rise of on-state current                            | V <sub>DM</sub> = 67%V <sub>DRM</sub> to2500A,<br>Gate pulse t <sub>r</sub> ≤0.5μs I <sub>GM</sub> =1.5A                    | 125                 |       |      | 100   | A/μs                             |
| Q <sub>rr</sub>                      | Recovery charge  | I <sub>TM</sub> =2000A, tp=2000μs, di/dt=-20A/μs,<br>V <sub>R</sub> =50V  | 125                 |       | 1200 |       | μC                               |
| I <sub>GT</sub>                      | Gate trigger current   | V <sub>A</sub> =12V, I <sub>A</sub> =1A   | 25                  | 40    |      | 300   | mA                               |
| V <sub>GT</sub>                      | Gate trigger voltage   |   |                     | 0.8   |      | 3.0   | V                                |
| I <sub>H</sub>                       | Holding current  |   |                     | 20    |      | 300   | mA                               |
| V <sub>GD</sub>                      | Non-trigger gate voltage   | V <sub>DM</sub> =67%V <sub>DRM</sub>  | 125                 | 0.3   |      |       | V                                |
| R <sub>th(j-c)</sub>                 | Thermal resistance<br>Junction to case                               | At 180° sine double side cooled<br>Clamping force 24kN  |                     |       |      | 0.020 | °C /W                            |
| R <sub>th(c-h)</sub>                 | Thermal resistance<br>case to heatsink                               |   |                     |       |      | 0.005 |                                  |
| F <sub>m</sub>                       | Mounting force   |   |                     | 19    |      | 26    | kN                               |
| T <sub>stg</sub>                     | Stored temperature   |   |                     | -40   |      | 140   | °C                               |
| W <sub>t</sub>                       | Weight   |   |                     |       |      | 170   | g                                |
| Outline                              | KT44aT   |   |                     |       |      |       |                                  |

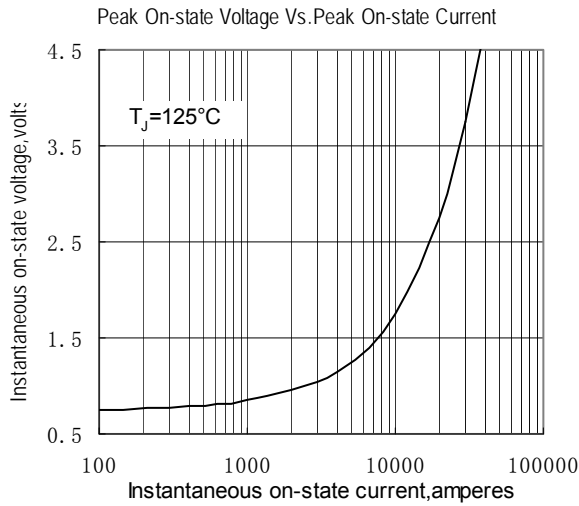


Fig.1

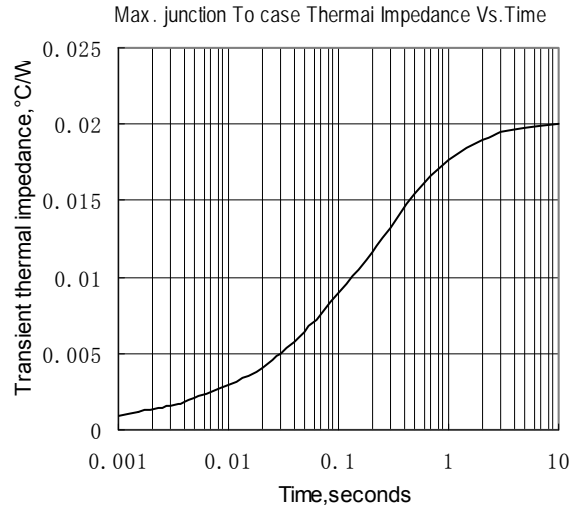


Fig.2

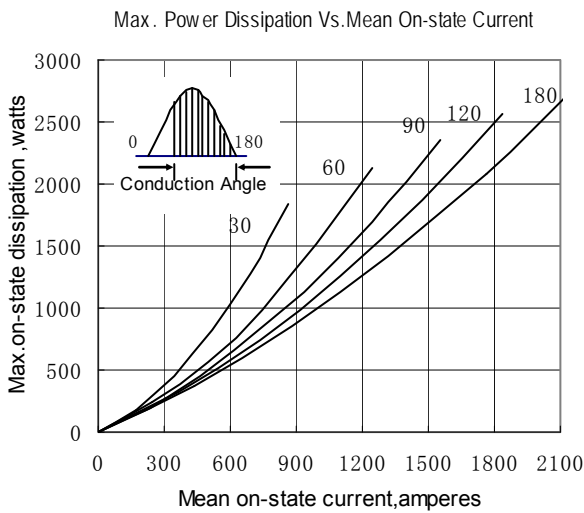


Fig.3

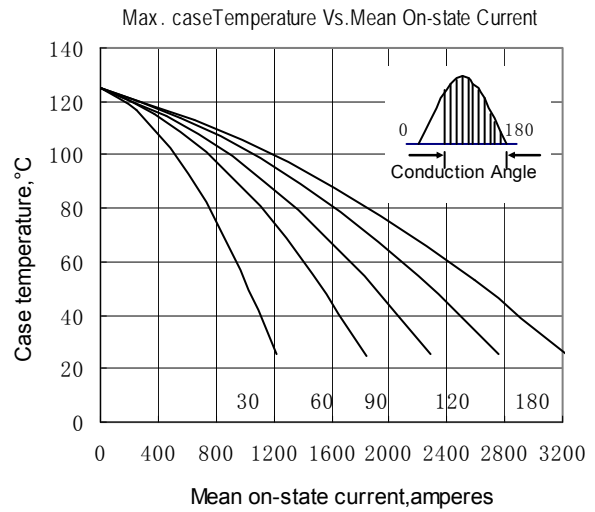


Fig.4

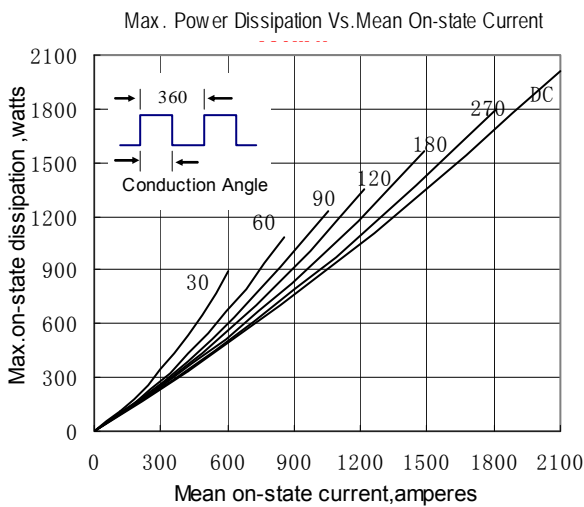


Fig.5

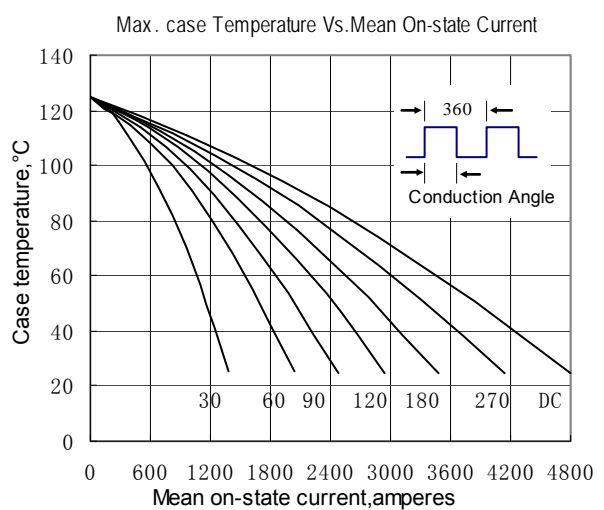


Fig.6

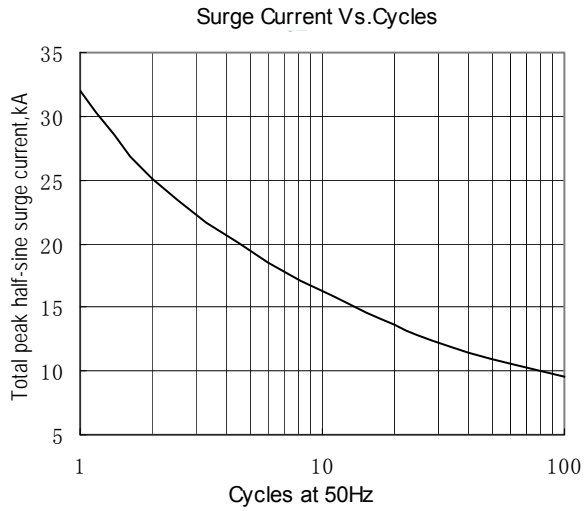


Fig.7

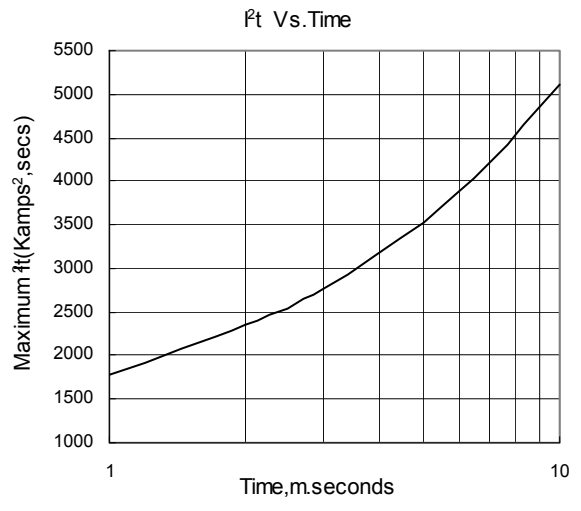


Fig.8

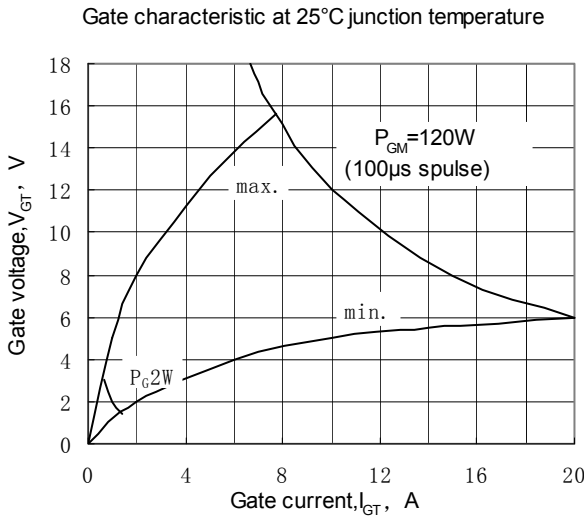


Fig.9

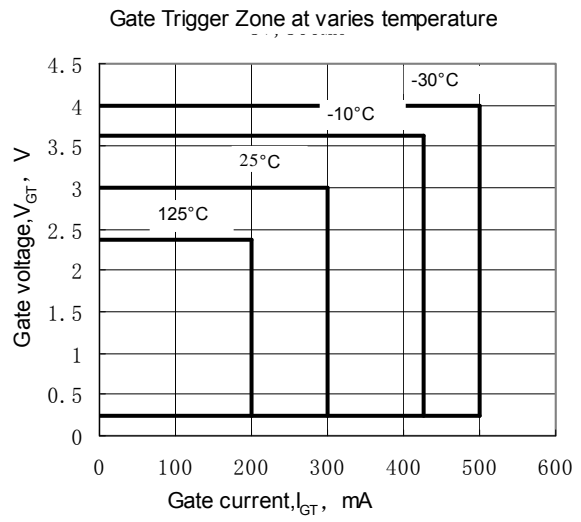


Fig.10

Outline:

