

**Features**

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

**Typical Applications**

- Inductive heating
- Electronic welders
- Self-commutated inverters

**Part No. Y76KKE-KT73cT**

|   |                |              |
|---|----------------|--------------|
| <b>I<sub>T(AV)</sub></b>                | <b>2940A</b>   |              |
| <b>V<sub>DRM</sub>, V<sub>RDM</sub></b> | <b>800V</b>    | <b>1000V</b> |
|   | <b>1200V</b>   | <b>1400V</b> |
|   | <b>1600V</b>   | <b>1800V</b> |
| <b>t<sub>q</sub></b>                    | <b>30~60μs</b> |              |

| 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,<br>T <sub>c</sub> =55°C   | 125                 |       |      | 2940  | A                                |
| V <sub>DRM</sub><br>V <sub>RDM</sub> | Repetitive peak off-state voltage<br>Repetitive peak reverse voltage | tp=10ms   | 125                 | 800   |      | 1800  | V                                |
| I <sub>DRM</sub><br>I <sub>RDM</sub> | Repetitive peak current  | at V <sub>DRM</sub><br>at V <sub>RDM</sub>  | 125                 |       |      | 200   | mA                               |
| I <sub>TSM</sub>                     | Surge on-state current   | 10ms half sine wave   | 125                 |       |      | 35.6  | kA                               |
| I <sup>2</sup> t                     | I <sup>2</sup> t for fusing coordination                             | V <sub>R</sub> =0.6V <sub>RDM</sub>   |                     |       |      | 6337  | A <sup>2</sup> s*10 <sup>3</sup> |
| V <sub>TO</sub>                      | Threshold voltage  |   | 125                 |       |      | 1.30  | V                                |
| r <sub>T</sub>                       | On-state slope resistance  |   |                     |       |      | 0.15  | mΩ                               |
| V <sub>TM</sub>                      | Peak on-state voltage  | I <sub>TM</sub> =5000A, F=40kN  | 25                  |       |      | 3.15  | 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> to3000A<br>Gate pulse t <sub>r</sub> ≤0.5μs I <sub>GM</sub> =1.5A<br>Single pulse | 125                 |       |      | 1200  | A/μs                             |
| Q <sub>rr</sub>                      | Recovery charge  | I <sub>TM</sub> =2000A, tp=4000μs,<br>di/dt=-20A/μs, V <sub>R</sub> =100V   | 125                 |       | 1000 |       | μC                               |
| t <sub>q</sub>                       | Circuit commutated turn-off time                                     | I <sub>TM</sub> =2000A, tp=4000μs, V <sub>R</sub> =100V<br>dv/dt=30V/μs, di/dt=-20A/μs                                  | 125                 | 30    |      | 60    | μs                               |
| I <sub>GT</sub>                      | Gate trigger current   | V <sub>A</sub> =12V, I <sub>A</sub> =1A   | 25                  | 40    |      | 450   | mA                               |
| V <sub>GT</sub>                      | Gate trigger voltage   |   |                     | 0.9   |      | 4.5   | V                                |
| I <sub>H</sub>                       | Holding current  |   |                     | 20    |      | 1000  | mA                               |
| I <sub>L</sub>                       | Latching current   |   |                     |       |      | 1000  | 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 40kN   |                     |       |      | 0.010 | °C /W                            |
| R <sub>th(c-h)</sub>                 | Thermal resistance<br>case to heat sink                              |   |                     |       |      | 0.003 |                                  |
| F <sub>m</sub>                       | Mounting force   |   |                     | 35    |      | 47    | kN                               |
| T <sub>vj</sub>                      | Junction temperature   |   |                     | -40   |      | 125   | °C                               |
| T <sub>stg</sub>                     | Stored temperature   |   |                     | -40   |      | 140   | °C                               |
| W <sub>t</sub>                       | Weight   |   |                     |       | 1100 |       | g                                |
| Outline                              | KT73cT   |   |                     |       |      |       |                                  |

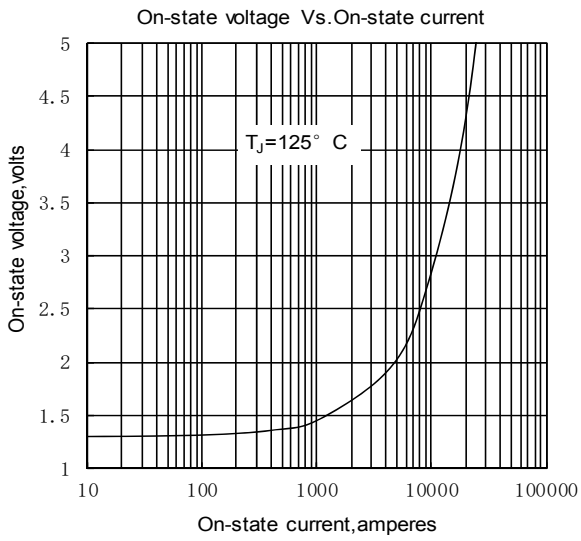


Fig. 1

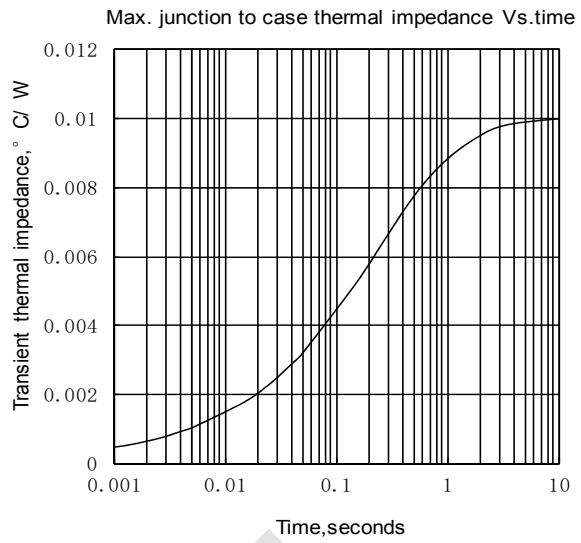


Fig. 2

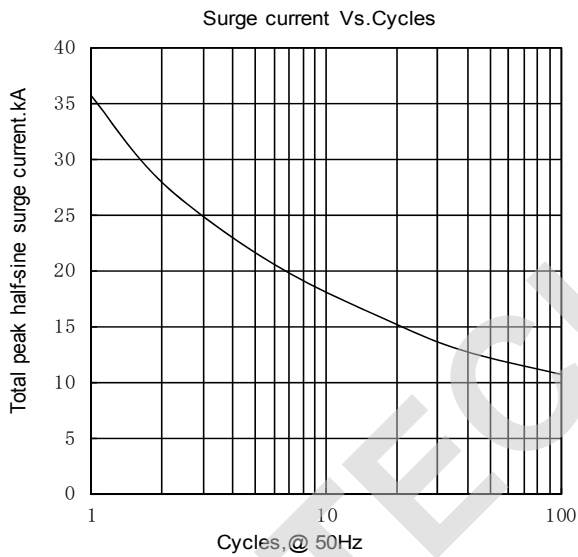


Fig. 3

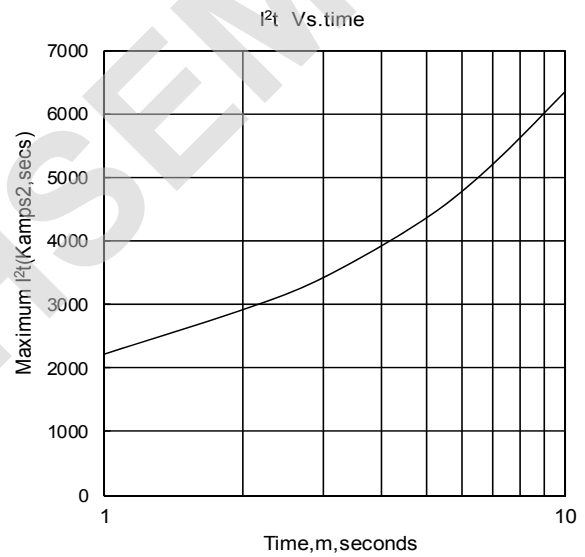


Fig. 4

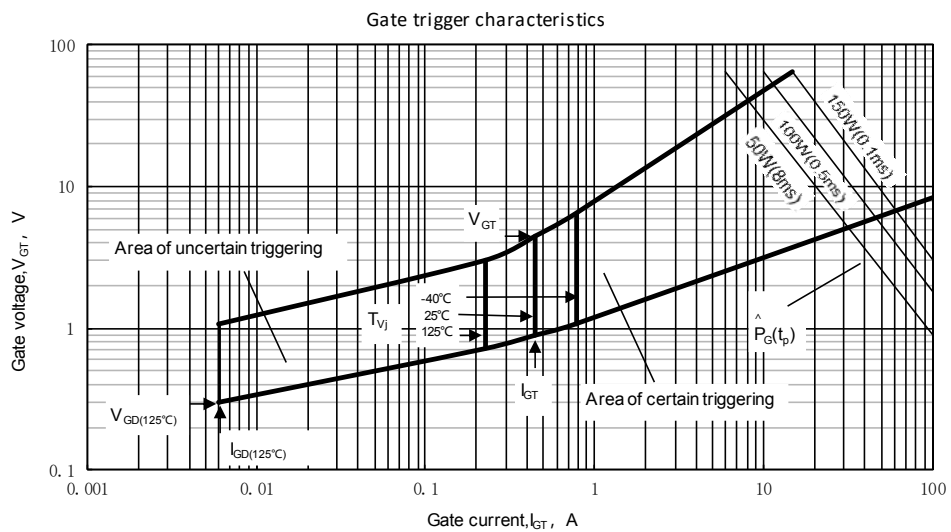
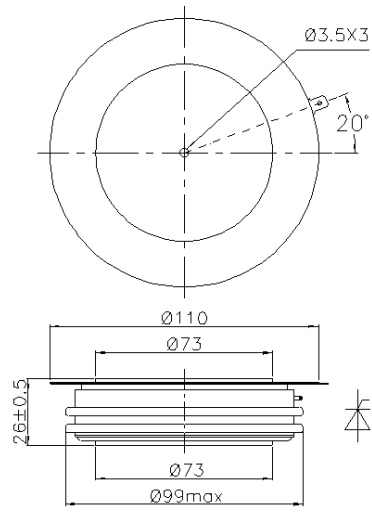


Fig.5

Outline:



TECHSEM reserves the right to change specifications without notice.

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