



浙江芯芯电子有限公司  
ZHEJIANG XINXIN ELECTIRICAL CO., LTD.

# 产品规格书

## Specification of Products

产品名称：平板型

产品型号：KK2000A

浙江芯芯电子有限公司

ZHEJIANG XINXIN ELECTIRICAL CO., LTD.

地址：浙江省缙云县壶镇镇浙江丽缙五金科技产业园苍山区块内

电话：13857067071

邮编：321404

E-mail:247145749@qq.com

<http://www.zjxxdz1.com>

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| 拟制  | 审核  | 核准  |
| 丁国盛 | 李园利 | 麻伟阳 |

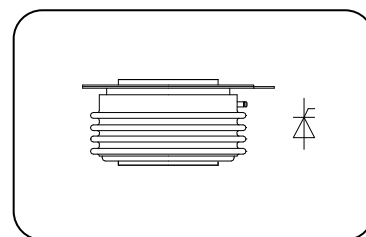
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- Interdigitated amplifying gates
- Fast turn-on and high di/dt
- Low switching losses

- Inductive heating
- Electronic welders
- Self-commutated inverters

|                   |                                       |
|-------------------|---------------------------------------|
| $I_{T(AV)}$       | 2160A                                 |
| $V_{DRM}/V_{RRM}$ | 1900~2500V                            |
| $t_q$             | 40~80 $\mu$ s                         |
| $I_{TSM}$         | 22.7 kA                               |
| $I_t^2$           | 2576 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,                                                                               | T <sub>C</sub> =55°C | 125                 |       |      | 2160  | A                                |
|                                      |                                                                      |                                                                                                                               | T <sub>C</sub> =85°C |                     |       |      | 1450  |                                  |
|                                      |                                                                      |                                                                                                                               | old model            |                     |       |      | 2000  |                                  |
| 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                 | 1900  |      | 2500  | V                                |
| I <sub>DRM</sub><br>I <sub>RRM</sub> | Repetitive peak current                                              | V <sub>D</sub> = V <sub>DRM</sub><br>V <sub>R</sub> = V <sub>RRM</sub>                                                        |                      | 125                 |       |      | 160   | mA                               |
| I <sub>TSM</sub>                     | Surge on-state current                                               | 10ms half sine wave                                                                                                           |                      | 125                 |       |      | 22.7  | kA                               |
| I <sup>2</sup> t                     | I <sup>2</sup> T for fusing coordination                             | V <sub>R</sub> =0.6V <sub>RRM</sub>                                                                                           |                      |                     |       |      | 2576  | A <sup>2</sup> s*10 <sup>3</sup> |
| V <sub>TO</sub>                      | Threshold voltage                                                    |                                                                                                                               |                      | 125                 |       |      | 1.48  | V                                |
| r <sub>T</sub>                       | On-state slop resistance                                             |                                                                                                                               |                      |                     |       |      | 0.23  | mΩ                               |
| V <sub>TM</sub>                      | Peak on-state voltage                                                | I <sub>TM</sub> =4000A, F=35kN                                                                                                |                      | 125                 |       |      | 2.40  | V                                |
| dv/dt                                | Critical rate of rise of off-state voltage                           | V <sub>DM</sub> =0.67V <sub>DRM</sub>                                                                                         |                      | 125                 |       |      | 500   | 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                       |                      | 125                 |       |      | 1200  | A/μs                             |
| Q <sub>rr</sub>                      | Recovery charge                                                      | I <sub>TM</sub> =2000A,tp=2000μs,<br>di/dt=-60A/μs,V <sub>R</sub> =50V                                                        |                      | 125                 |       | 1400 |       | μC                               |
| tq                                   | Circuit commutated turn-off time                                     | I <sub>TM</sub> =1700A,tp=1000μs, V <sub>R</sub> =50V<br>dv/dt=30V/μs , di/dt=-20A/μs                                         |                      | 125                 | 40    |      | 80    | 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                               |
| 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 35kN                                                                        |                      |                     |       |      | 0.012 | °C /W                            |
| R <sub>th(c-h)</sub>                 | Thermal resistance<br>case to heat sink                              |                                                                                                                               |                      |                     |       |      | 0.003 |                                  |
| F <sub>m</sub>                       | Mounting force                                                       |                                                                                                                               |                      |                     | 30    |      | 40    | kN                               |
| T <sub>stg</sub>                     | Stored temperature                                                   |                                                                                                                               |                      |                     | -40   |      | 140   | °C                               |
| W <sub>t</sub>                       | Weight                                                               |                                                                                                                               |                      |                     |       | 880  |       | g                                |
| Outline                              | KT60cT70                                                             |                                                                                                                               |                      |                     |       |      |       |                                  |

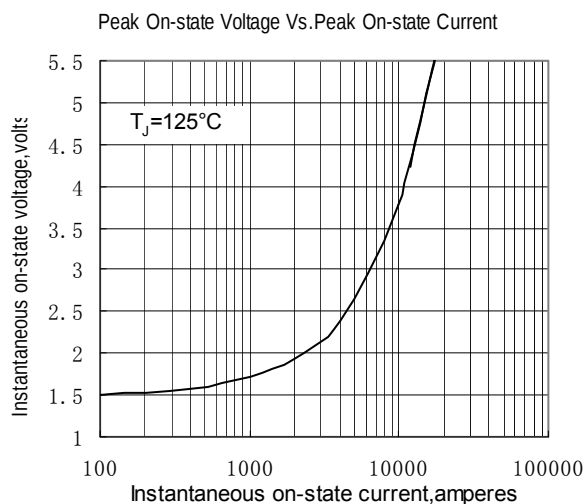


Fig.1

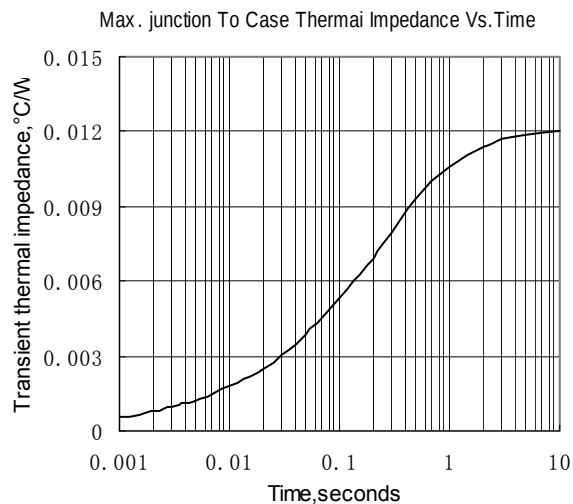


Fig.2

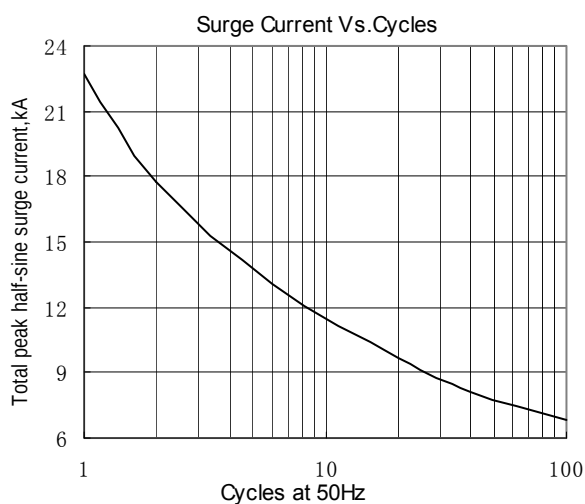


Fig.3

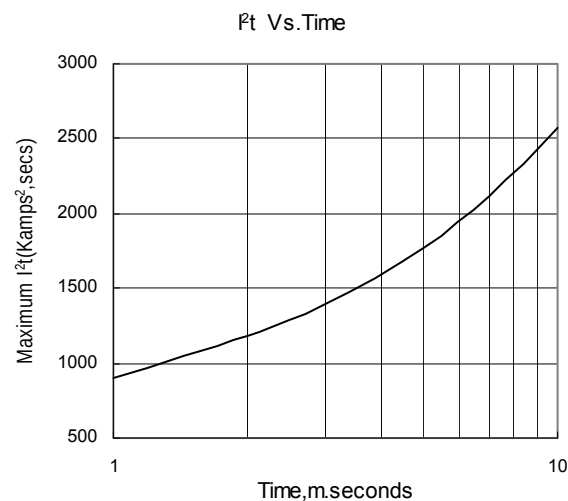


Fig.4

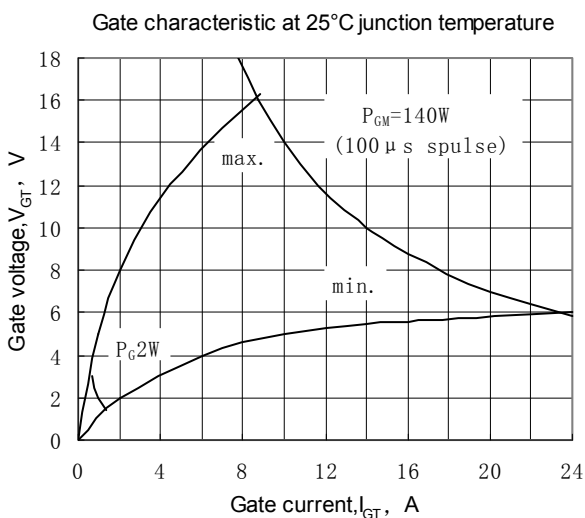


Fig.5

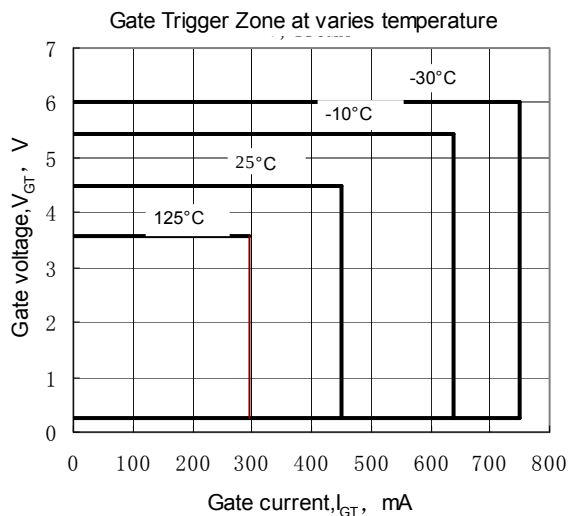


Fig.6

Outline:

