

## 产品概述 GENERAL DESCRIPTION

TYN820 单向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术，dv/dt高，可靠性高，适用于控温、调光、马达控制。

TYN820 Thyristor is fabricated using separation diffusion processes ,the junction termination areas are passivated with glass. Thanks to highly dv/dt and reliability,the Triacs series is suitable for domestic lighting ,heating and motor speed controllers.

## 主要参数 MAIN CHARACTERISTICS

| 参数<br>Parameter   | 数值<br>Value | 单位<br>Unit |
|-------------------|-------------|------------|
| $I_{T(RMS)}$      | 20          | A          |
| $V_{DRM}/V_{RRM}$ | 600&800     | V          |
| $I_{GT}$          | 15          | mA         |



## 产品特性

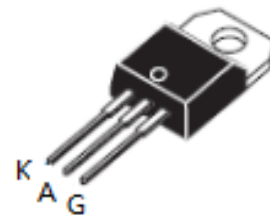
## FEATURES

- dv/dt高
- 通态压降低
- Rohs环保产品
- Highly dv/dt
- Low on-state voltage
- Rohs Products

## 应用领域 APPLICATIONS

主要应用于调光、控温、马达控制。

domestic lighting ,heating and motor speed controllers.



**极限值(除非另有规定, Tj=25°C) ABSOLUTE RATINGS**

(Tj=25°C, unless otherwise specified)

| 符号<br>Symbol        | 参数<br>Parameter   | 数值<br>Value                    | 单位<br>Unit              |
|---------------------|---|--------------------------------|-------------------------|
| I <sub>T(RMS)</sub> | RMS 通态电流<br>RMS on-state current (full sine wave)         | T <sub>C</sub> =90°C           | 20<br>A                 |
| I <sub>TSM</sub>    | 通态峰值浪涌电流<br>Non repetitive surge peak on-state current    | F=50Hz, t=20ms                 | 210<br>A                |
| I <sup>2</sup> t    | I <sup>2</sup> t 耗散值<br>I <sup>2</sup> t value for fusing | T <sub>P</sub> =10ms           | 200<br>A <sup>2</sup> s |
| di/dt               | 通态电流上升值<br>Critical rate of rise of on-state current      | F=120Hz, Tj=125°C              | 50<br>A/μs              |
| I <sub>GM</sub>     | 门极峰值电流<br>Peak gate current                               | T <sub>P</sub> =20μs, Tj=125°C | 5<br>A                  |
| P <sub>G(AV)</sub>  | 平均门极耗散功率<br>Average gate power dissipation                | Tj=125°C                       | 1<br>W                  |
| Tstg                | 贮存结温范围<br>Storage junction temperature range              |                                | -40+150<br>°C           |
| Tj                  | 工作结温范围<br>Operating junction temperature range            |                                | -40+150<br>°C           |

**电参数(除非另有规定, Tj=25°C) ELECTRICAL CHARACTERISTICS**

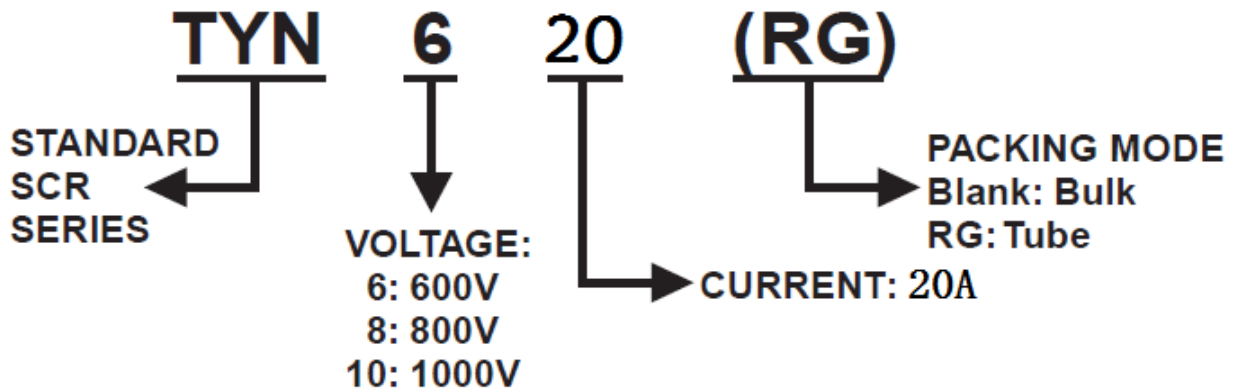
(Tj=25°C, unless otherwise specified)

| 参数<br>Parameter                                   | 符号<br>Symbol     | 规范值 Value |     |     | 单位<br>Unit | 测试条件<br>Test Conditions                          |
|---|------------------|-----------|-----|-----|------------|--|
|   |                  | Min       | Typ | Max |            |  |
| 触发电流<br>Gate trigger current                      | I <sub>GT</sub>  | 2         | -   | 20  | mA         | V <sub>D</sub> =12V, I <sub>T</sub> =0.1A        |
| 触发电压<br>Gate trigger voltage                      | V <sub>GT</sub>  | -         | 0.7 | 1.3 | V          | V <sub>D</sub> =12V, I <sub>T</sub> =0.1A        |
| 维持电流<br>Holding current                           | I <sub>H</sub>   | -         | 16  | 40  | mA         | V <sub>D</sub> =12V, I <sub>T</sub> =0.1A        |
| 擎住电流<br>Latching current                          | I <sub>L</sub>   | -         | 21  | 60  | mA         | V <sub>D</sub> =12V, I <sub>T</sub> =0.1A        |
| 电压上升率<br>Rise of off-state voltage                | dv/dt            | 500       | -   | -   | V/μS       | V <sub>D</sub> =67% V <sub>DRM</sub>             |
| 通态压降<br>Peak on-state voltage                     | V <sub>TM</sub>  | -         | -   | 1.5 | V          | I <sub>T</sub> =32A                              |
| 断态漏电流<br>Peak repetitive forward blocking current | I <sub>DRM</sub> | -         | -   | 5   | μA         | V <sub>RRM</sub> =V <sub>DRM</sub> , Tj = 25 °C  |
|   | I <sub>RPM</sub> | -         | -   | 1   | mA         | V <sub>RRM</sub> =V <sub>DRM</sub> , Tj = 150 °C |

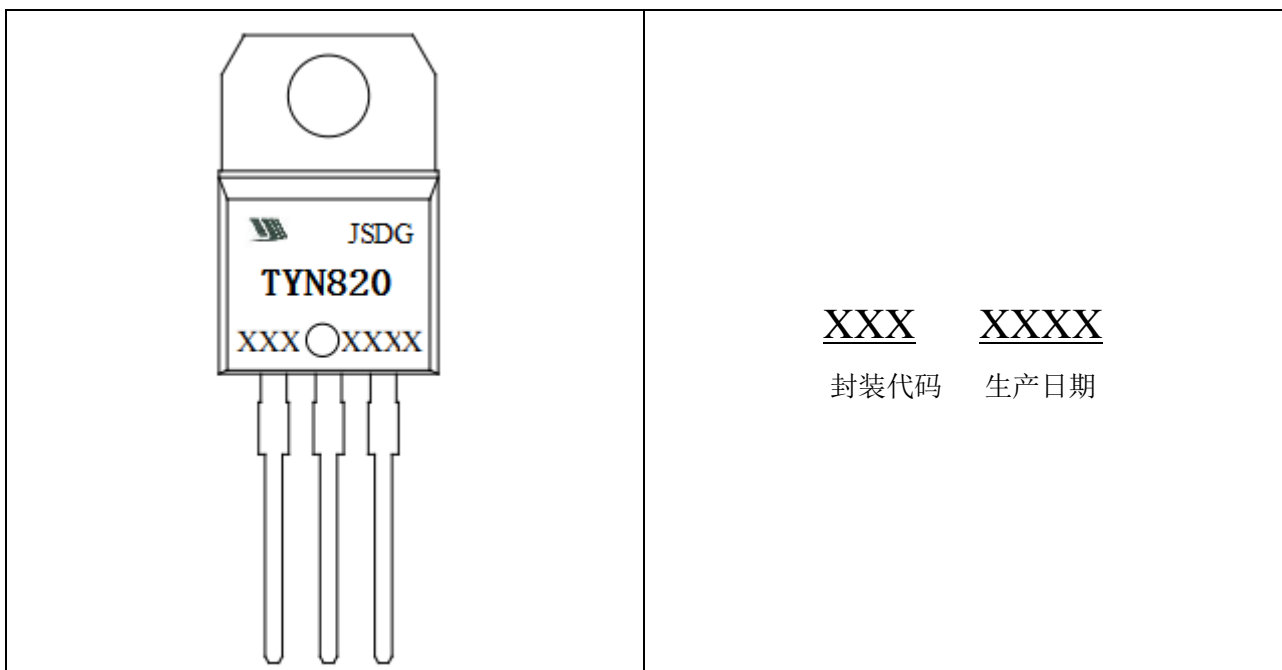
**热特性 THERMAL RESISTANCES**

| 符号 Symbol | 参数 Parameter         | 数值 Value | 单位 Unit |
|-----------|----------------------|----------|---------|
| Rth(j-c)  | Junction to case(AC) | 1.3      | K/W     |
| Rth(j-a)  | Junction to ambient  | 60       | K/W     |

## ORDERING INFORMATION



## 印章说明MARKING



特征曲线 ELECTRICAL CHARACTERISTICS (CURVES)

图1 最大耗散功率与RMS通态电流关系  
Fig.1.Maximum Power Dissipation Versus on-state current

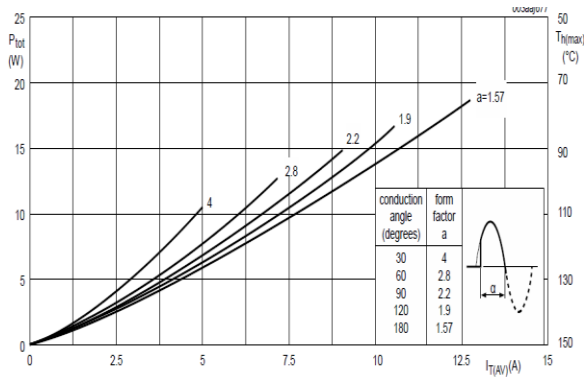


图3 通态特性  
Fig.3.On-State Characteristics

图2 RMS通态电流与Tc温度关系  
Fig.2. RMS On-state Current Versus TL

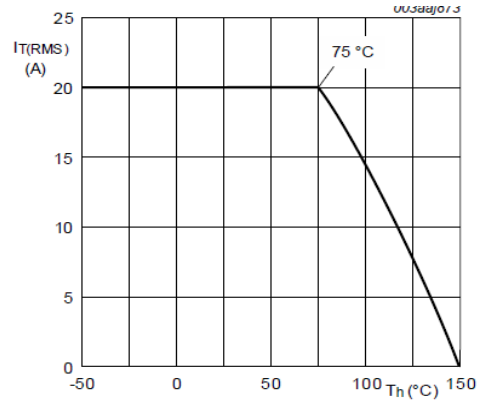


图4 通态浪涌峰值电流与周期数关系  
Fig.4.Surge Peak On-state Current Versus Number Cycles

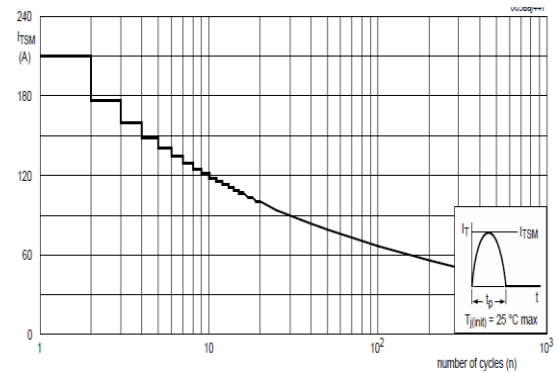
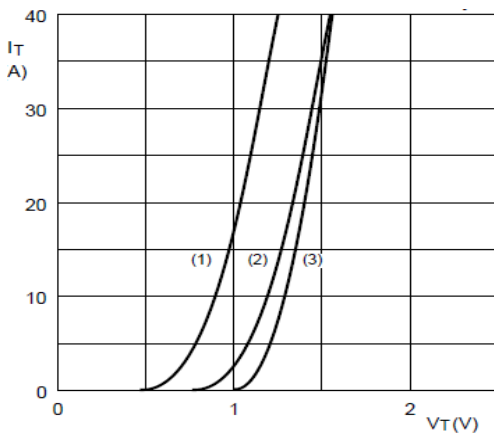
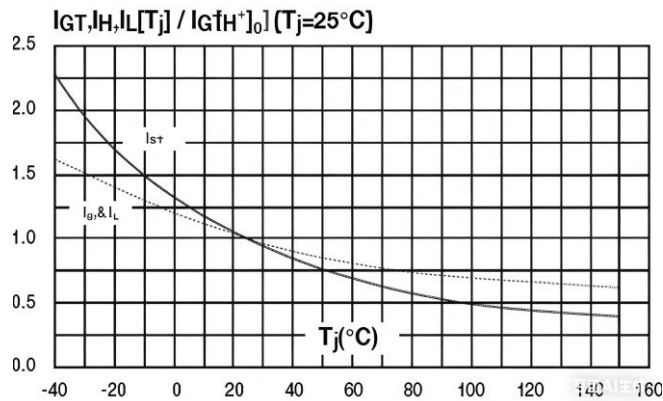


图5 IGT、IH、IL相对值（相对于25°C）与结温关系  
Fig.5.Relative Variation Of Gate Trigger Current

, Holding Current And Latching Current Versus Junction Temperature (Typical Value)

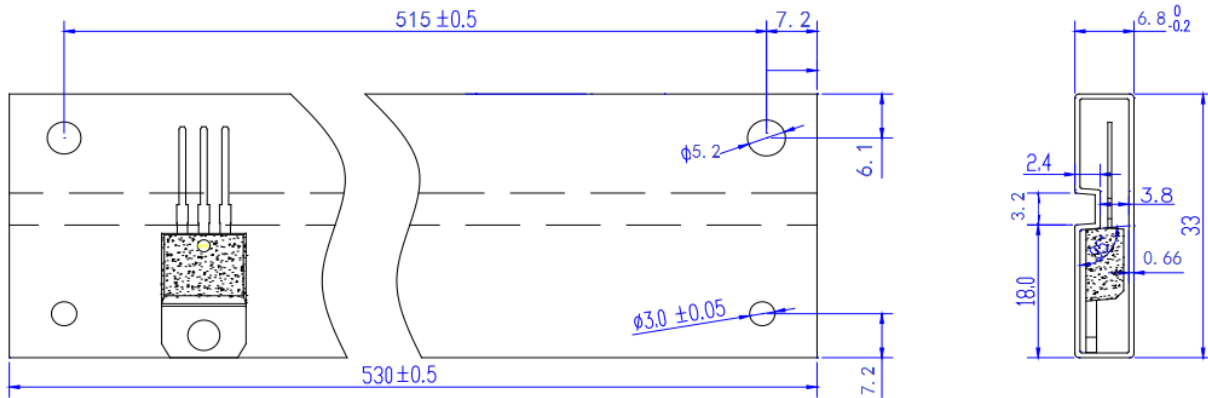


封装尺寸 PACKAGE MECHANICAL DATA

TO-220B

| Ref. | Dimensions  |       |       |        |       |       |
|------|-------------|-------|-------|--------|-------|-------|
|      | Millimeters |       |       | Inches |       |       |
|      | Min.        | Typ.  | Max.  | Min.   | Typ.  | Max.  |
| A    | 15.20       |       | 15.90 | 0.598  |       | 0.625 |
| a1   |             | 3.75  |       |        | 0.147 |       |
| a2   | 13.00       |       | 14.00 | 0.511  |       | 0.551 |
| B    | 10.00       |       | 10.40 | 0.393  |       | 0.409 |
| b1   | 0.61        |       | 0.88  | 0.024  |       | 0.034 |
| b2   | 1.23        |       | 1.32  | 0.048  |       | 0.051 |
| C    | 4.40        |       | 4.60  | 0.173  |       | 0.181 |
| c1   | 0.49        |       | 0.70  | 0.019  |       | 0.027 |
| c2   | 2.40        |       | 2.72  | 0.094  |       | 0.107 |
| e    | 2.40        |       | 2.70  | 0.094  |       | 0.106 |
| F    | 6.20        |       | 6.70  | 0.244  |       | 0.264 |
| ØI   | 3.70        |       | 3.85  | 0.146  |       | 0.151 |
| I4   | 15.80       | 16.40 | 16.80 | 0.622  | 0.646 | 0.661 |
| L    | 2.65        |       | 2.95  | 0.104  |       | 0.116 |
| I2   | 1.14        |       | 1.70  | 0.044  |       | 0.066 |
| I3   | 1.14        |       | 1.70  | 0.044  |       | 0.066 |
| M    |             | 2.60  |       |        | 0.102 |       |

**配送方式 DELIVERY MODE**



| PACKAGE | OUTLINE | TUBE(PCS) | INNER BOX(PCS) | PER CARTON |
|---------|---------|-----------|----------------|------------|
| TO-220B | TUBE    | 50        | 1000           | 5000       |

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