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| BTA04 | | |
| | 双向可控硅 TRIAC | 版本号 201603-A |

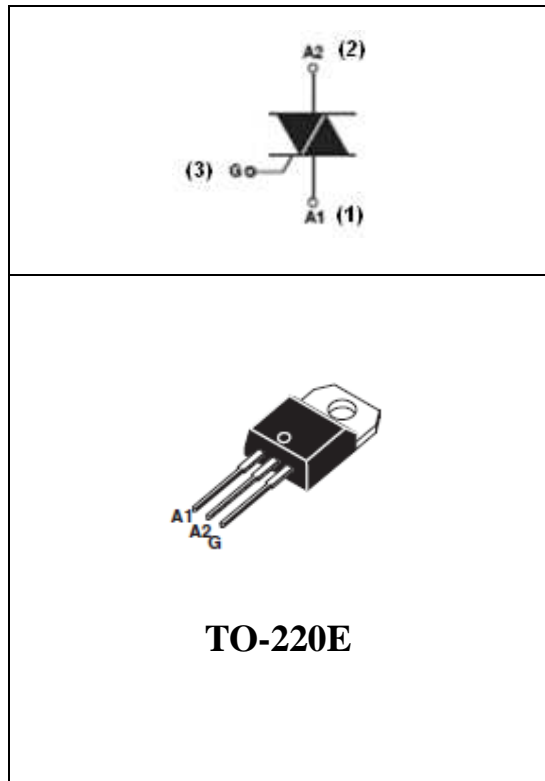
产品概述 GENERAL DESCRIPTION

BTA04 双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。

BTA04 Triacs 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 Parameter | 数值 Value | 单位 Unit |
|-------------------|-------------|------------|
| $I_{T(RMS)}$ | 4 | A |
| V_{DRM}/V_{RRM} | 600&800 | V |
| $I_{GT(III)}$ | ≤ 25 | 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, T_j=25℃) ABSOLUTE RATINGS

 (T_j=25℃, unless otherwise specified)

| 符号 Symbol | 参数 Parameter | 数值 Value | 单位 Unit |
|---------------------|---|-------------------------------|----------------------|
| I _{T(RMS)} | RMS 通态电流 RMS on-state current (full sine wave) | T _C ≤107℃ | 4 A |
| I _{TSM} | 通态峰值浪涌电流 Non repetitive surge peak on-state current | F=50Hz, t=20ms | 25 A |
| I ² t | I ² t 耗散值 I ² t value for fusing | T _p =10ms | 3.1 A ² s |
| di/dt | 通态电流上升值 Critical rate of rise of on-state current | F=120Hz, T _j =125℃ | 50 A/μs |
| I _{GM} | 门极峰值电流 Peak gate current | TP=20μs, T _j =125℃ | 2 A |
| P _{G(AV)} | 平均门极耗散功率 Average gate power dissipation | T _j =125℃ | 0.5 W |
| T _{stg} | 贮存结温范围 Storage junction temperature range | | -40~+150 ℃ |
| T _j | 工作结温范围 Operating junction temperature range | | -40~+125 ℃ |

电参数(除非另有规定, T_j=25℃) ELECTRICAL CHARACTERISTICS

 (T_j=25℃, unless otherwise specified)

| 参数 Parameter | 符号 Symbol | 规范值 Value | | | | 单位 Unit | 测试条件 Test Conditions | |
|---|------------------|-----------|------|----|----|------------|---|---|
| | | T | D | S | A | | | |
| 触发电流 Gate trigger current | I _{GT} | I ~ III | 5 | 5 | 10 | 10 | mA | V _D =12V, I _T =0.1A |
| | | IV | 5 | 10 | 10 | 25 | | |
| 触发电压 Gate trigger voltage | V _{GT} | I ~ IV | ≤1.5 | | | V | V _D =12V, I _T =0.1A | |
| 维持电流 Holding current | I _H | | 10 | 10 | 15 | 20 | mA | V _D =12V, I _T =0.1A |
| 擎住电流 Latching current | I _L | I、III | 10 | 10 | 10 | 15 | mA | V _D =12V, I _T =0.1A |
| | | II、IV | 15 | 15 | 20 | 20 | | |
| 电压上升率 Rise of off- state voltage | dv/dt | | 5 | 5 | 10 | 50 | V/μs | V _D =67% V _{DRM} |
| 通态压降 Peak on-state voltage | V _{TM} | | 1.7 | | | V | I _T =5.5A | |
| 断态漏电流 Peak repetitive forward blocking current | I _{DRM} | | 5 | | | μA | V _{RRM} =V _{DRM} , T _j =25℃ | |
| | I _{RRM} | | 0.8 | | | mA | V _{RRM} =V _{DRM} , T _j =125℃ | |

热特性 THERMAL RESISTANCES

| 符号 Symbol | 参数 Parameter | 数值 Value | 单位 Unit |
|-----------|----------------------|----------|---------|
| Rth(j-c) | Junction to case(AC) | 2.7 | ℃/W |
| Rth(j-a) | Junction to ambient | 60 | ℃/W |



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

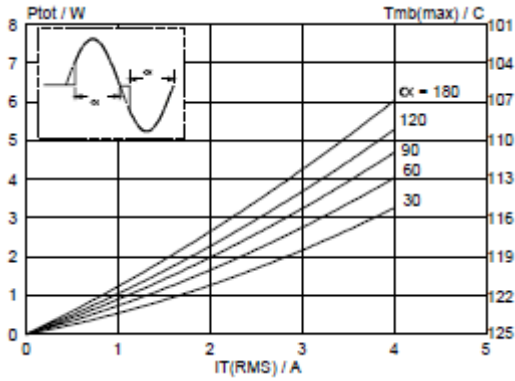


图2 RMS通态电流与Tc温度关系
Fig.2. RMS On-state Current Versus TL

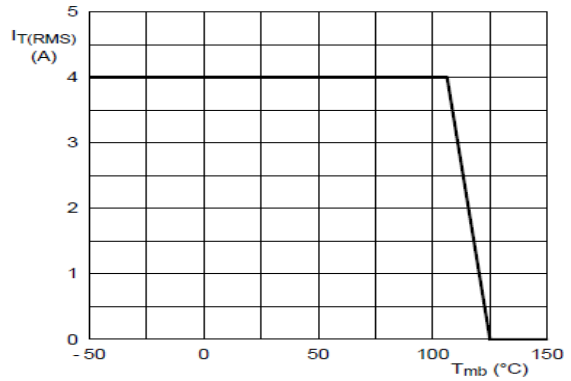


图3 通态特性
Fig.3.On-State Characteristics

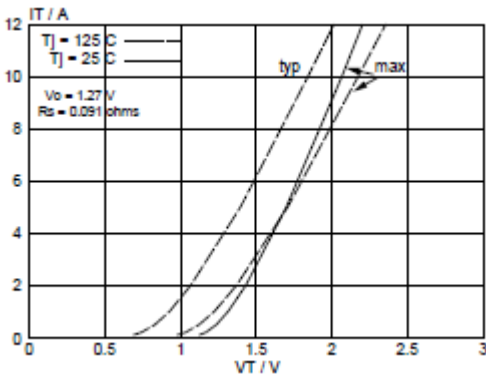


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

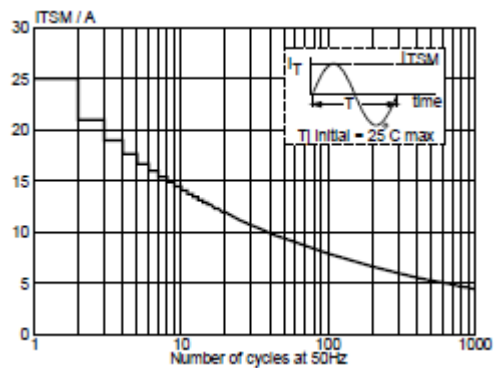
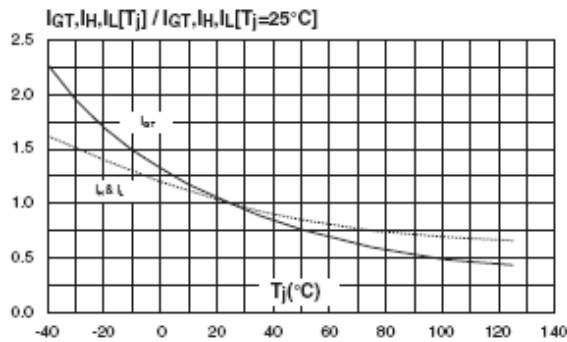


图5 IGT、IH、IL相对值（相对于25°C）与结温关系
Fig.5.Relative Variation Of Gate Trigger Current , Holding Current And Latching Current Versus Junction Temperature (Typical Value)



封装尺寸 PACKAGE MECHANICAL DATA

TO-220E

| 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 | |

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