| D.G.M.E. | BTA/BTB41C/B | 版本号：V1.0 |
|---|---|---|
| | 双向可控硅（四项限）<br>Triacs（4quadrants） | |

## 产品概述 General Description

BTA/BTB41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，四象限触发，可靠性高，适合应用于调光、控温、马达控制。

**BTA/BTB41** Triacs is fabricated using two-side diffusion processes , the junction termination areas are passivated with glass. Thanks to highly reliability,the Triacs series is suitable for domestic lighting , heating and motor speed controllers.

## 产品特点 MAIN FEATURES

- ●表面玻璃钝化，可靠性高 ●Glass-Passivated Surface For Reliability
- ●绝缘电压2500V UL文号E258362 ●Viso：2500V UL FILE NO.：E258362
- ●通态压降低 ●Low on-state voltage
- ●Rohs环保产品 ●Rohs Products

## 应用领域 Applications

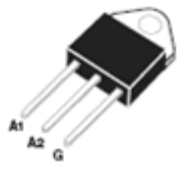
主要应用于调温控制，调光控制，调速控制…等。

domestic lighting ,heating and motor speed controllers.

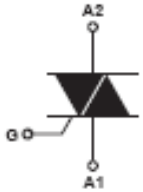
## 主要参数MAIN CHARACTERISTICS

| 参数<br>Parameter | 数值<br>Value | 单位<br>Unit |
|---|---|---|
| $I_{T\ (RMS)}$ | 40 | A |
| $V_{DRM}/V_{RRM}$ | 600 | V |
| $I_{GT}$ | 50 | mA |

**封装Package：TO-220**




TO-3P



## 极限值(除非另有规定，$T_a$=25℃) ABSOLUTE RATINGS

(Tj=25℃,unless otherwise specified)

| 参数 Parameter | | 符号 symbol | 数值 Value | 单位 Unit |
|---|---|---|---|---|
| RMS 通态电流 on-state RMS current | TO-3PI$_{ns.}$ $T_C$=90℃ | $I_{T(RMS)}$ | 40 | A |
| 通态峰值浪涌电流 Non repetitive surge peak on-state current | t=20ms | $I_{TSM}$ | 400 | A |
| $I^2t$ 耗散值 $I^2t$ for fusing | $T_P$=10ms | $I^2t$ | 800 | $A^2s$ |
| 电流上升率 Repetitive rate of rise of on-state current after triggering | F=120$H_Z$,Tj=125℃ | di/dt | 50 | A/μs |
| 门极峰值电流 Peak gate current | | $I_{GM}$ | 8 | A |
| 平均门极耗散功率 Average gate power | | $P_{G(AV)}$ | 1.0 | W |
| 贮存结温范围 Storage temperature | | Tstg | -40-+150 | ℃ |
| 工作结温范围 Operation junction temperature | | Tj | -40-+125 | ℃ |

## 电参数(除非另有规定，$T_a$=25℃) ABSOLUTE RATINGS

(Tj=25℃,unless otherwise specified)

| 参数名称 Parameter | 符号 Symbol | 测试条件 Test Conditions | | 规范值Value | | | 单位 Unit |
|---|---|---|---|---|---|---|---|
| | | | | | C | B | |
| 触发电流 Gate trigger current | $I_{GT}$ | $V_D$=12V, $I_T$=0.01A | Ⅰ-Ⅱ-Ⅲ | MAX | 35 | 50 | mA |
| | | | Ⅳ | | 50 | 100 | |
| 触发电压 Gate trigger voltage | $V_{GT}$ | $V_D$=12V, $I_T$=0.01A | Ⅰ-Ⅱ-Ⅲ | | 1.5 | | V |
| | | | Ⅳ | | | | |
| 维持电流 Holding current | $I_H$ | $I_T$=500mA | | | 40 | 50 | mA |
| 电压上升率 Rise of off- state voltage | dv/dt | $V_D$=67%$V_{DRM}$ | | MIN | 200 | 400 | V/μS |
| 通态压降 Peak on-state voltage | $V_{TM}$ | $I_T$=60A，$T_P$=380μs | | MAX | 1.55 | | V |
| 断态漏电流 For Peak Repetitive ward Blocking Current | $I_{DRM}$ | $V_D$=$V_{DRM}$, Tj=125℃ | | MAX | 5.0 | | mA |

## 热特性 THERMAL RESISTANCES

| 参数 Parameter | 符号 symbol | 数值 Value | 单位 Unit |
|---|---|---|---|
| Junction to case(AC) | Rth(j-lead) | 0.9 | ℃/W |
| Junction to ambient | Rth(j-a) | 50 | ℃/W |

# 典型特性曲线 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

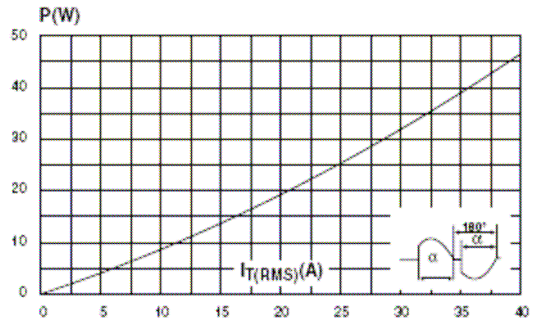



图2 平均通态电流与Tc温度关系
Fig.2. On-state Current Versus TL

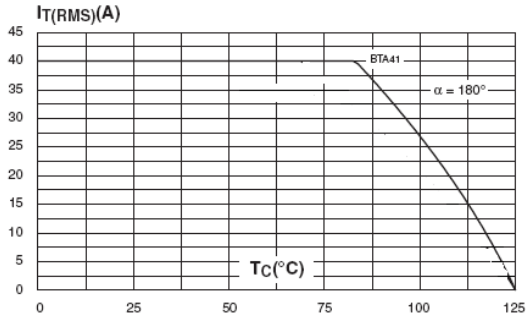



图3 通态特性
Fig.3.On-State Characteristics

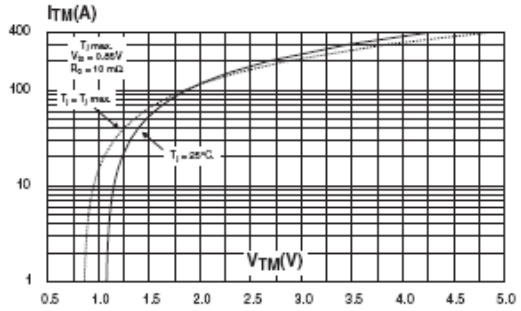



图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

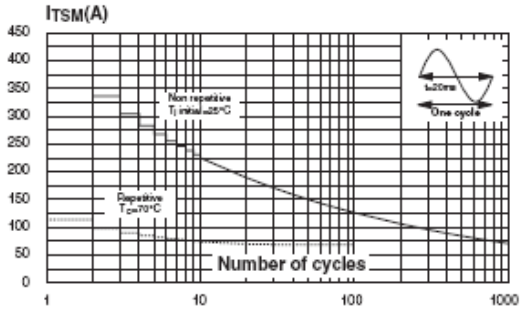
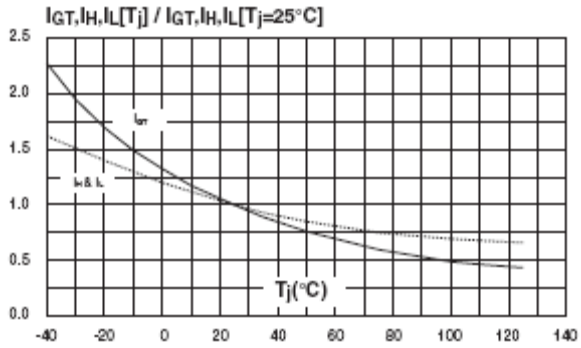
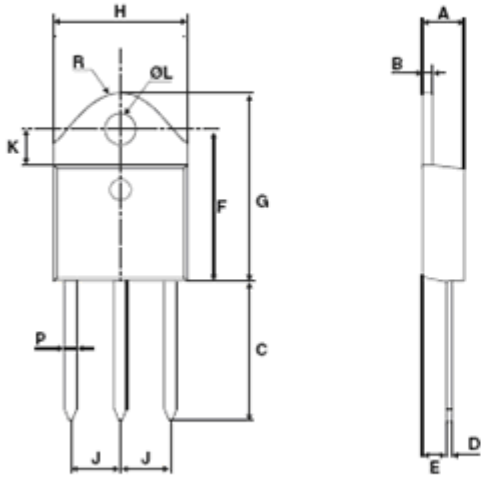



图5 $I_{GT}$、$I_H$、$I_L$相对值（相对于25℃）与结温关系
Fig.5.Relative Variation Of Gate Trigger Current , Holding Current And Latching Current Versus Junction Temperature (Typical Value)



# TO-3P外形图 Package Mechanical Data




| REF. | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.4 | | 4.6 | 0.173 | | 0.181 |
| B | 1.45 | | 1.55 | 0.057 | | 0.061 |
| C | 14.35 | | 15.60 | 0.565 | | 0.614 |
| D | 0. 4 | | 0.7 | 0.020 | | 0.028 |
| E | 2.7 | | 2.9 | 0.106 | | 0.114 |
| F | 15.8 | | 16.5 | 0.622 | | 0.650 |
| G | 20.4 | | 21.1 | 0.815 | | 0.831 |
| H | 15.1 | | 15.5 | 0.594 | | 0.610 |
| J | 5.4 | | 5.65 | 0.213 | | 0.222 |
| K | 3.4 | | 3.65 | 0.134 | | 0.144 |
| ØL | 4.08 | | 4.17 | 0.161 | | 0.164 |
| P | 1.20 | | 1.40 | 0.047 | | 0.055 |
| R | | 4.60 | | | 0.181 | |