



3TT40AB

主要参数 MAIN CHARACTERISTICS

| | |
|------------|--------------|
| $I_T(RMS)$ | 40A |
| V_{DRM} | 600V or 800V |
| I_{GT} | 50mA |

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

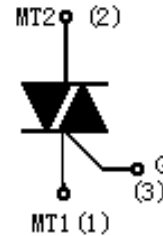
产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 三象限可控硅，触发电流的一致性好
- 环保 RoHS 产品

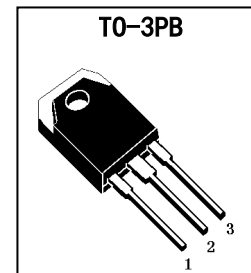
FEATURES

- Glass-passivated mesa chip for reliability and uniform
- Uniform gate trigger currents in three quadrants
- RoHS products

封装 Package



| 序号 Pin | 引线名称 Description |
|-----------|---------------------|
| 1 | 主电极 1 MT1 |
| 2 | 主电极 2 MT2 |
| 3 | 门极 G |



订货信息 ORDER MESSAGES

| 订货型号 Order codes | | 印记 Marking | 封装 Package |
|-----------------------|----------------------------|---------------|---------------|
| 有卤-条管 Halogen-Tube | 无卤-条管 Halogen-Free-Tube | | |
| 3TT40AB-GD-B | 3TT40AB-GD-BR | 3TT40AB | TO-3PB |

概述 GENERAL DESCRIPTION

3TT40AB是玻璃钝化芯片结构的三象限双向晶闸管，产品在第四象限不可触发，具有较高的使用可靠性。可适用于容易出现较高dV/dt或dI/dt的交流全波控制线路中，特别推荐应用与电感性负载控制（如电机控制线路）。器件封装形式为TO-3PB。

3TT40AB are Glass passivated three quadrant triacs, designed for high performance full-wave ac control applications where high static and dynamic dV/dt and high dI/dt can occur. They are specially recommended for use on inductive loads such as motor control circuits. Available package is TO-3PB.



绝对最大额定值 ABSOLUTE RATINGS ($T_c=25^\circ\text{C}$)

| 项 目 Parameter | 符 号 Symbol | 试 验 条 件 Condition | 数 值 Value | 单 位 Unit |
|--|---------------------|---|------------------------|------------------------|
| 重复峰值断态电压 Repetitive peak off-state voltage | V_{DRM} | | ± 600 ± 800 | V |
| 通态方均根电流 On-state RMS current | $I_{\text{T(RMS)}}$ | full sine wave, | 40 | A |
| 非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current | I_{TSM} | full sine wave , $t=20\text{ms}$ | 320 | A |
| | | full sine wave , $t=16.7\text{ms}$ | 350 | A |
| | | I^2t $t=10\text{ms}$ | 300 | A^2s |
| 通态电流临界上升率 Repetitive rate of rise of on-state current after triggering | di/dt | $I_{\text{TM}}=45\text{A}$, $I_{\text{G}}=0.2\text{A}$, $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$ | 100 | $\text{A}/\mu\text{s}$ |
| 峰值门极电流 Peak gate current | I_{GM} | | 2 | A |
| 峰值门极电压 Peak gate voltage | V_{GM} | | 5 | V |
| 峰值门极功率 Peak gate power | P_{GM} | | 5 | W |
| 平均门极功率 Average gate power | $P_{\text{G(AV)}}$ | over any 20ms period | 0.5 | W |
| 存储温度 Storage temperature | T_{stg} | | -40~150 | $^\circ\text{C}$ |
| 操作结温 Operation junction temperature | T_{VJ} | | 125 | $^\circ\text{C}$ |



电特性 ELECTRICAL CHARACTERISTIC (T_c=25°C)

| 项 目 Parameter | 符 号 Symbol | 测 试 条 件 Condition | 最小 Min | 典型 Typ | 最大 Max | 单位 Unit | |
|--|------------------|---|--------------------|-----------|-----------|------------|----|
| 峰值重复断态电流 Peak Repetitive Blocking Current | I _{DRM} | V _{DM} =V _{DRM} , T _j =25°C, gate open | - | - | 10 | μA | |
| | | V _{DM} =V _{DRM} , T _j =125°C, gate open | - | - | 5.0 | mA | |
| 峰值通态电压 Peak on-state voltage | V _{TM} | I _{TM} =55A | - | - | 1.7 | V | |
| 门极触发电流 Gate trigger current | I _{GT} | V _{DM} =12V, R _L =100Ω | MT1(-),MT2(+),G(+) | 5 | - | 50 | mA |
| | | | MT1(-),MT2(+),G(-) | 5 | - | 50 | mA |
| | | | MT1(+),MT2(-),G(-) | 5 | - | 50 | mA |
| 门极触发电压 Gate trigger voltage | V _{GT} | V _{DM} =12V, R _L =100Ω | MT1(-),MT2(+),G(+) | - | 0.7 | 1.5 | V |
| | | | MT1(-),MT2(+),G(-) | - | 0.7 | 1.5 | V |
| | | | MT1(+),MT2(-),G(-) | - | 0.7 | 1.5 | V |
| 维持电流 Holding current | I _H | V _{DM} =12V, I _{GT} =0.1A | - | - | 50 | mA | |
| 擎住电流 Latching current | I _L | V _{DM} =12V, I _{GT} =0.1A | MT1(-),MT2(+),G(+) | - | - | 60 | mA |
| | | | MT1(-),MT2(+),G(-) | - | - | 90 | mA |
| | | | MT1(+),MT2(-),G(-) | - | - | 60 | mA |
| 断态临界电压上升率 Rise of off- state voltage | dV/dt | V _{DM} =67% V _{DRM(MAX)} , T _j =125°C, gate open | 1000 | - | - | V/μs | |
| 门极开通时间 Gate controlled turn-on time | t _{gt} | I _{TM} =55A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, di _G /dt=5A/μs | - | 2 | - | μs | |

热特性 THERMAL CHARACTERISTIC

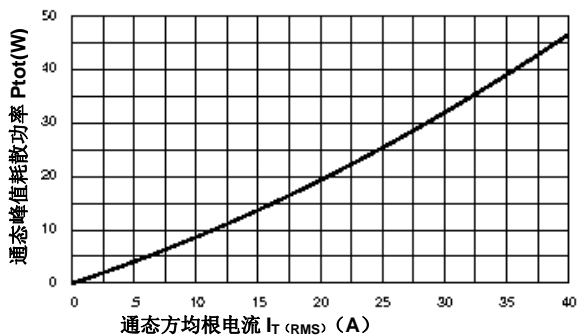
| 项 目 Parameter | 符 号 Symbol | 条 件 Condition | 最小 Min | 典型 Typ | 最大 Max | 单位 Unit |
|---|----------------------|--------------------|-----------|-----------|-----------|------------|
| 结到管壳的热阻 Thermal resistance junction to case | R _{th(j-c)} | full cycle(TO-3PB) | | | 0.6 | °C/W |



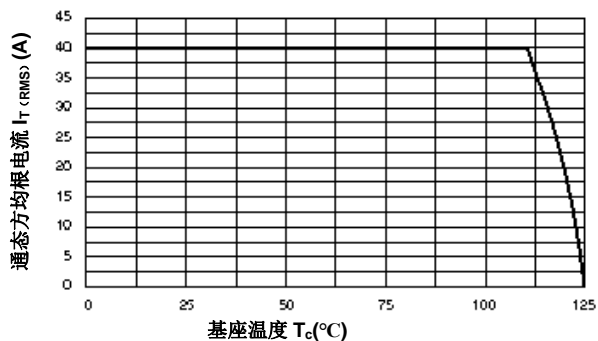


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

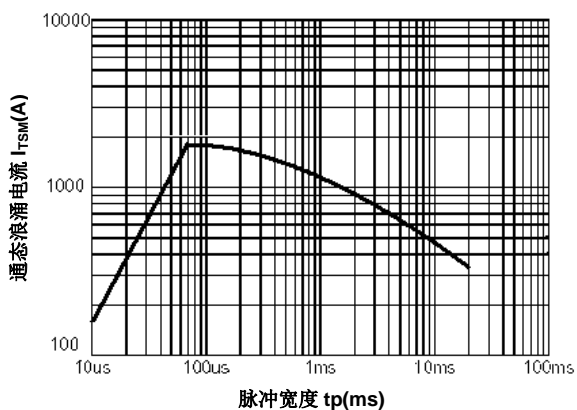
$P_{tot} - I_{T(RMS)}$



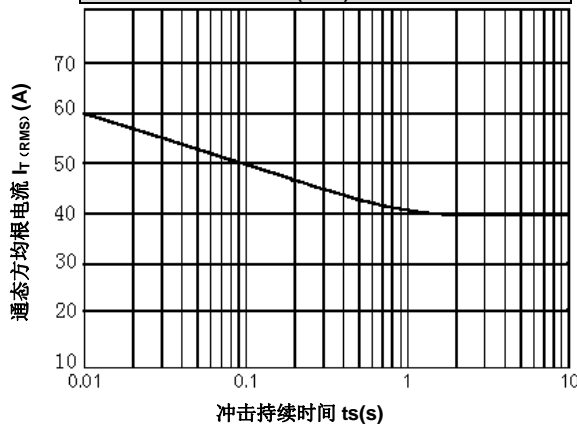
$I_{T(RMS)} - T_c$



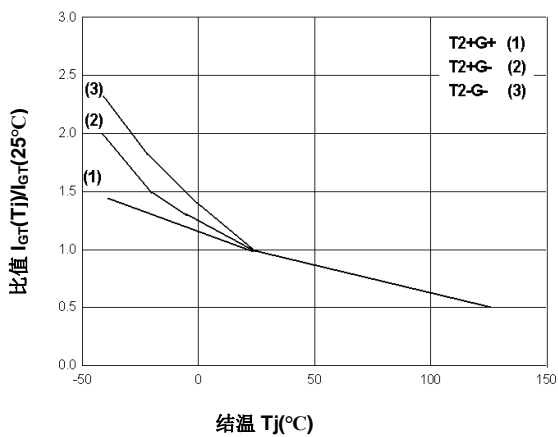
$I_{TSM} - tp$



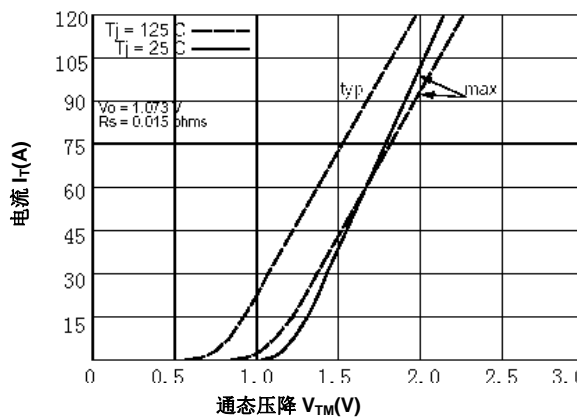
$I_{T(RMS)} - t_s$



$I_{GT}(T_j)/I_{GT}(25°C) - T_j$



$V_{TM} - I_T$

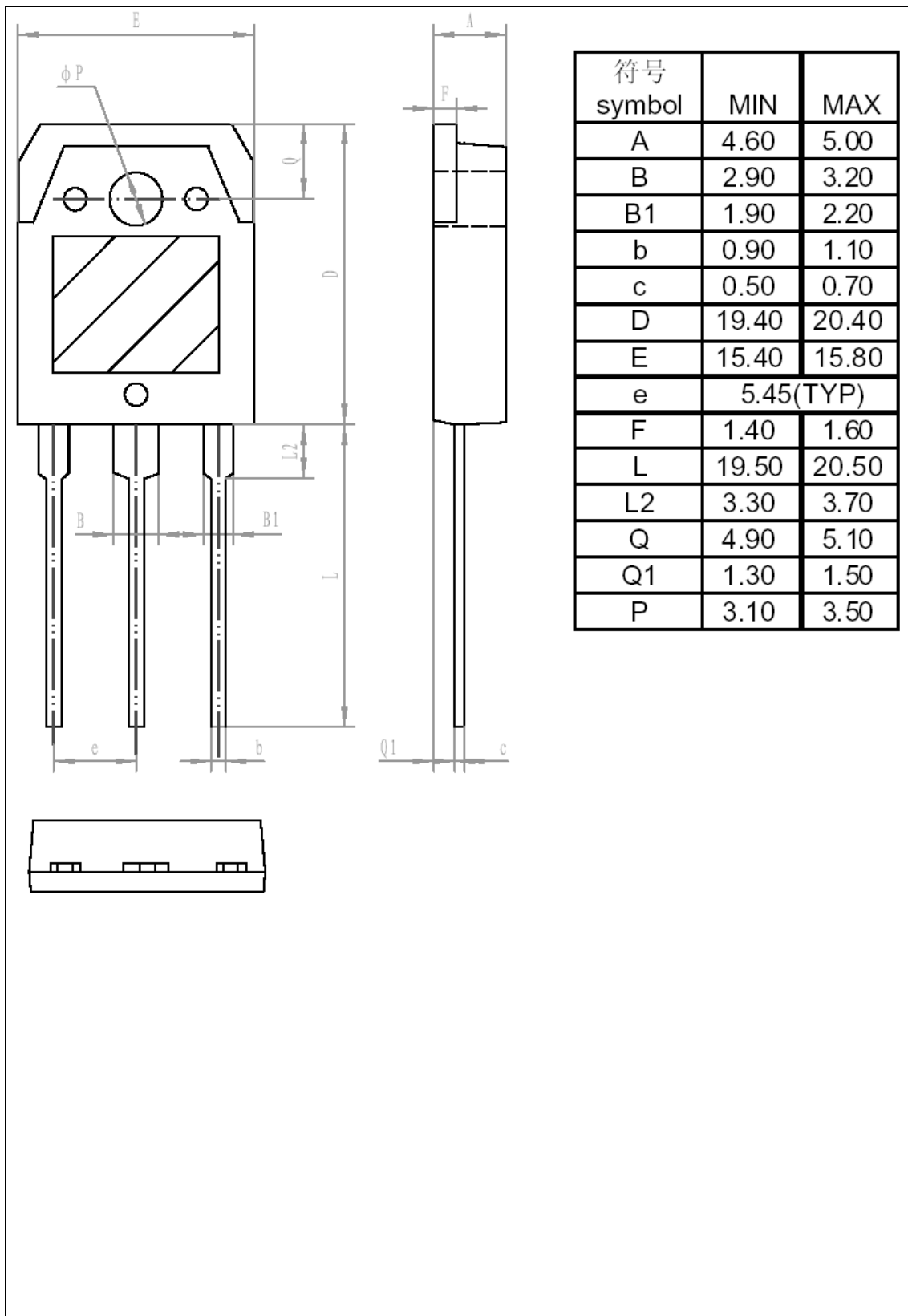




外形尺寸 PACKAGE MECHANICAL DATA

TO-3PB

单位 Unit : mm



**注意事项**

1. 吉林华微电子股份有限公司的产品销售分为直销和销售代理，无论哪种方式，订货时请与公司核实。
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3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知

NOTE

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

联系方式**吉林华微电子股份有限公司**

公司地址：吉林省吉林市深圳街 99 号

邮编：132013

总机：86-432-64678411

传真：86-432-64665812

网址：www.hwdz.com.cn

销售业务部

地址：吉林省吉林市深圳街 99 号

邮编：132013

电话：86-432-64675588

64675688

64678411

传真：86-432-64671533

CONTACT**JILIN SINO-MICROELECTRONICS CO., LTD.**

ADD: No.99 Shenzhen Street, Jilin City,
Jilin Province, China.

Post Code: 132013

Tel: 86-432-64678411

Fax: 86-432-64665812

Web Site: www.hwdz.com.cn

MARKET DEPARTMENT

ADD: No.99 Shenzhen Street, Jilin City,
Jilin Province, China.

Post Code: 132013

Tel: 86-432-64675588

64675688

64678411

Fax: 86-432-64671533

