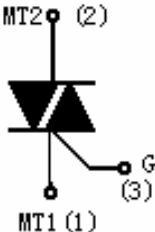




# T0810NUP

| 主要参数 MAIN CHARACTERISTICS |              |                                                       |  |
|---------------------------|--------------|-------------------------------------------------------|--|
|                           | $I_{T(RMS)}$ | 8A                                                    |  |
|                           | $V_{DRM}$    | 800V                                                  |  |
|                           | $I_{GT}$     | 15mA                                                  |  |
|                           |              |                                                       |  |
| 用途                        |              | APPLICATIONS                                          |  |
| ● 交流开关                    |              | ● AC switching                                        |  |
| ● 相位控制                    |              | ● Phase control                                       |  |
|                           |              |                                                       |  |
| 产品特性                      |              | FEATURES                                              |  |
| ● 平面工艺芯片, 高可靠性和一致性        |              | ● The planar process chip for reliability and uniform |  |
| ● 三象限可控硅, 触发电流的一致性 好      |              | ● Uniform gate trigger currents in three quadrants    |  |
| ● 环保 RoHS 产品              |              | ● RoHS products                                       |  |
|                           |              |                                                       |  |
| 订货信息 ORDER MESSAGES       |              |                                                       |  |

| 封装 Package                                                                         |                     |
|------------------------------------------------------------------------------------|---------------------|
|  |                     |
| 序号<br>Pin                                                                          | 引线名称<br>Description |
| 1                                                                                  | 主电极 1 MT1           |
| 2                                                                                  | 主电极 2 MT2           |
| 3                                                                                  | 门极 G                |

**DPAK**



| 订 货 型 号 Order codes |                   |             |                  | 印 记<br>Marking | 封 装<br>Package |
|---------------------|-------------------|-------------|------------------|----------------|----------------|
| 有卤-编带               | 无卤-编带             | 有卤-袋装       | 无卤-袋装            |                |                |
| Halogen-Reel        | Halogen-Free-Reel | Halogen-Bag | Halogen-Free-Bag |                |                |
| T0810NUP-R-A        | T0810NUP-R-AR     | N/A         | N/A              | T0810NUP       | DPAK           |



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

| 项 目<br>Parameter                                                       | 符 号<br>Symbol       | 试 验 条 件<br>Condition                                                                                    | 数 值<br>Value  | 单 位<br>Unit            |
|------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------|---------------|------------------------|
| 重复峰值断态电压<br>Repetitive peak off-state voltage                          | $V_{\text{DRM}}$    |                                                                                                         | $\pm 800$     | V                      |
| 通态方均根电流 On-state RMS current                                           | $I_{\text{T(RMS)}}$ | full sine wave                                                                                          | 8             | A                      |
| 非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current                 | $I_{\text{TSM}}$    | full sine wave , $t=20\text{ms}$                                                                        | 80            | A                      |
|                                                                        |                     | full sine wave , $t=16.7\text{ms}$                                                                      | 84            | A                      |
|                                                                        |                     | $I^2t$ $t=10\text{ms}$                                                                                  | 36            | $\text{A}^2\text{s}$   |
| 通态电流临界上升率 Repetitive rate of rise of on-state current after triggering | $di/dt$             | $I_{\text{TM}}=12\text{A}$ , $I_{\text{G}}=0.2\text{A}$ ,<br>$di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$ | 50            | $\text{A}/\mu\text{s}$ |
| 峰值门极电流 Peak gate current                                               | $I_{\text{GM}}$     |                                                                                                         | 4             | A                      |
| 峰值门极电压 Peak gate voltage                                               | $V_{\text{GM}}$     |                                                                                                         | 5             | V                      |
| 峰值门极功率 Peak gate power                                                 | $P_{\text{GM}}$     |                                                                                                         | 5             | W                      |
| 平均门极功率 Average gate power                                              | $P_{\text{G(AV)}}$  | over any 20ms period                                                                                    | 1             | W                      |
| 存储温度 Storage temperature                                               | $T_{\text{stg}}$    |                                                                                                         | $-40\sim 150$ | $^{\circ}\text{C}$     |
| 操作结温 Operation junction temperature                                    | $T_{\text{VJ}}$     |                                                                                                         | $-40\sim 150$ | $^{\circ}\text{C}$     |



电特性 ELECTRICAL CHARACTERISTIC ( $T_c=25^{\circ}\text{C}$ )

| 项 目<br>Parameter                             | 符 号<br>Symbol    | 测 试 条 件<br>Condition                                                                                                                       | 最小<br>Min | 典型<br>Typ | 最大<br>Max | 单位<br>Unit       |
|----------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|------------------|
| 峰值重复断态电流<br>Peak Repetitive Blocking Current | $I_{\text{DRM}}$ | $V_{\text{DM}}=V_{\text{DRM}}$ , $T_j=150^{\circ}\text{C}$ ,<br>gate open                                                                  | -         | -         | 1.0       | mA               |
| 峰值通态电压<br>Peak on-state voltage              | $V_{\text{TM}}$  | $I_{\text{TM}}=11.3\text{A}$                                                                                                               | --        | 1.3       | 1.55      | V                |
| 门极触发电流<br>Gate trigger current               | $I_{\text{GT}}$  | $V_{\text{DM}}=12\text{V}$ ,<br>$R_{\text{L}}=100\ \Omega$ , MT1(-),MT2(+),G(+)                                                            | 5         | -         | 15        | mA               |
|                                              |                  | MT1(-),MT2(+),G(-)                                                                                                                         | 5         | -         | 15        | mA               |
|                                              |                  | MT1(+),MT2(-),G(-)                                                                                                                         | 9         | -         | 15        | mA               |
| 门极触发电压<br>Gate trigger voltage               | $V_{\text{GT}}$  | $V_{\text{DM}}=12\text{V}$ ,<br>$R_{\text{L}}=100\ \Omega$ , MT1(-),MT2(+),G(+)                                                            | 0.5       | 0.7       | 1.0       | V                |
|                                              |                  | MT1(-),MT2(+),G(-)                                                                                                                         | 0.5       | 0.7       | 1.5       | V                |
|                                              |                  | MT1(+),MT2(-),G(-)                                                                                                                         | 0.5       | 0.7       | 1.5       | V                |
| 维持电流<br>Holding current                      | $I_{\text{H}}$   | $V_{\text{DM}}=12\text{V}$ , $I_{\text{GT}}=0.1\text{A}$                                                                                   | -         | -         | 20        | mA               |
| 擎住电流<br>Latching current                     | $I_{\text{L}}$   | $V_{\text{DM}}=12\text{V}$ ,<br>$I_{\text{GT}}=0.1\text{A}$ , MT1(-),MT2(+),G(+)                                                           | -         | -         | 30        | mA               |
|                                              |                  | MT1(-),MT2(+),G(-)                                                                                                                         | -         | -         | 30        | mA               |
|                                              |                  | MT1(+),MT2(-),G(-)                                                                                                                         | -         | -         | 30        | mA               |
| 断态临界电压上升率<br>Rise of off- state voltage      | $dV/dt$          | $V_{\text{DM}}=67\% V_{\text{DRM(MAX)}}$ ,<br>$T_j=150^{\circ}\text{C}$ , gate open                                                        | 500       | -         | -         | V/ $\mu\text{s}$ |
| 门极开通时间 Gate controlled turn-on time          | $t_{\text{gt}}$  | $I_{\text{TM}}=6\text{A}$ , $V_{\text{DM}}=V_{\text{DRM(MAX)}}$ ,<br>$I_{\text{G}}=0.1\text{A}$ , $dI_{\text{G}}/dt=5\text{A}/\mu\text{S}$ | -         | 2         | -         | $\mu\text{s}$    |

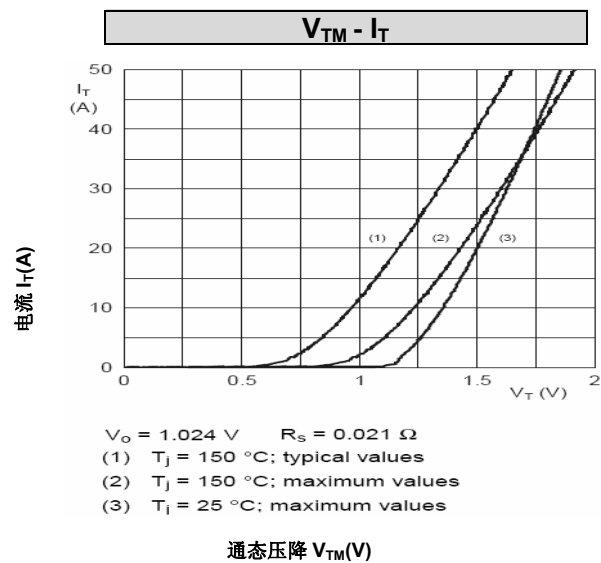
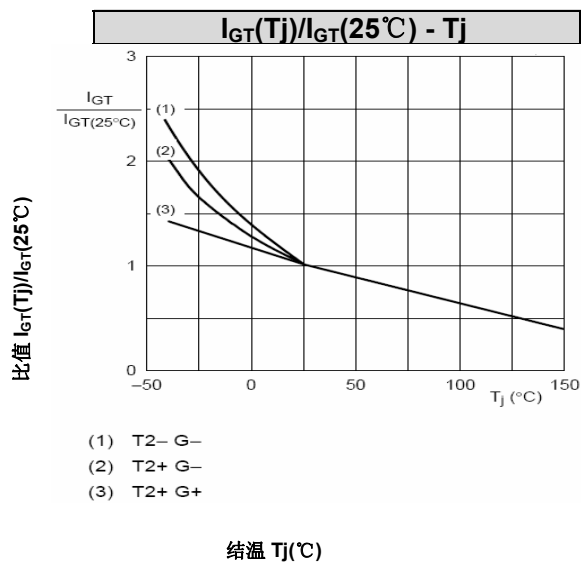
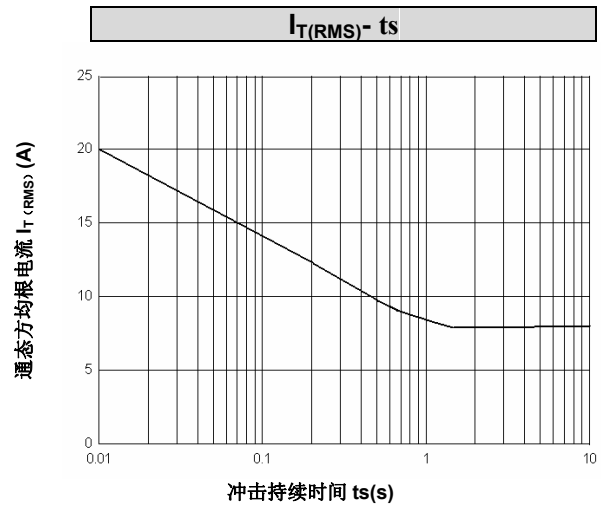
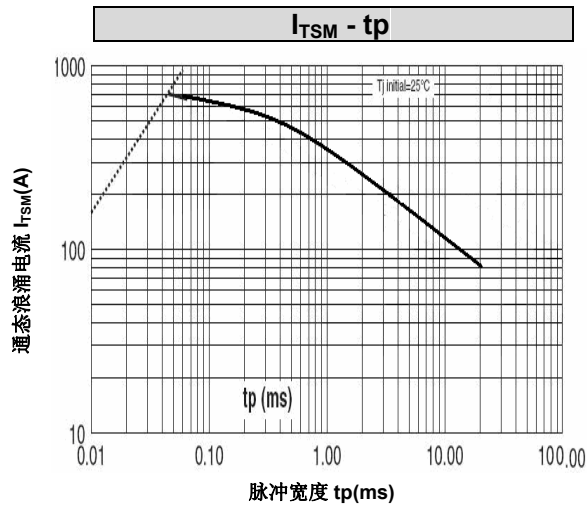
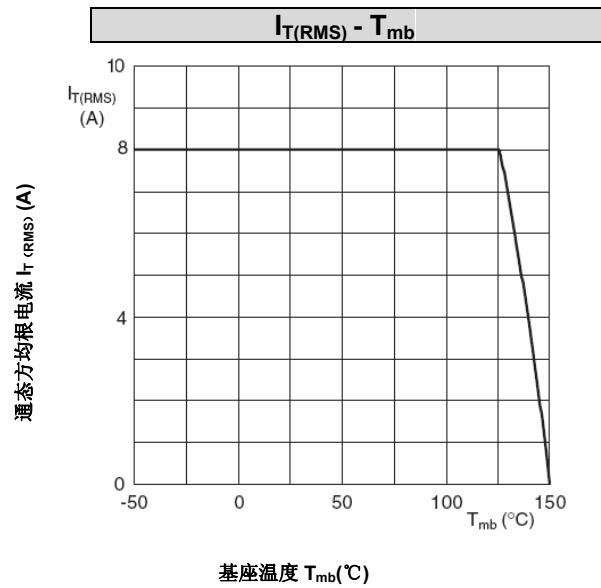
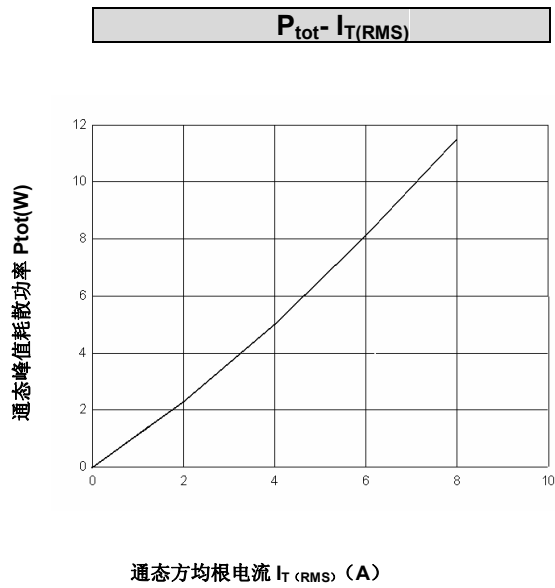
## 热特性 THERMAL CHARACTERISTIC

| 项 目<br>Parameter                                            | 符 号<br>Symbol         | 条 件<br>Condition | 最小<br>Min | 典型<br>Typ | 最大<br>Max | 单位<br>Unit                  |
|-------------------------------------------------------------|-----------------------|------------------|-----------|-----------|-----------|-----------------------------|
| 结到安装面的热阻<br>Thermal resistance<br>junction to mounting base | $R_{\text{th(j-mb)}}$ | full cycle(DPAK) |           |           | 2.0       | $^{\circ}\text{C}/\text{W}$ |





## 特征曲线 ELECTRICAL CHARACTERISTICS (curves)

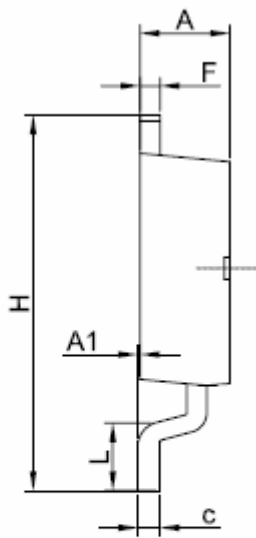
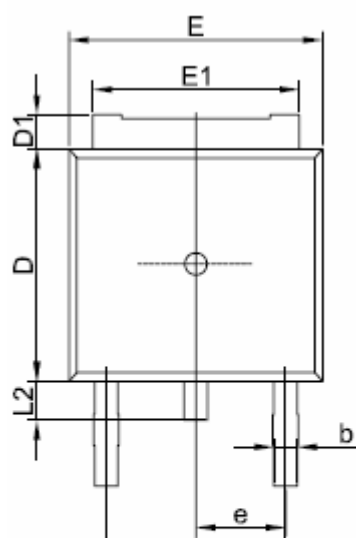




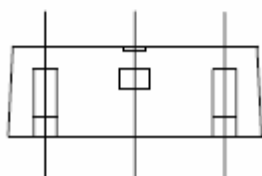
## 外形尺寸 PACKAGE MECHANICAL DATA

D-PAK

单位 Unit : mm



| 符号<br>symbol | MIN       | MAX   |
|--------------|-----------|-------|
| A            | 2.2       | 2.4   |
| A1           | 0.0       | 0.2   |
| b            | 0.7       | 0.9   |
| c            | 0.45      | 0.55  |
| D            | 6.0       | 6.3   |
| D1           | 0.8       | 1.2   |
| E            | 6.5       | 6.8   |
| E1           | 5.2       | 5.5   |
| e            | 2.285 TYP |       |
| F            | 0.45      | 0.55  |
| H            | 9.65      | 10.45 |
| L            | 1.0       | 1.3   |
| L2           | 0.7       | 1.3   |



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