



T1235NFP/T1235NSP

主要参数 MAIN CHARACTERISTICS

| | |
|--------------|------|
| $I_{T(RMS)}$ | 12A |
| V_{DRM} | 800V |
| I_{GT} | 35mA |

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

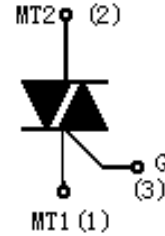
产品特性

- 超高 DV/DT 能力
- 三象限可控硅，触发电流的一致性好
- 环保 RoHS 产品

FEATURES

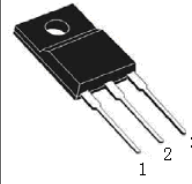
- Ultra high DV/DT
- Uniform gate trigger currents in three quadrants
- RoHS products

封装 Package

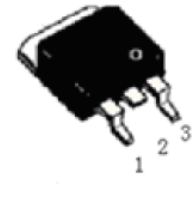


| 序号 Pin | 引线名称 Description |
|-----------|---------------------|
| 1 | 主电极 1 MT1 |
| 2 | 主电极 2 MT2 |
| 3 | 门极 G |

T0-220MF-K1



T0-263



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 | 有卤-编带 Halogen-Reel | 无卤-编带 Halogen-Free-Reel | | |
| T1235NMP-F1-B | T1235NMP-F1-BR | N/A | N/A | T1235NMP | TO-220MF-K1 |
| T1235NSP-S-B | T1235NSP-S-BR | T1235NSP-S-A | T1235NSP-S-AR | T1235NSP | TO-263 |



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} | | ± 800 | V |
| 通态方均根电流 On-state RMS current | $I_{\text{T(RMS)}}$ | full sine wave, | 12 | 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=20ms | 120 | A |
| | I^2t | t=10ms | 72 | A^2s |
| 通态电流临界上升率 Repetitive rate of rise of on-state current after triggering | di/dt | $I_{\text{TM}}=20\text{A}$, $I_{\text{G}}=0.2\text{A}$, $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$ | 100 | $\text{A}/\mu\text{s}$ |
| 峰值门极电流 Peak gate current | I_{GM} | | 4 | 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} | | -40~150 | $^\circ\text{C}$ |



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 =150°C, gate open | -- | -- | 0.8 | mA |
| 峰值通态电压 Peak on-state voltage | V _{TM} | I _{TM} =11.3A, T _j =25°C, | -- | -- | 1.5 | V |
| 门极触发电流 Gate trigger current | I _{GT} | V _{DM} =12V, MT1(-),MT2(+),G(+) | 5 | -- | 35 | mA |
| | | R _L =100 Ω, MT1(-),MT2(+),G(-) | 5 | -- | 35 | mA |
| | | Ω, MT1(+),MT2(-),G(-) | 5 | -- | 35 | mA |
| 门极触发电压 Gate trigger voltage | V _{GT} | V _{DM} =12V, MT1(-),MT2(+),G(+) | 0.5 | 0.7 | 1.0 | V |
| | | R _L =100 Ω, MT1(-),MT2(+),G(-) | 0.5 | 0.7 | 1.5 | V |
| | | Ω, MT1(+),MT2(-),G(-) | 0.5 | 0.7 | 1.5 | V |
| 维持电流 Holding current | I _H | V _{DM} =12V, I _{GT} =0.1A | 5 | -- | 50 | mA |
| 擎住电流 Latching current | I _L | V _{DM} =12V, MT1(-),MT2(+),G(+) | 5 | -- | 50 | mA |
| | | I _{GT} =0.1A, MT1(-),MT2(+),G(-) | 5 | -- | 50 | mA |
| | | Ω, MT1(+),MT2(-),G(-) | 5 | -- | 50 | 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 =150°C, gate open | -- | 2000 | -- | V/ μ s |
| 门极开通时间 Gate controlled turn-on time | tgt | I _{TM} =20A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, dI _G /dt=5A/ μ S | -- | 2 | -- | μ s |

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 | | | 1.6 | °C/W |

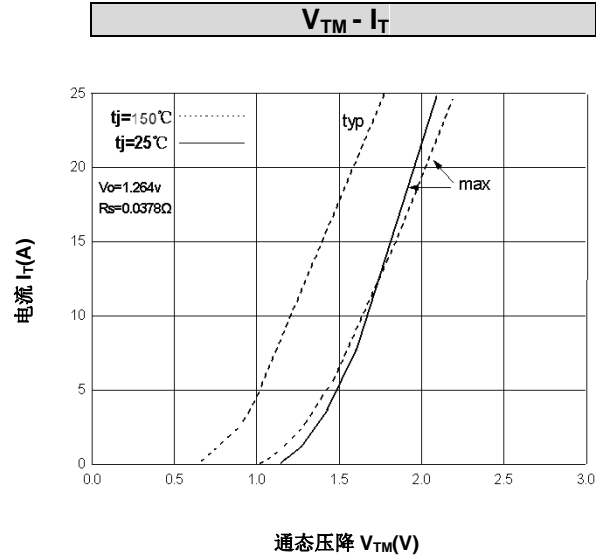
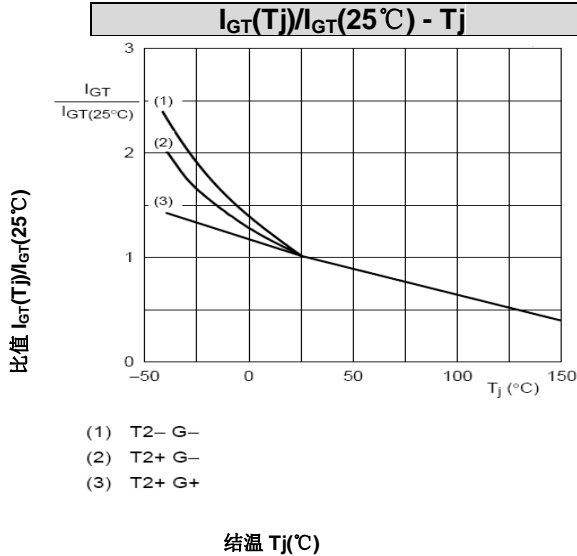
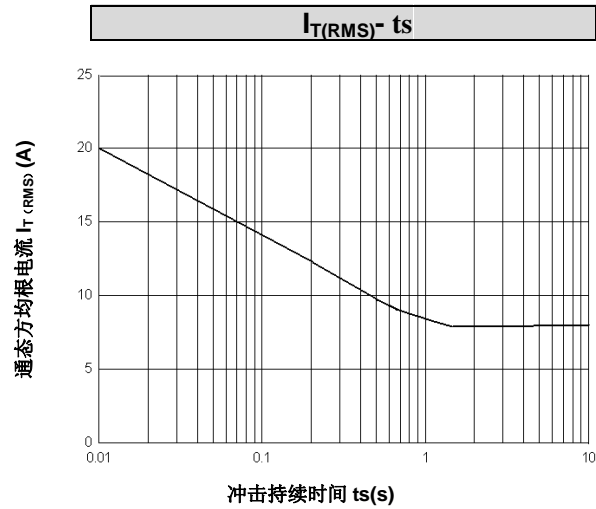
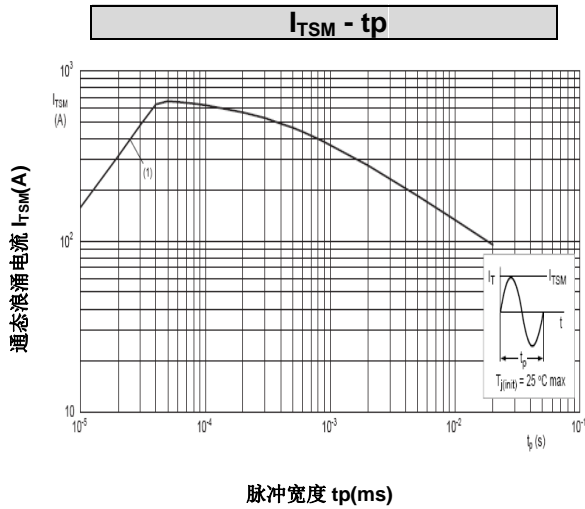
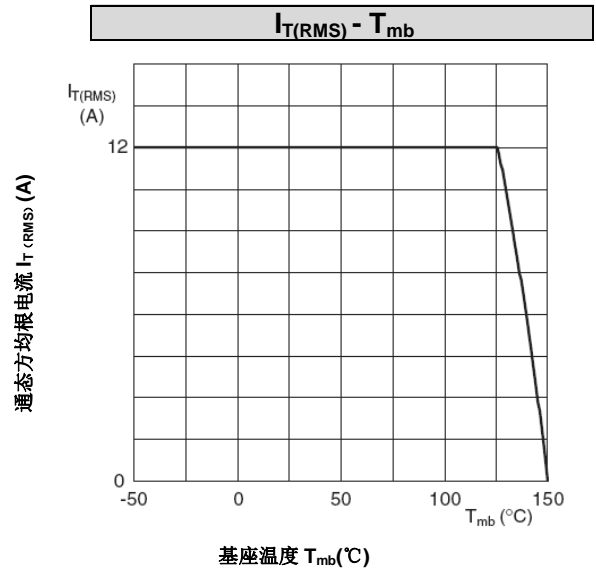
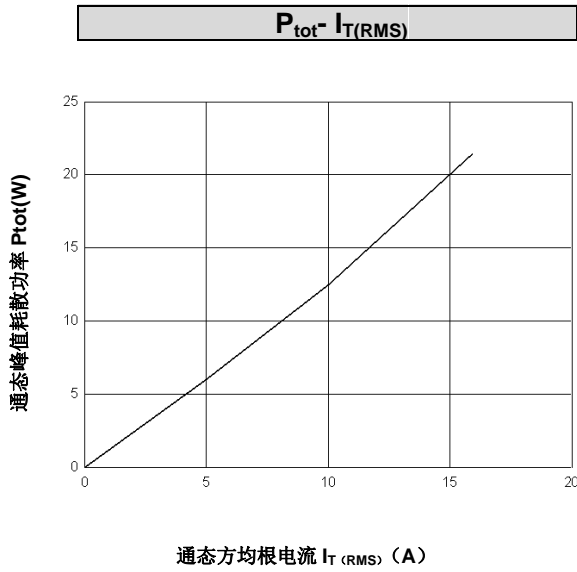
电绝缘特性 ELECTRICAL ISOLATION

| 项 目 Parameter | 符 号 Symbol | 条 件 Condition | 数 值 Value | 单 位 Unit |
|---------------------------|-------------------|--|--------------|-------------|
| 绝缘电压 Isolation voltage | V _{ISOL} | 1 minute, leads to mounting tab TO-220MF-K1 | 2000 | V |





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

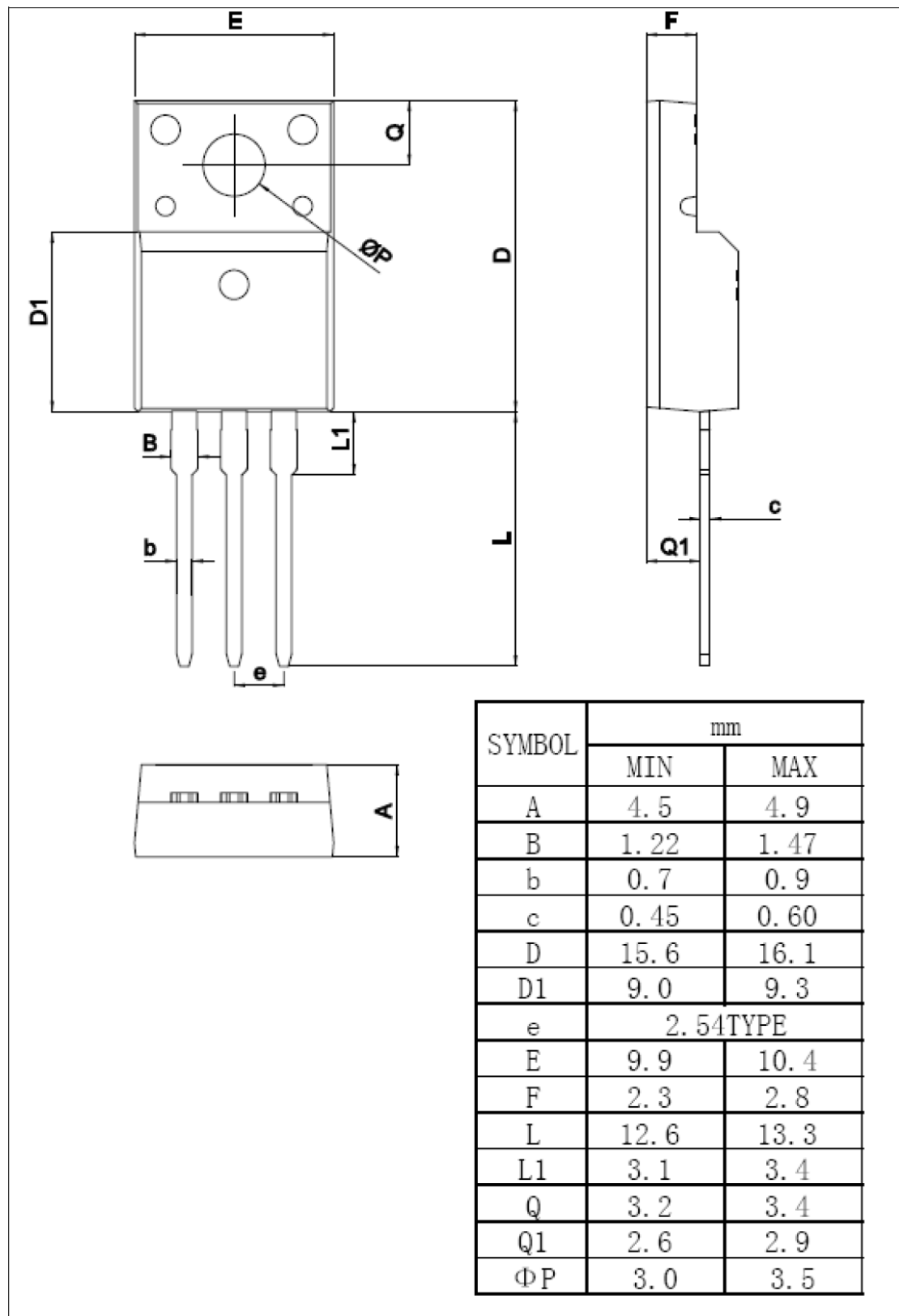




外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm

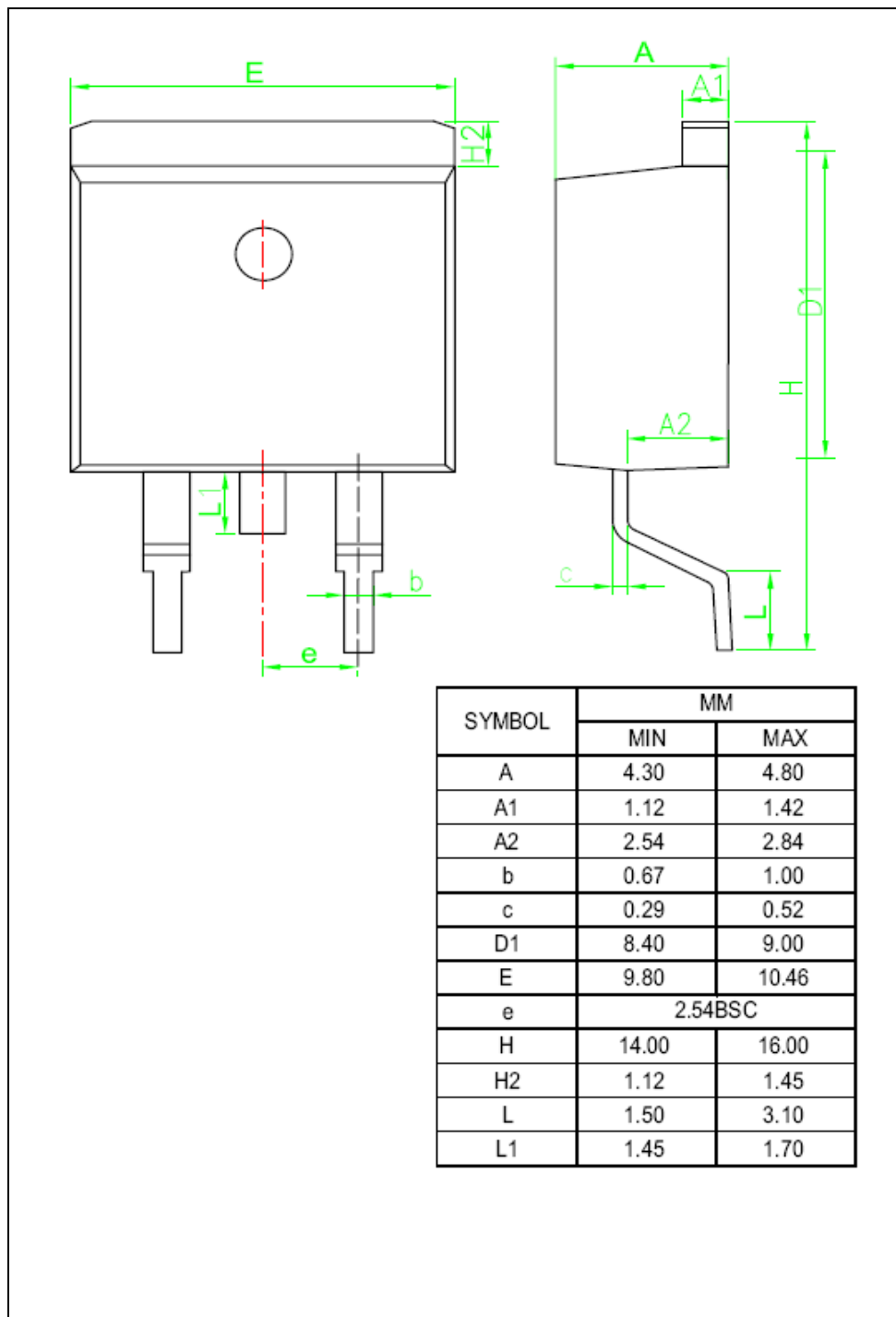




外形尺寸 PACKAGE MECHANICAL DATA

TO-263

单位 Unit : mm



**注意事项**

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4. 本说明书如有版本变更不另外告知

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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.

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