

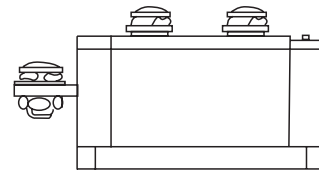
### 特点

- 1). 芯片与底板电气绝缘, 2500V交流绝缘
- 2). 全压接结构, 优良的温度特性和功率循环能力
- 3). 体积小, 重量轻

### 典型应用

- 1). 交直流电机控制
- 2). 各种整流电源
- 3). 变频器

|                   |                        |
|-------------------|------------------------|
| $I_{T(AV)}$       | 200A                   |
| $V_{DRM}/V_{RRM}$ | 600~18000V             |
| $I_{TSM}$         | $7.2 A \times 10^3$    |
| $I^2t$            | $259 A^2S \times 10^3$ |



### 主要参数

| 符号                     | 参数                   | 测试条件   | 结温<br>$T_j(^\circ C)$ | 参数值  |                     |       | 单位                 |
|------------------------|----------------------|--|-----------------------|------|---------------------|-------|--------------------|
|                        |                      |  |                       | 最小   | 典型                  | 最大    |                    |
| $I_{T(AV)}$            | 通态平均电流               | $180^\circ$ 正弦半波, 50Hz 单面散热, $T_c=85^\circ C$  | 125                   |      |                     | 200   | A                  |
| $I_{T(RMS)}$           | 方均根电流                |  | 125                   |      |                     | 314   | A                  |
| $V_{DRM}$<br>$V_{RRM}$ | 断态重复峰值电压<br>反向重复峰值电压 | $V_{DRM} \& V_{RRM} \quad tp=10ms$<br>$V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 200V$ | 125                   | 600  |                     | 1800  | V                  |
| $I_{DRM}$<br>$I_{RRM}$ | 断态重复峰值电流<br>反向重复峰值电流 | $V_{DM} = V_{DRM}$<br>$V_{RM} = V_{RRM}$   | 125                   |      |                     | 30    | mA                 |
| $I_{TSM}$              | 通态不重复浪涌电流            | 10ms 正弦半波  | 125                   |      |                     | 7.20  | KA                 |
| $I^2t$                 | 浪涌电流平方时间积            | $V_R = 0.6V_{RRM}$   |                       |      |                     | 259   | $A^2s \times 10^3$ |
| $V_{TO}$               | 门槛电压                 |  | 125                   |      |                     | 0.80  | V                  |
| $r_T$                  | 斜率电阻                 |  | 125                   |      |                     | 1.27  | m $\Omega$         |
| $V_{TM}$               | 通态峰值电压               | $I_{TM} = 600A$  | 25                    |      |                     | 1.65  | V                  |
| dv/dt                  | 断态电压临界上升率            | $V_{DM} = 67\% V_{DRM}$  | 125                   |      |                     | 800   | V/ $\mu s$         |
| di/dt                  | 通态电流临界上升率            | $I_{TM} = 400A$ , 门极触发电流幅值 $I_{GM} = 1.5A$ ,<br>门极上升时间 $tr \leq 0.5 \mu s$             | 125                   |      |                     | 100   | A/ $\mu s$         |
| $I_{GT}$               | 门极触发电流               |  |                       | 30   |                     | 180   | mA                 |
| $V_{GT}$               | 门极触发电压               | $V_A = 12V, I_A = 1A$  | 25                    | 1.0  |                     | 2.5   | V                  |
| $I_H$                  | 维持电流                 |  |                       | 20   |                     | 150   | mA                 |
| $V_{GD}$               | 门极不触发电压              | At $67\% V_{DRM}$  | 125                   | 0.2  |                     |       | V                  |
| $R_{th(j-c)}$          | 热阻抗(结至壳)             | $180^\circ$ 正弦波, 单面散热  |                       |      |                     | 0.140 | $^\circ C/W$       |
| $R_{th(c-h)}$          | 热阻抗(壳至散)             | $180^\circ$ 正弦波, 单面散热  |                       |      |                     | 0.04  | $^\circ C/W$       |
| $V_{iso}$              | 绝缘电压                 | 50Hz, R.M.S, $t=1min, I_{iso}: 1mA(MAX)$   |                       | 2500 |                     |       | V                  |
| $F_m$                  | 安装扭矩(M8)             |  |                       |      | 12                  |       | N·m                |
|                        | 安装扭矩(M6)             |  |                       |      | 6                   |       | N·m                |
| $T_{stg}$              | 贮存温度                 |  |                       | -40  |                     | 125   | $^\circ C$         |
| $W_t$                  | 质量                   | 外形为401F  |                       |      | 860                 |       | g                  |
| Size                   | 包装盒尺寸                |  |                       |      | 120 × 67 × 56 (1只装) |       | mm                 |

性能曲线图

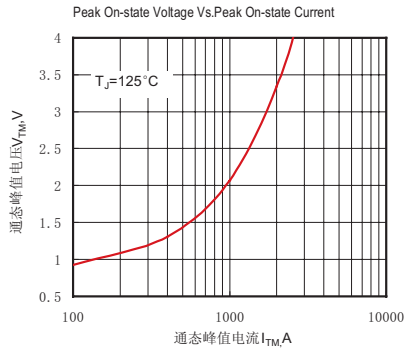


Fig.1 通态伏安特性曲线

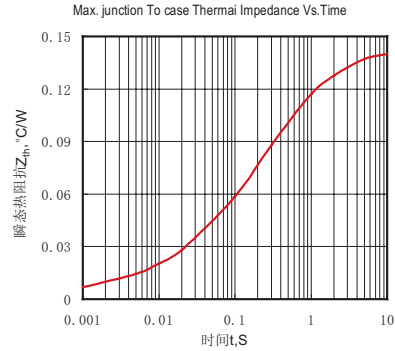


Fig.2 结至管壳瞬态热阻抗曲线

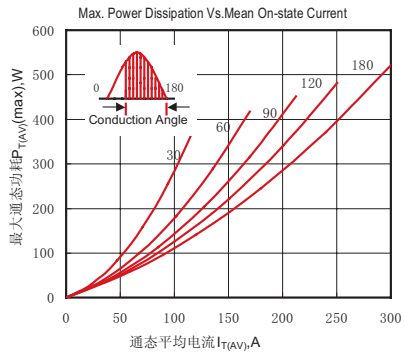


Fig.3 最大功耗与平均电流关系曲线

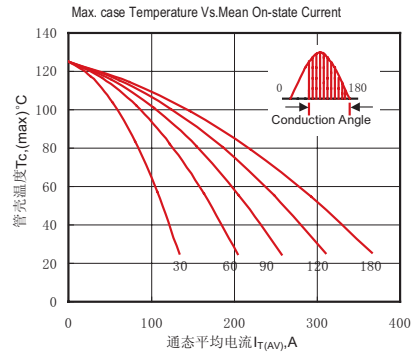


Fig.4 管壳温度与通态平均电流关系曲线

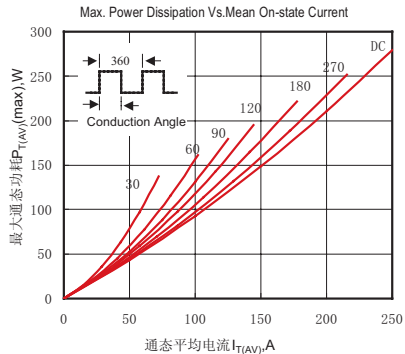


Fig.5 最大功耗与平均电流关系曲线

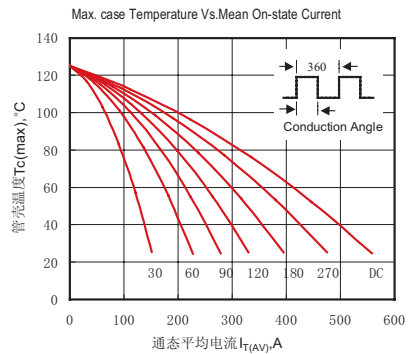


Fig.6 管壳温度与通态平均电流关系曲线

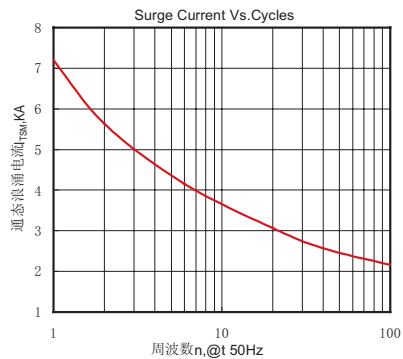


Fig.7 通态浪涌电流与周波数的关系曲线

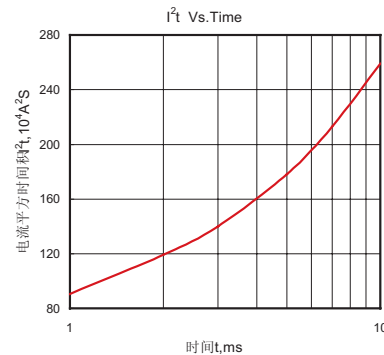


Fig.8 I<sup>2</sup>t特性曲线

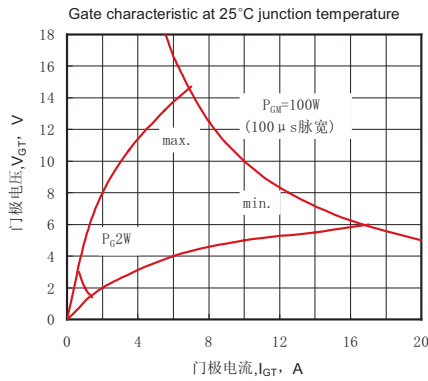


Fig.9 门极功率曲线

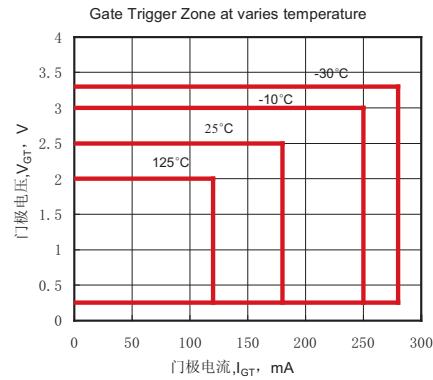
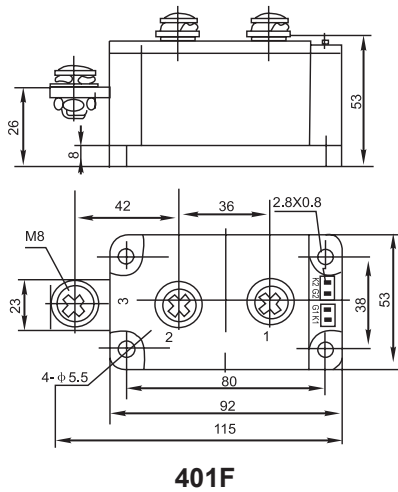
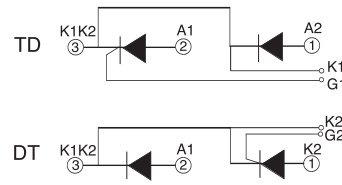


Fig.10 门极触发特性曲线

外形尺寸图



401F



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