

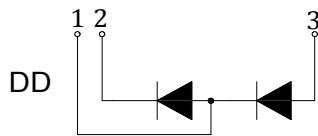
**Key Parameters**

|             |           |    |
|-------------|-----------|----|
| $V_{RRM}$   | 4000~4400 | V  |
| $I_{F(AV)}$ | 450       | A  |
| $I_{FSM}$   | 12        | kA |
| $V_{FO}$    | 0.93      | V  |
| $r_F$       | 0.52      | mΩ |

**Applications**

- Bridge Circuits
- Industry converter
- Battery Supplies

- 3000  $V_{RMS}$  isolating voltage with baseplate
- High power capability
- Industrial standard package


**Voltage Ratings**

| Module Type | $V_{RRM}$ (V) | Test Conditions                                                                                                                                |
|-------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| TMDD 450    | 4000<br>4400  | $T_{vj} = 25, 150\text{ }^{\circ}\text{C}$<br>$I_{RRM} = 150\text{mA}$<br>$V_R = V_{RRM}$<br>$t_p = 10\text{ ms}$<br>$V_{RSM} = V_{RRM} + 100$ |


**Thermal & Mechanical Data**

| Symb.      | Parameter                                     | Test Conditions                                           | Min | Type | Max                           | Unit  |
|------------|-----------------------------------------------|-----------------------------------------------------------|-----|------|-------------------------------|-------|
| $R_{thJC}$ | Thermal Resistance junction to case           | sine.180°,per diode/per module<br>DC,per diode/per module | -   | -    | 0.074 / 0.037<br>0.07 / 0.035 | K / W |
| $R_{thCH}$ | Thermal resistance case to heatsink           | Mounting surface smooth flat and greased                  | -   | -    | 0.02                          | K / W |
| $T_{vj}$   | Maximum junction operating temperature range□ |                                                           | -40 | -    | 150                           | °C    |
| $T_{stg}$  | Storage temperature                           |                                                           | -40 | -    | 150                           | °C    |
| $F$        | Busbar to module M10                          | Mounting torque ± 10 %                                    | -   | 12   | -                             | N·m   |
|            | Module to heatsink M6                         |                                                           | -   | 6    | -                             | N·m   |
| $W$        | Weight                                        |                                                           | -   | 1.5  | -                             | kg    |

**Current Ratings**

| Symb.        | Parameter              | Test Conditions                                                                     | Min | Type | Max        | Unit                     |
|--------------|------------------------|-------------------------------------------------------------------------------------|-----|------|------------|--------------------------|
| $I_{F(AV)}$  | Mean On-State Current  | Half Sine Wave $T_C=85^{\circ}\text{C}$<br>Half Sine Wave $T_C=100^{\circ}\text{C}$ | -   | -    | 540<br>448 | A                        |
| $I_{F(RMS)}$ | RMS On-State Current   | $T_C=100^{\circ}\text{C}$                                                           | -   | -    | 703        | A                        |
| $I_{FSM}$    | Surge On-State Current | 10ms, Half Sine Wave, $T_{vj}=150^{\circ}\text{C}$ , $V_R=0$                        | -   | -    | 12         | kA                       |
| $I^2t$       | Limiting load integral | Sine Wave, 10ms                                                                     | -   | -    | 72         | $10^4\text{A}^2\text{s}$ |

## Characteristics

| Symb.      | Parameter               | Test Conditions                                                                                                                       | Min | Type         | Max         | Unit       |
|------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----|--------------|-------------|------------|
| $V_{FM}$   | Peak on-state voltage   | $T_{vj} = 25\text{ }^{\circ}\text{C}$ , $I_{FM} = 1200\text{ A}$<br>$T_{vj} = 150\text{ }^{\circ}\text{C}$ , $I_{FM} = 1200\text{ A}$ | -   | -            | 1.75<br>1.7 | V<br>V     |
| $I_{RRM}$  | Reverse leakage current | $T_{vj} = 150\text{ }^{\circ}\text{C}$ , $V_{RRM} = 4400\text{ V}$                                                                    | -   | -            | 150         | mA         |
| $V_{isol}$ | Isolation voltage       | a.c.50 Hz; r.m.s. $t=1\text{ min}$<br>a.c.50 Hz; r.m.s. $t=1\text{ s}$                                                                | -   | 3000<br>3600 | -           | V<br>V     |
| $V_{FO}$   | Threshold voltage       | $T_{vj} = 150\text{ }^{\circ}\text{C}$                                                                                                | -   | -            | 0.93        | V          |
| $r_F$      | Slope resistance        | $T_{vj} = 150\text{ }^{\circ}\text{C}$                                                                                                | -   | -            | 0.52        | m $\Omega$ |

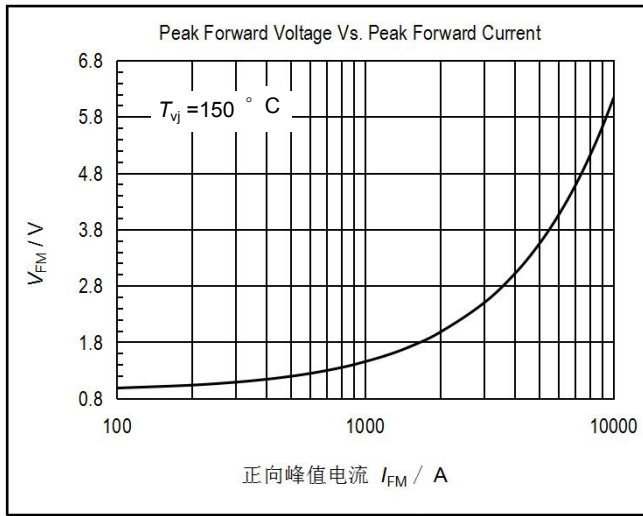


图1. 正向伏安特性曲线

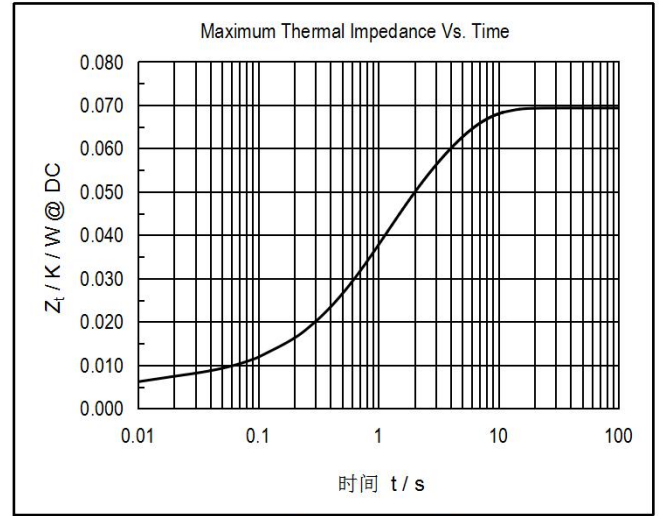


图2. 瞬态热阻抗曲线

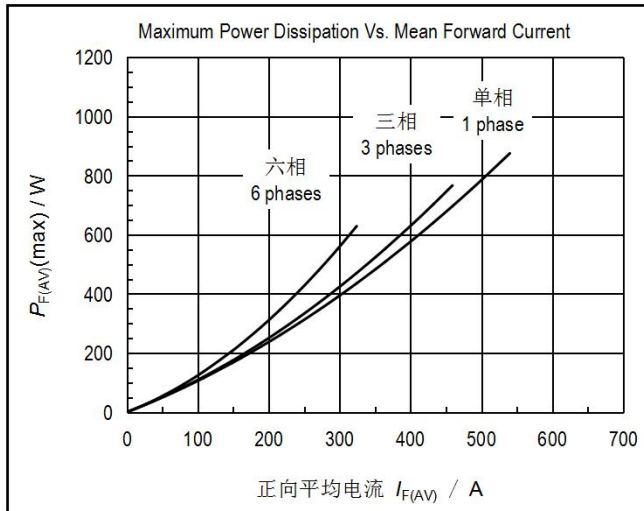


图3. 最大正向功耗与正向平均电流的关系曲线

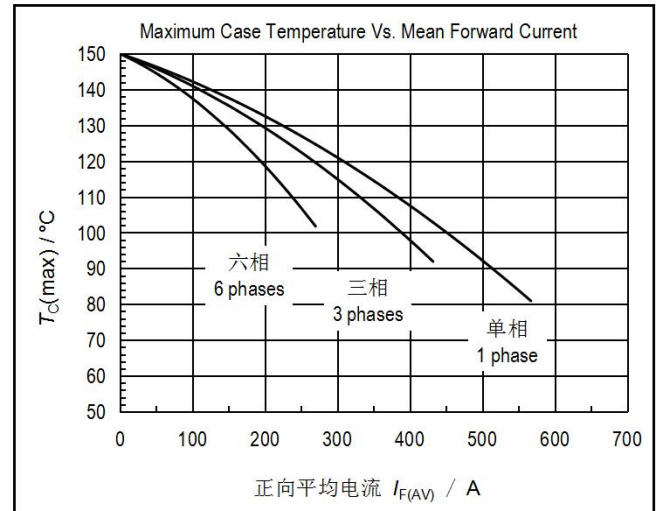


图4. 管壳温度与正向平均电流的关系曲线

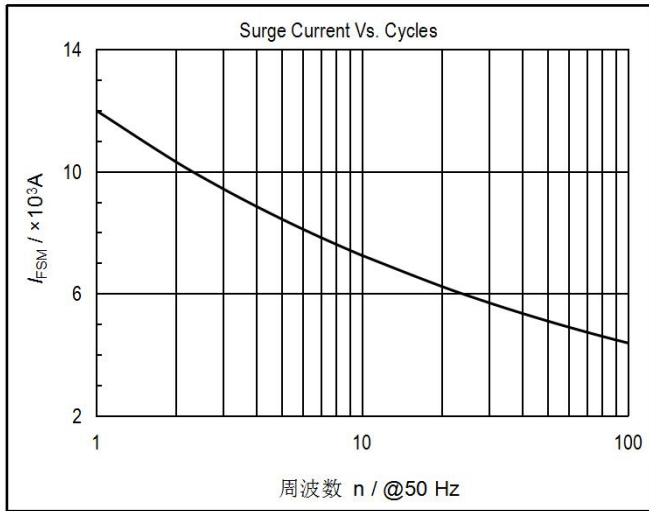


图5. 正向浪涌电流与周波数的关系曲线

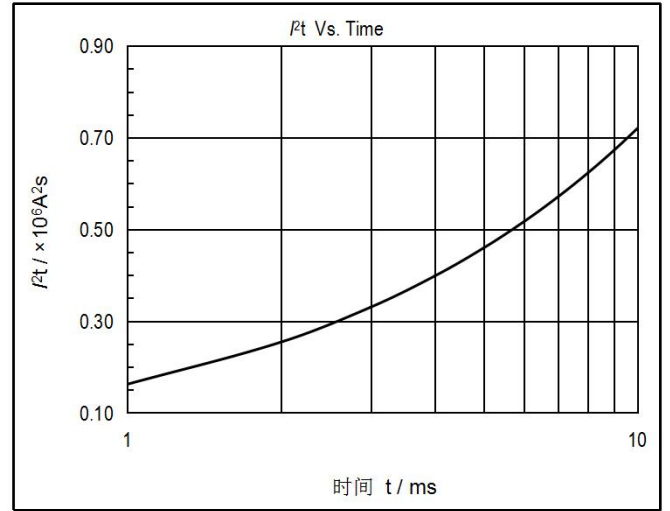


图6.  $I^2t$  特性曲线

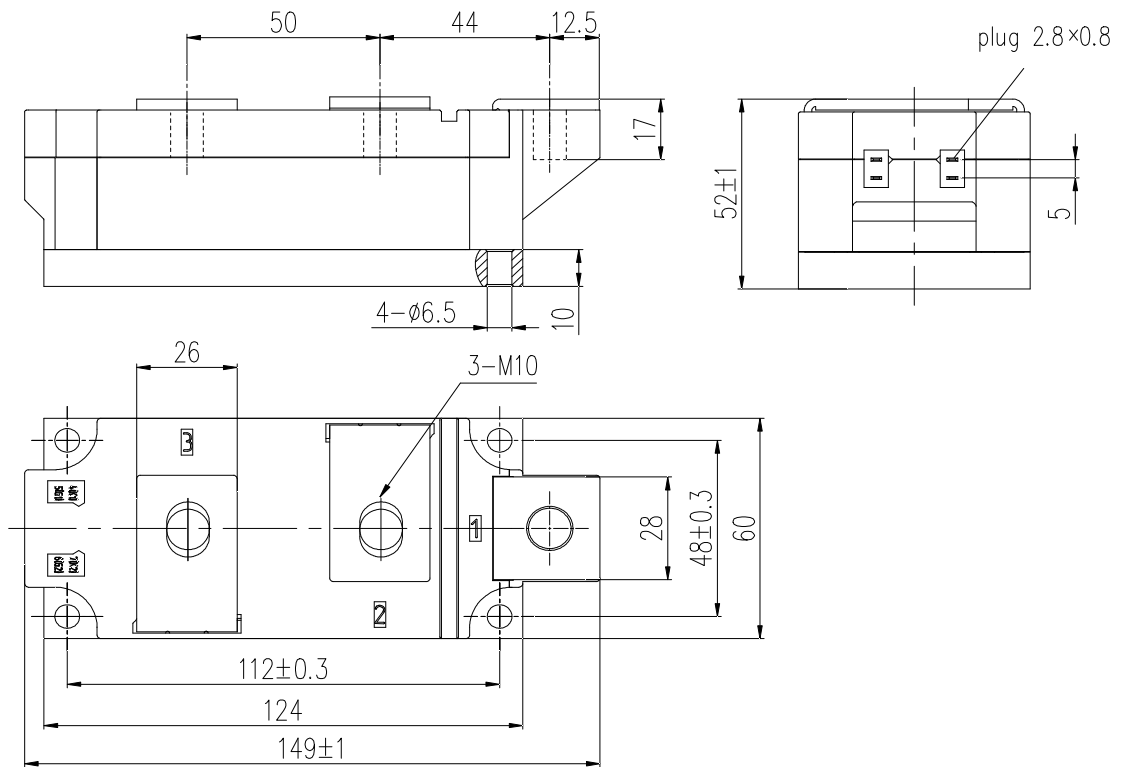


图7. 外形图

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