**Features:**

- Isolated mounting base 3000V~
- Pressure contact technology with Increased power cycling capability
- Space and weight saving

**Typical Applications:**

- Various rectifiers
- DC supply for PWM inverter

| $V_{RRM}$ | Type & Outline |
|-----------|----------------|
| 800V      | MD500-08-417F2 |
| 1000V     | MD500-10-417F2 |
| 1300V     | MD500-12-417F2 |
| 1500V     | MD500-14-417F2 |
| 1600V     | MD500-16-417F2 |
| 1800V     | MD500-18-417F2 |

| SYMBOL        | CHARACTERISTIC                         | TEST CONDITIONS                                                           | $T_j(^{\circ}\text{C})$ | VALUE |      |       | UNIT                        |
|---------------|----------------------------------------|---------------------------------------------------------------------------|-------------------------|-------|------|-------|-----------------------------|
|               |                                        |                                                                           |                         | Min   | Type | Max   |                             |
| $I_{F(AV)}$   | Mean forward current                   | 180° half sine wave 50Hz<br>Single side cooled, $T_c=100^{\circ}\text{C}$ | 150                     |       |      | 500   | A                           |
| $I_{F(RMS)}$  | RMS forward current                    |                                                                           |                         |       |      | 785   | A                           |
| $I_{RRM}$     | Repetitive peak current                | at $V_{RRM}$                                                              | 150                     |       |      | 40    | mA                          |
| $I_{FSM}$     | Surge forward current                  | $V_R=60\%V_{RRM}$ , $t=10\text{ms}$ half sine                             | 150                     |       |      | 16.0  | kA                          |
| $I^2t$        | $I^2t$ for fusing coordination         |                                                                           |                         |       |      | 1280  | $10^3\text{A}^2\text{s}$    |
| $V_{FO}$      | Threshold voltage                      |                                                                           | 150                     |       |      | 0.75  | V                           |
| $r_F$         | Forward slope resistance               |                                                                           |                         |       |      | 0.30  | mΩ                          |
| $V_{FM}$      | Peak forward voltage                   | $I_{FM}=1500\text{A}$                                                     | 25                      |       |      | 1.32  | V                           |
| $R_{th(j-c)}$ | Thermal resistance<br>Junction to case | Single side cooled per chip                                               |                         |       |      | 0.090 | $^{\circ}\text{C}/\text{W}$ |
| $R_{th(c-h)}$ | Thermal resistance<br>case to heatsink | Single side cooled per chip                                               |                         |       |      | 0.024 | $^{\circ}\text{C}/\text{W}$ |
| $V_{iso}$     | Isolation voltage                      | 50Hz, R.M.S, $t=1\text{min}$ , $I_{iso}: 1\text{mA}(\text{MAX})$          |                         | 3000  |      |       | V                           |
| $F_m$         | Terminal connection torque(M10)        |                                                                           |                         | 10    |      | 12    | N·m                         |
|               | Mounting torque(M6)                    |                                                                           |                         | 4.5   |      | 6.0   | N·m                         |
| $T_{vj}$      | Junction temperature                   |                                                                           |                         | -40   |      | 150   | $^{\circ}\text{C}$          |
| $T_{stg}$     | Stored temperature                     |                                                                           |                         | -40   |      | 125   | $^{\circ}\text{C}$          |
| $W_t$         | Weight                                 |                                                                           |                         |       | 770  |       | g                           |
| Outline       | 417F2                                  |                                                                           |                         |       |      |       |                             |

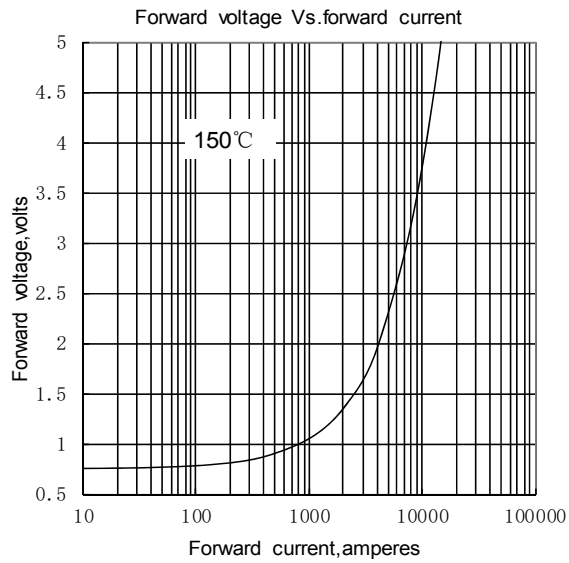


Fig.1

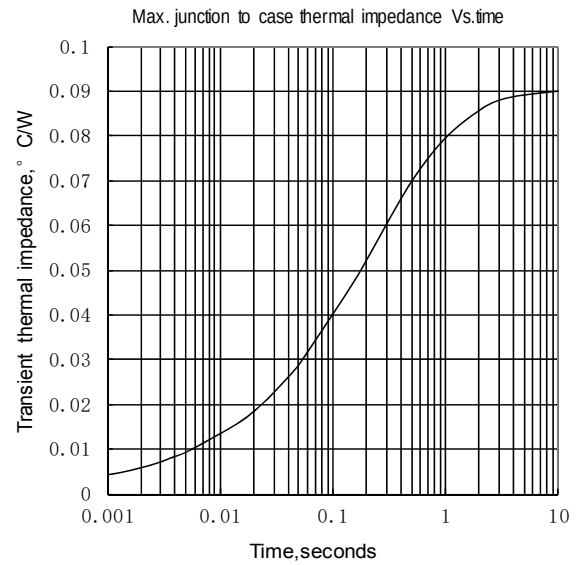


Fig.2

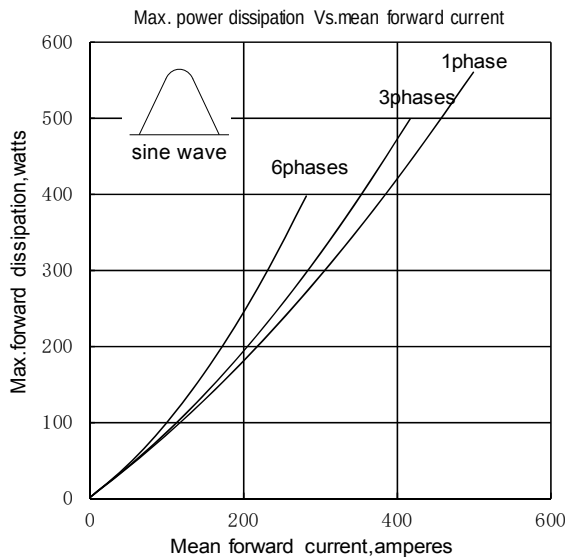


Fig.3

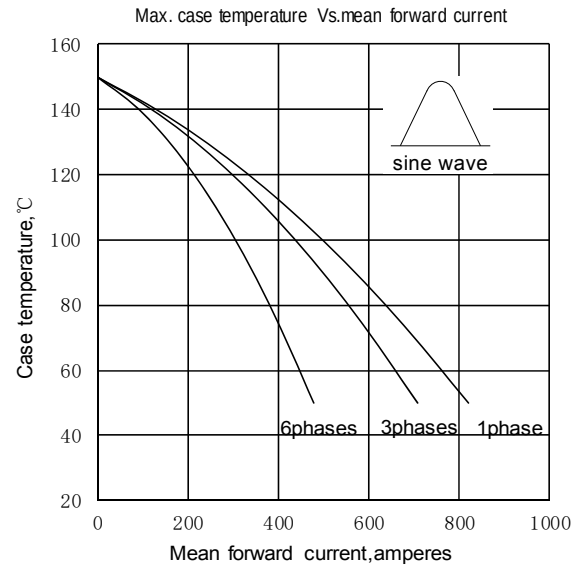


Fig.4

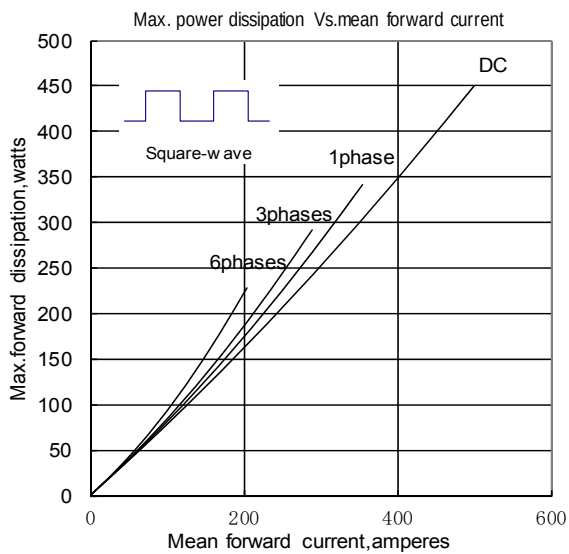


Fig.5

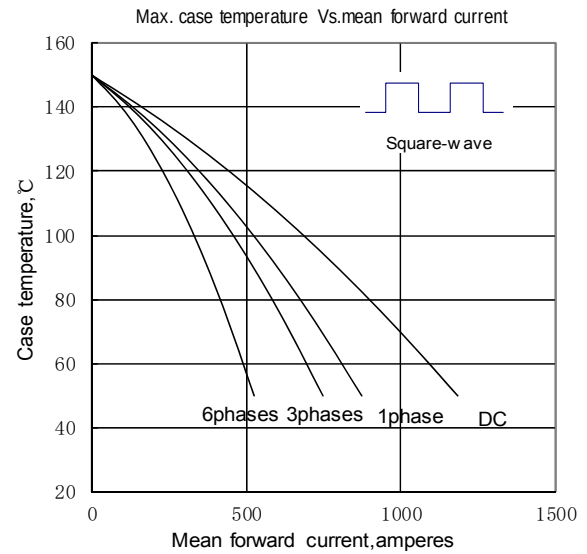


Fig.6

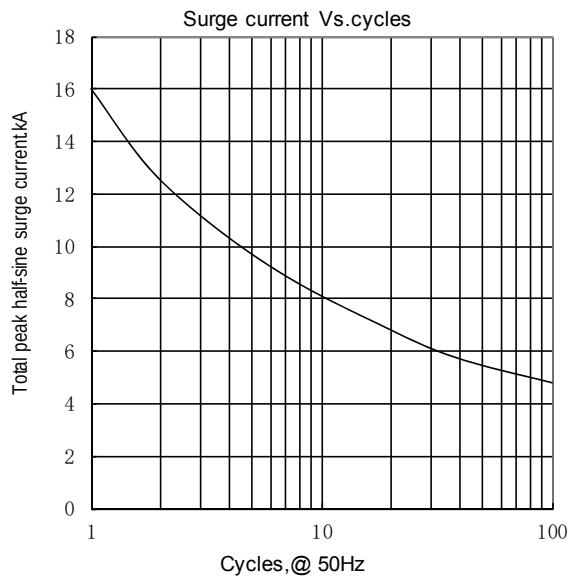


Fig.7

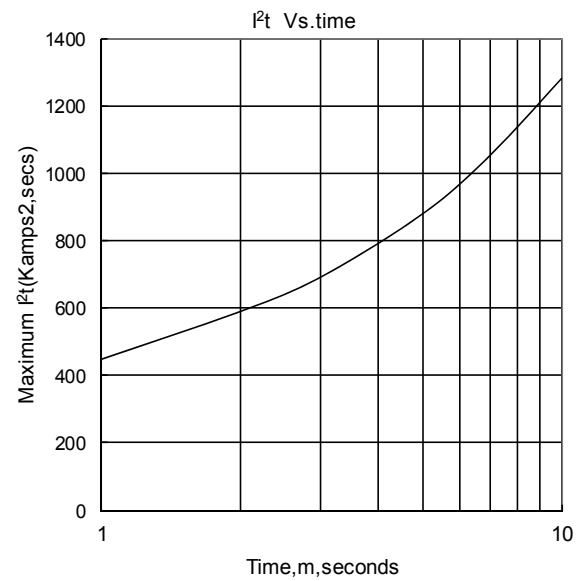
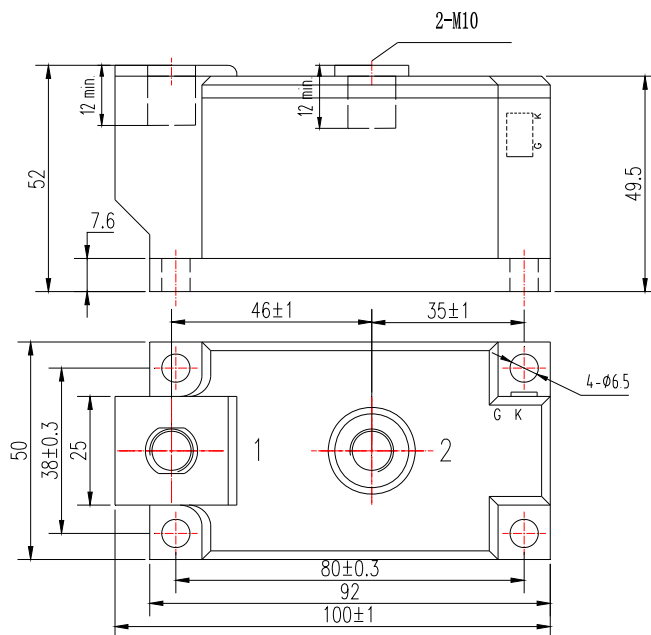


Fig.8

**Outline:**

MD  $\begin{matrix} A \\ \text{---} \end{matrix} \begin{matrix} \text{---} \end{matrix} \begin{matrix} \text{---} \end{matrix} \begin{matrix} K \\ \text{---} \end{matrix}$

Unmarked dimensional tolerance:  $\pm 0.5\text{mm}$