



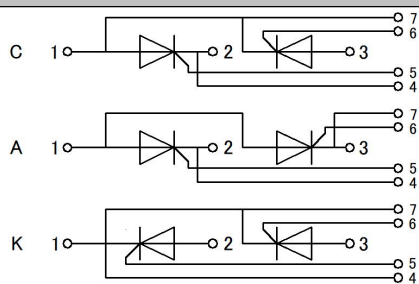
## Thyristor Modules

**V<sub>RRM</sub> / V<sub>DRM</sub>** 1200 to 1800V  
**I<sub>TAV</sub>** 570A

### Applications

- Power Converters
- Lighting Control
- DC Motor Control and Drives
- Heat and temperature control

### Circuit



### Features

- International standard package
- High Surge Capability
- Simple Mounting

### Module Type

| TYPE        |             |             | V <sub>RRM</sub> | V <sub>RSM</sub> |
|-------------|-------------|-------------|------------------|------------------|
| MT570C12DT6 | MT570A12DT6 | MT570K12DT6 | 1200V            | 1400V            |
| MT570C14DT6 | MT570A14DT6 | MT570K14DT6 | 1400V            | 1600V            |
| MT570C16DT6 | MT570A16DT6 | MT570K16DT6 | 1600V            | 1800V            |
| MT570C18DT6 | MT570A18DT6 | MT570K18DT6 | 1800V            | 2000V            |

### Maximum Ratings

| Symbol           | Conditions                                                                   | Values     | Units            |
|------------------|------------------------------------------------------------------------------|------------|------------------|
| I <sub>TAV</sub> | Sine 180°; T <sub>c</sub> =85°C                                              | 570        | A                |
| I <sub>TSM</sub> | T <sub>VJ</sub> =125°C t=10ms, sine                                          | 15000      | A                |
| i <sup>2</sup> t | T <sub>VJ</sub> =125°C t=10ms, sine                                          | 1125000    | A <sup>2</sup> s |
| Visol            | a.c.50HZ;r.m.s.;1min,I <sub>iso</sub> :2mA(MAX)                              | 2500       | V                |
| T <sub>vj</sub>  |                                                                              | -40 to 125 | °C               |
| T <sub>stg</sub> |                                                                              | -40 to 125 | °C               |
| M <sub>t</sub>   | To terminals(M10)                                                            | 12±15%     | Nm               |
| M <sub>s</sub>   | To heatsink(M6)                                                              | 6±15%      | Nm               |
| di/dt            | T <sub>VJ</sub> = T <sub>VJM</sub> ,V <sub>DM</sub> =2/3V <sub>DRM</sub>     | 100        | A/us             |
| dv/dt            | T <sub>J</sub> = T <sub>VJM</sub> ,2/3V <sub>DRM</sub> , linear voltage rise | 1000       | V/us             |
| Weight           | Module(Approximately)                                                        | 1650       | g                |

### Thermal Characteristics

| Symbol               | Conditions | Values | Units |
|----------------------|------------|--------|-------|
| R <sub>th(j-c)</sub> | per chip   | 0.065  | °C/W  |
| R <sub>th(c-h)</sub> | per module | 0.024  | °C/W  |



# MT570C(A/K)-DT6

## Electrical Characteristics

| Symbol            | Conditions                                                       | Values |      |      | Units |
|-------------------|------------------------------------------------------------------|--------|------|------|-------|
|                   |                                                                  | Min.   | Typ. | Max. |       |
| $V_{TM}$          | $T=25^{\circ}\text{C}$ $I_{TM}=1500\text{A}$                     |        |      | 1.6  | V     |
| $I_{RRM}/I_{DRM}$ | $T_{VJ}=T_{VJM}$ , $V_R=V_{RRM}$ , $V_D=V_{DRM}$                 |        |      | 35   | mA    |
| $V_{GT}$          | $T_{VJ}=25^{\circ}\text{C}$ , $V_D=12\text{V}$ , $R_G=3\ \Omega$ | 0.8    |      | 2.5  | V     |
| $I_{GT}$          | $T_{VJ}=25^{\circ}\text{C}$ , $V_D=12\text{V}$ , $R_G=3\ \Omega$ | 30     |      | 150  | mA    |
| $I_L$             | $T_{VJ}=25^{\circ}\text{C}$ , $V_D=12\text{V}$ , $R_G=3\ \Omega$ |        |      | 1000 | mA    |
| $I_H$             | $T_{VJ}=25^{\circ}\text{C}$ , $V_D=12\text{V}$ , $R_G=3\ \Omega$ | 20     |      | 150  | mA    |

## Performance Curves

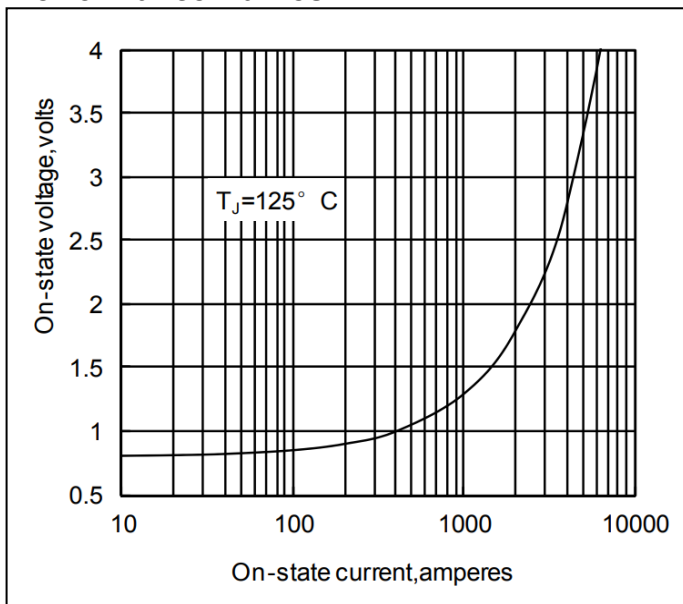


Fig1. Peak On-state Voltage Vs Peak On-state

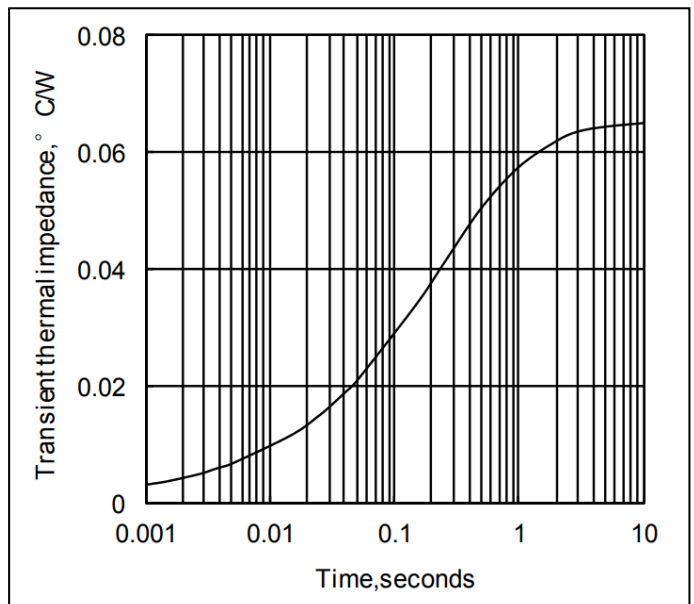


Fig2. Max. junction To case Thermal Impedance Vs Time

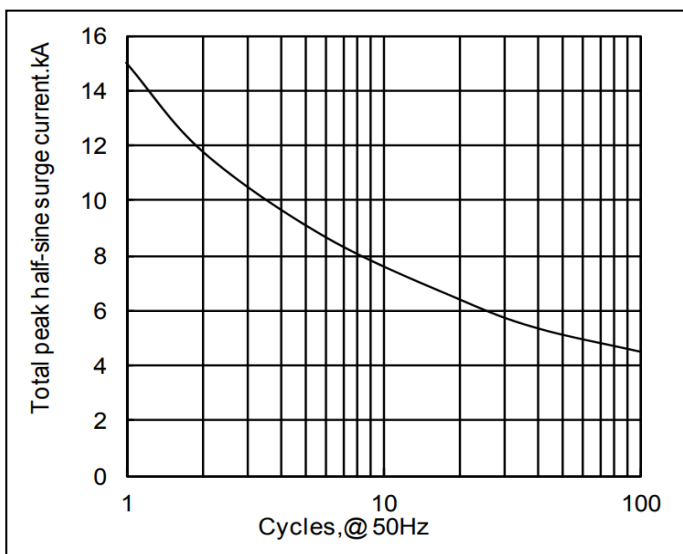


Fig3. Surge Current Vs Cycles

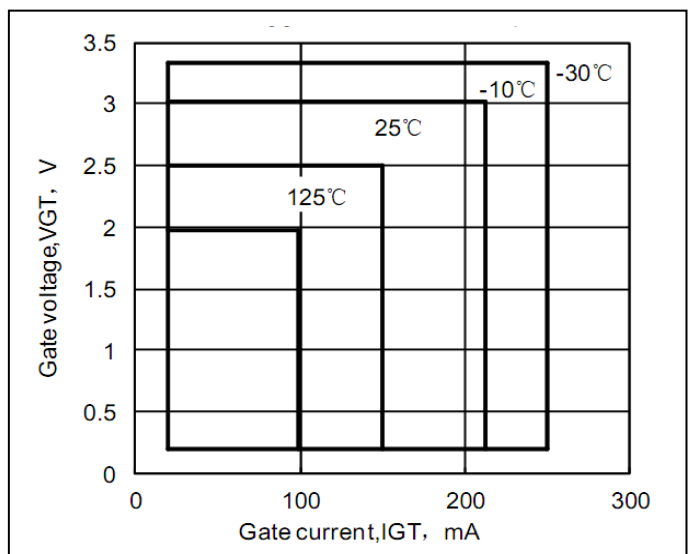
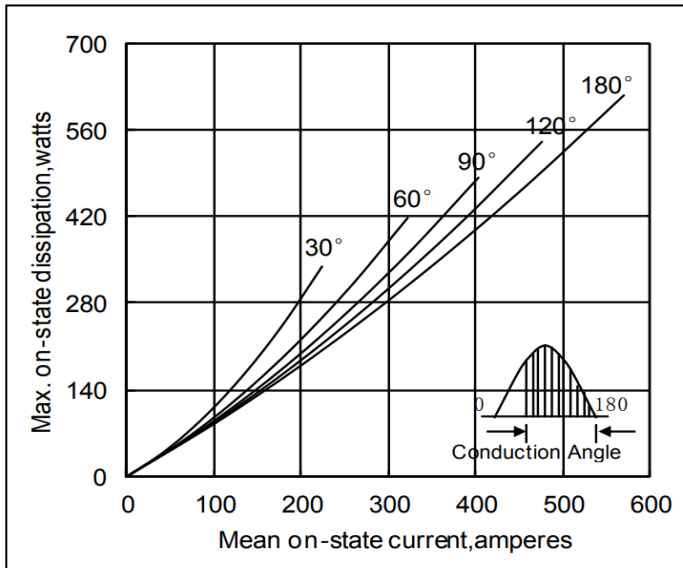
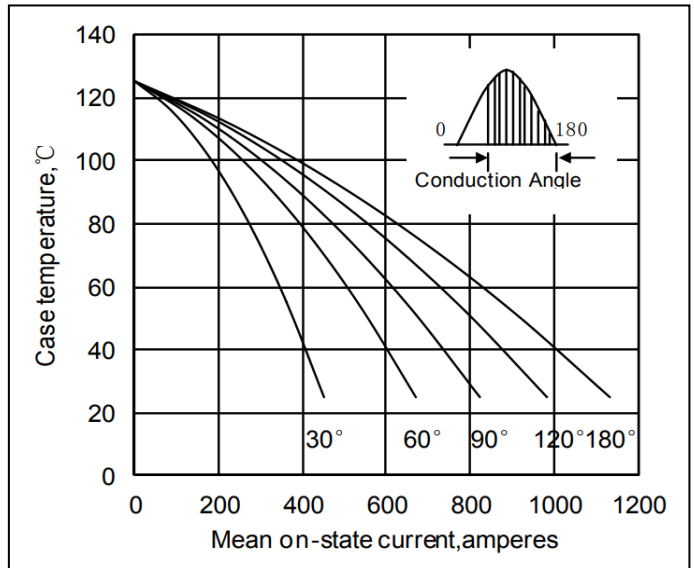


Fig4. Gate Trigger Zone at varies temperature



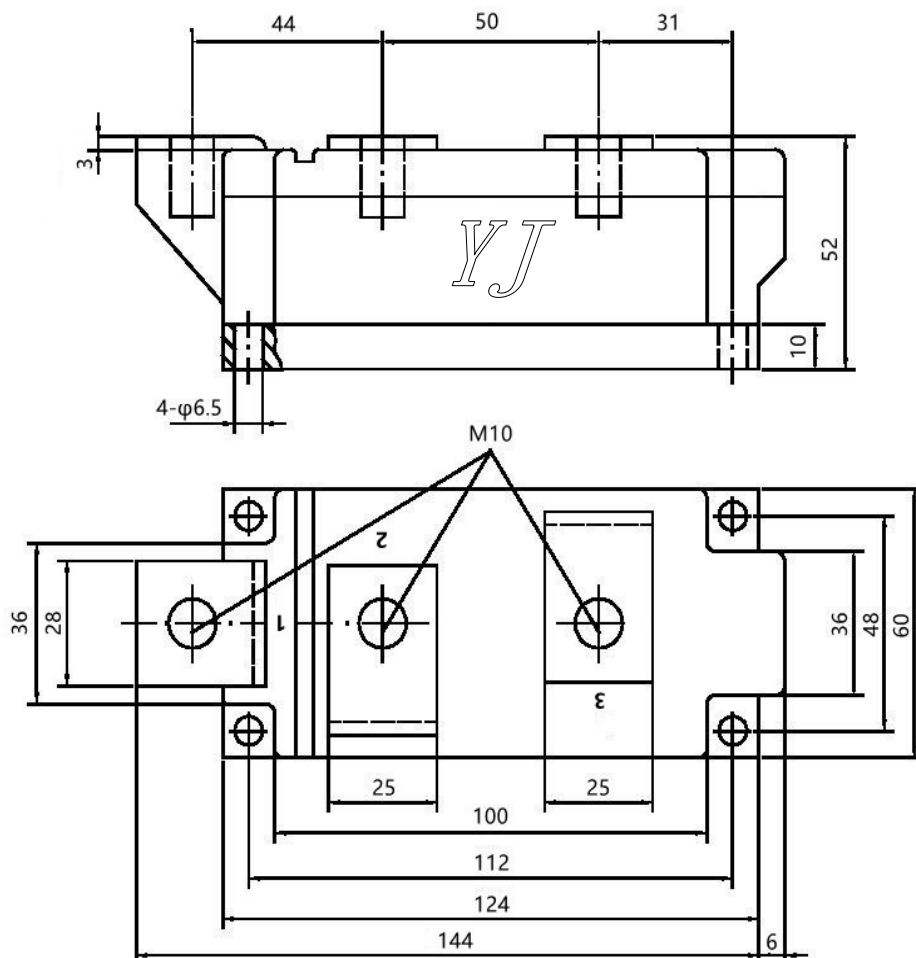
**Fig5. Max. Power Dissipation Vs Mean On-state Current**



**Fig6. Max case Temperature Vs Mean On-state Current**

## Package Outline Information

### CASE: DT6



Dimensions in mm