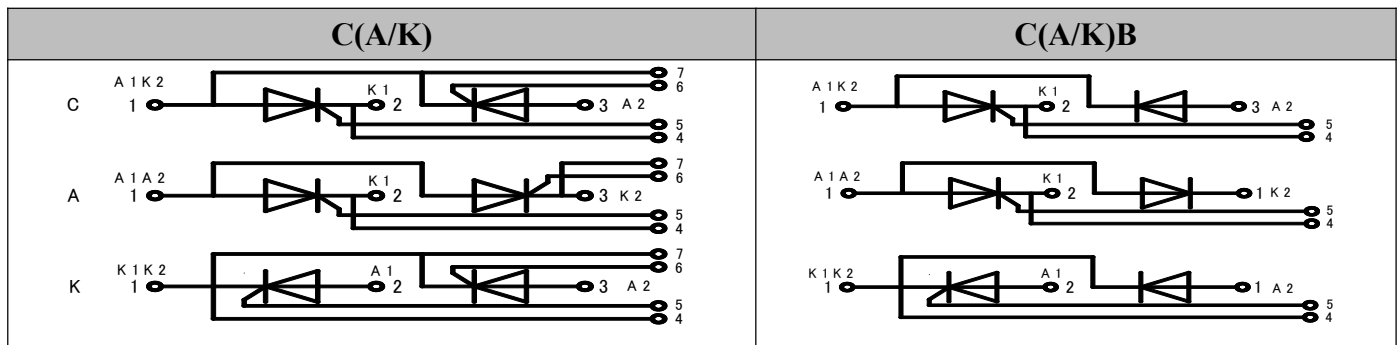


**Applications**

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

**Features**

- International standard package
- High Surge Capability
- Simple Mounting

**Internal Circuit****Blocking - Off State**

| TYPE             |                   | V <sub>DRM</sub> /V <sub>RRM</sub> | V <sub>DSM</sub> /V <sub>RSM</sub> | Units |
|------------------|-------------------|------------------------------------|------------------------------------|-------|
| MT400C(A/K)12DT6 | MT400C(A/K)B12DT6 | 1200                               | 1400                               | V     |
| MT400C(A/K)14DT6 | MT400C(A/K)B14DT6 | 1400                               | 1600                               | V     |
| MT400C(A/K)16DT6 | MT400C(A/K)B16DT6 | 1600                               | 1800                               | V     |
| MT400C(A/K)18DT6 | MT400C(A/K)B18DT6 | 1800                               | 2000                               | V     |

**Maximum Ratings**

| Symbol           | Conditions                                                                                                              | Values     | Units            |
|------------------|-------------------------------------------------------------------------------------------------------------------------|------------|------------------|
| I <sub>TAV</sub> | Sine 180°; T <sub>c</sub> =85℃                                                                                          | 400        | A                |
| I <sub>TSM</sub> | T <sub>VJ</sub> =125℃ t=10ms, sine                                                                                      | 12500      | A                |
| I <sup>2</sup> t | T <sub>VJ</sub> =125℃ t=10ms, sine                                                                                      | 781000     | 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 | ℃                |
| T <sub>stg</sub> |                                                                                                                         | -40 to 125 | ℃                |
| M <sub>t</sub>   | To terminals(M8)                                                                                                        | 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> , I <sub>GM</sub> =1.5A t <sub>r</sub> ≤0.5μs | 100        | A/μs             |
| dv/dt            | T <sub>VJ</sub> = T <sub>VJM</sub> , 2/3V <sub>DRM</sub> , linear voltage rise                                          | 1000       | V/μs             |
| Weight           | Module(Approximately)                                                                                                   | 1580       | g                |

**Thermal Characteristics**

| Symbol               | Conditions | Values | Units |
|----------------------|------------|--------|-------|
| R <sub>th(j-c)</sub> | per chip   | 0.071  | ℃/W   |
| R <sub>th(c-h)</sub> | per chip   | 0.024  | ℃/W   |



## Electrical Characteristics

| Symbol            | Conditions                                       | Values |      |      | Units      |
|-------------------|--------------------------------------------------|--------|------|------|------------|
|                   |                                                  | Min.   | Typ. | Max. |            |
| $V_{TM}$          | $T=25^{\circ}C$ $I_{TM}=1200A$                   |        |      | 1.5  | V          |
| $I_{RRM}/I_{DRM}$ | $T_{VJ}=T_{VJM}$ , $V=V_{RRM}$ , $V=V_{DRM}$     |        |      | 45   | mA         |
| $V_{TO}$          | $T_{VJ}=T_{VJM}$                                 |        |      | 0.8  | V          |
| $r_T$             | $T_{VJ}=T_{VJM}$                                 |        |      | 0.49 | m $\Omega$ |
| $V_{GT}$          | $T_{VJ}=25^{\circ}C$ , $V_D=12V$ , $R_L=3\Omega$ | 0.8    |      | 2.5  | V          |
| $I_{GT}$          | $T_{VJ}=25^{\circ}C$ , $V_D=12V$ , $R_L=3\Omega$ | 30     |      | 150  | mA         |
| $I_L$             | $T_{VJ}=25^{\circ}C$ , $V_D=12V$ , $R_L=3\Omega$ |        |      | 1000 | mA         |
| $I_H$             | $T_{VJ}=25^{\circ}C$ , $V_D=12V$ , $R_L=3\Omega$ | 20     |      | 150  | mA         |
| $V_{GD}$          | $T_{VJ}=T_{VJM}$ , $V_{DM}=67\%V_{DRM}$          | 0.2    |      |      | V          |

## Performance Curves

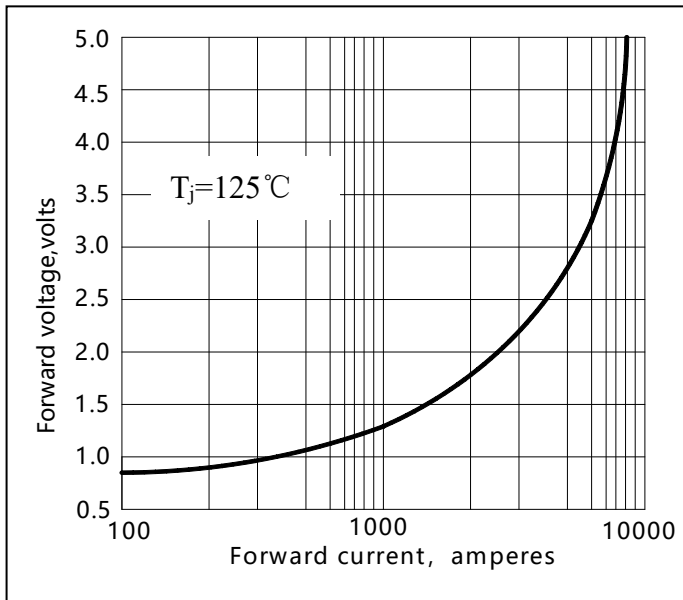


Fig1. Peak On-state Voltage Vs Peak On-state

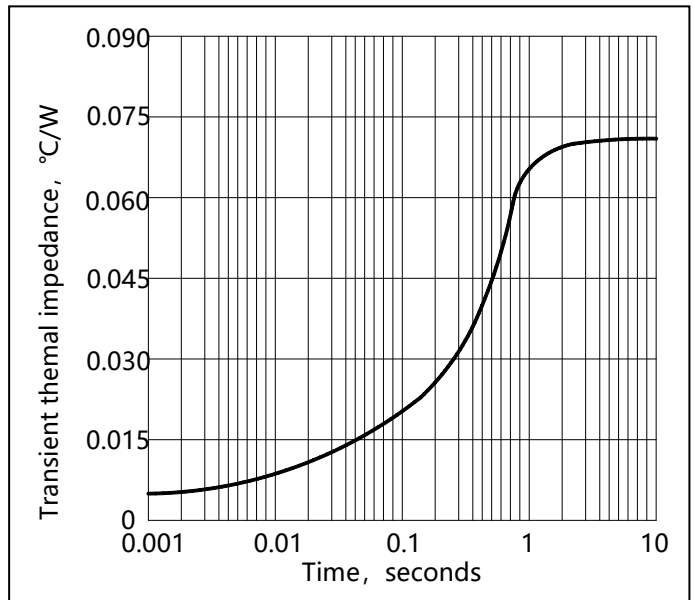


Fig2. Max. junction To case Thermal Impedance Vs Time

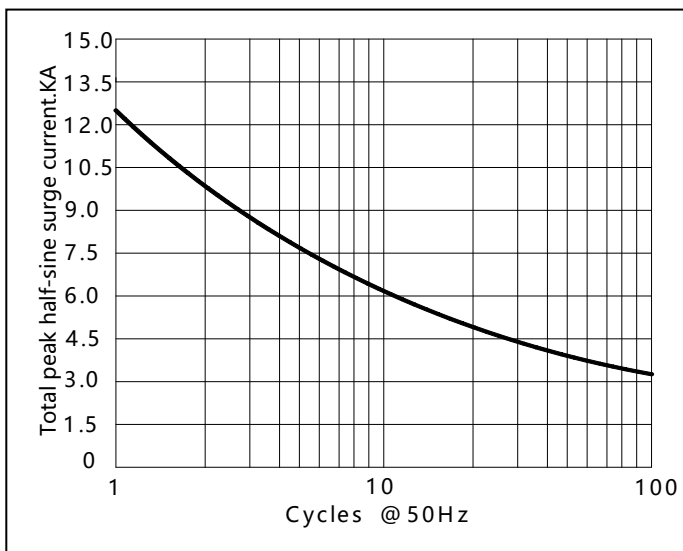


Fig3. Surge Current Vs Cycles

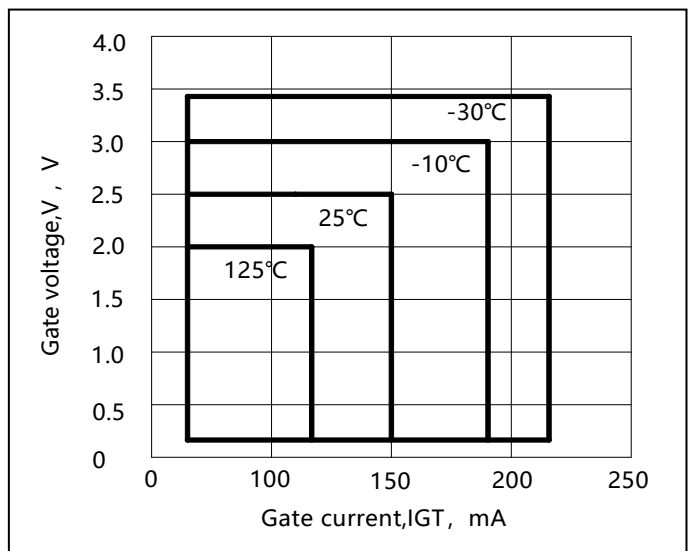
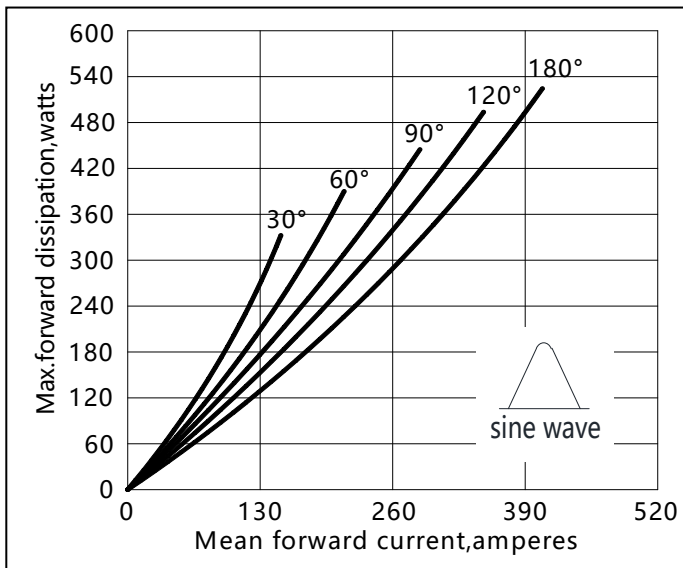
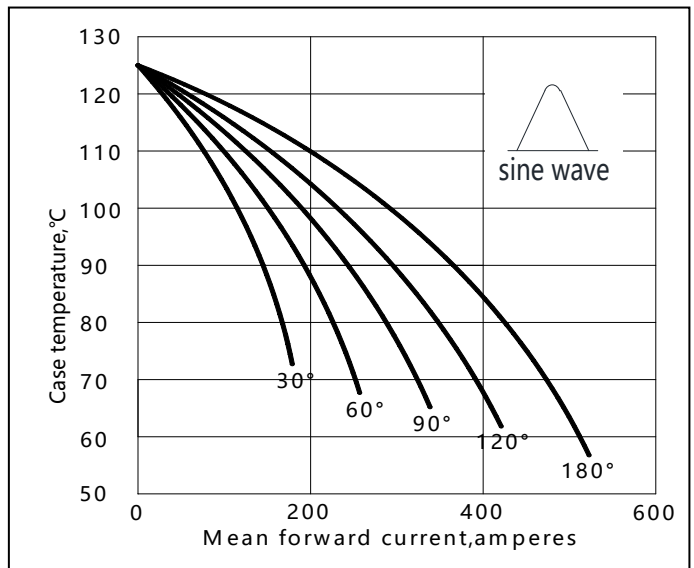


Fig4. Gate Trigger Zone Vs temperature



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



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

## Package Outline Information

### CASE:DT6

