

**Features :**

- Isolated mounting base 2500V~
- Pressure contact technology with Increased power cycling capability
- Space and weight saving

**Typical Applications :**

- Welding

| SYMBOL                               | CHARACTERISTIC                                                       | TEST CONDITIONS                                                                                                                              | T <sub>J</sub> (°C) | VALUE |      |       | UNIT                             |
|--------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------|------|-------|----------------------------------|
|                                      |                                                                      |                                                                                                                                              |                     | Min   | Type | Max   |                                  |
| I <sub>T(RMS)</sub>                  | RMS on-state current                                                 | The two chips are assembled in reverse parallel and are continuous on current.<br>T <sub>water</sub> =30°C, 6L/min                           |                     |       |      | 1600  | A                                |
|                                      |                                                                      | The two chips are assembled in reverse parallel ,usage rate 10%, twenty flowing on current continuously.<br>T <sub>water</sub> =30°C, 6L/min |                     |       |      | 2450  | A                                |
| V <sub>DRM</sub> /V <sub>RRM</sub>   | Repetitive peak off-state voltage<br>Repetitive peak reverse voltage | tp=10ms                                                                                                                                      | 125                 |       |      | 1600  | V                                |
| I <sub>DRM</sub><br>I <sub>RRM</sub> | Repetitive peak current                                              | at V <sub>DRM</sub><br>at V <sub>RRM</sub>                                                                                                   | 125                 |       |      | 55    | mA                               |
| I <sub>TSM</sub>                     | Surge on-state current                                               | 10ms half sine wave,<br>V <sub>R</sub> =0.6V <sub>RRM</sub>                                                                                  | 125                 |       |      | 26.0  | kA                               |
| I <sup>2</sup> t                     | I <sup>2</sup> t for fusing coordination                             |                                                                                                                                              |                     |       |      | 3380  | A <sup>2</sup> s*10 <sup>3</sup> |
| V <sub>TO</sub>                      | Threshold voltage                                                    |                                                                                                                                              | 125                 |       |      | 0.81  | V                                |
| r <sub>T</sub>                       | On-state slope resistance                                            |                                                                                                                                              |                     |       |      | 0.21  | mΩ                               |
| V <sub>TM</sub>                      | Peak on-state voltage                                                | I <sub>TM</sub> =3000A                                                                                                                       | 25                  |       |      | 2.0   | V                                |
| dv/dt                                | Critical rate of rise of off-state voltage                           | V <sub>DM</sub> =67%V <sub>DRM</sub>                                                                                                         | 125                 |       |      | 800   | V/μs                             |
| di/dt                                | Critical rate of rise of on-state current                            | Gate source 1.5A<br>t <sub>r</sub> ≤0.5μs Repetitive                                                                                         | 125                 |       |      | 100   | A/μs                             |
| I <sub>GT</sub>                      | Gate trigger current                                                 | V <sub>A</sub> =12V, I <sub>A</sub> =1A                                                                                                      | 25                  | 30    |      | 200   | mA                               |
| V <sub>GT</sub>                      | Gate trigger voltage                                                 |                                                                                                                                              |                     | 1.0   |      | 3.0   | V                                |
| I <sub>H</sub>                       | Holding current                                                      |                                                                                                                                              |                     | 20    |      | 200   | mA                               |
| V <sub>GD</sub>                      | Non-trigger gate voltage                                             | V <sub>DM</sub> =67%V <sub>DRM</sub>                                                                                                         | 125                 | 0.2   |      |       | V                                |
| I <sub>GD</sub>                      | Non-trigger gate current                                             | V <sub>DM</sub> =67%V <sub>DRM</sub>                                                                                                         | 125                 | 1.5   |      |       | mA                               |
| R <sub>th(j-c)</sub>                 | Thermal resistance<br>Junction to case                               | Single side cooled, per chip. DC                                                                                                             |                     |       |      | 0.052 | °C/W                             |
| R <sub>th(c-w)</sub>                 | Thermal resistance<br>case to water                                  | Single side cooled, per chip. (6L/min)                                                                                                       |                     |       |      | 0.037 | °C/W                             |
| V <sub>iso</sub>                     | Isolation voltage                                                    | 50Hz,R.M.S,t=1min,I <sub>iso</sub> :1mA(MAX)                                                                                                 |                     | 2500  |      |       | V                                |
| F <sub>m</sub>                       | Terminal connection torque(M12)                                      |                                                                                                                                              |                     | 12.0  |      | 16.0  | N·m                              |
|                                      | Mounting torque(M8)                                                  |                                                                                                                                              |                     | 10.0  |      | 12.0  | N·m                              |
| T <sub>vj</sub>                      | Junction temperature                                                 |                                                                                                                                              |                     | -40   |      | 125   | °C                               |
| T <sub>stg</sub>                     | Stored temperature                                                   |                                                                                                                                              |                     | -40   |      | 125   | °C                               |
| T <sub>water</sub>                   | Water temperature                                                    | Water flow=6L/min                                                                                                                            |                     | -     |      | 30    | °C                               |
| -                                    | Water Pressure loss                                                  |                                                                                                                                              |                     |       | 41   |       | kPa                              |
| W <sub>t</sub>                       | Weight                                                               |                                                                                                                                              |                     |       | 3220 |       | g                                |
| Outline                              | M15                                                                  |                                                                                                                                              |                     |       |      |       |                                  |

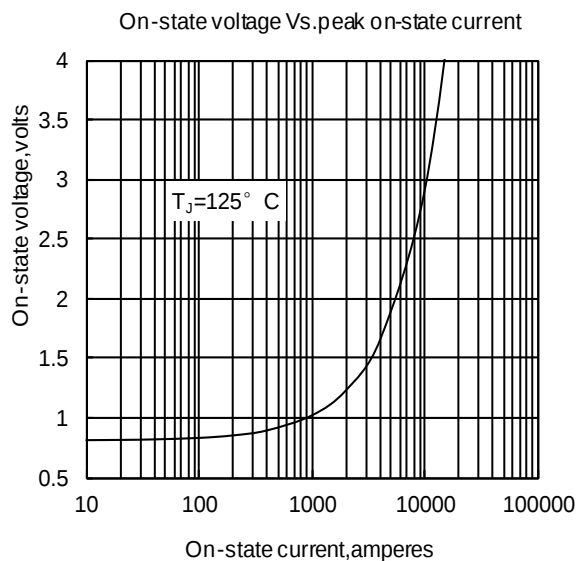


Fig1

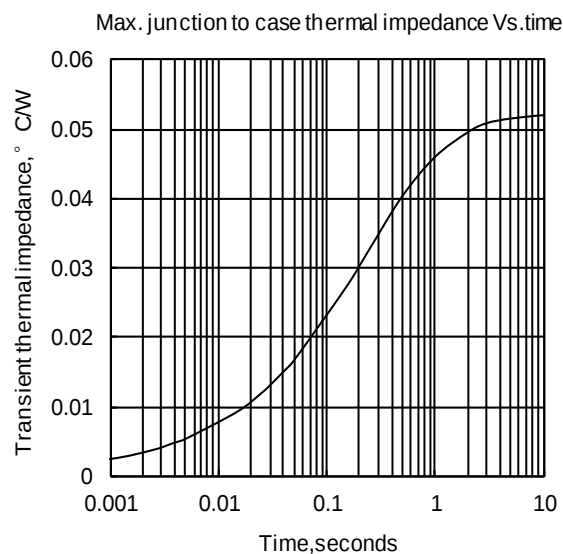


Fig2

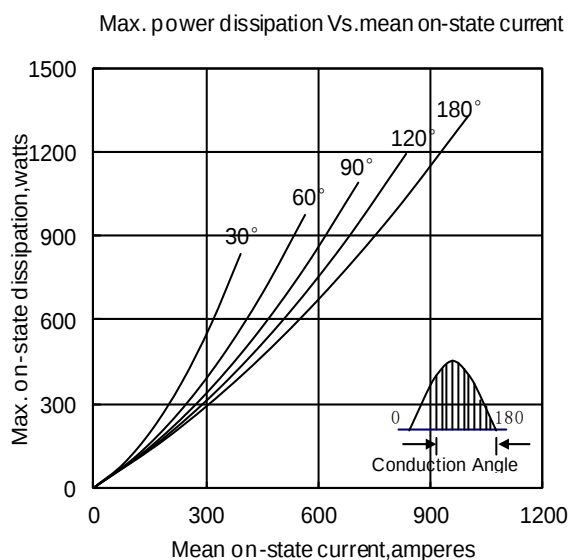


Fig3

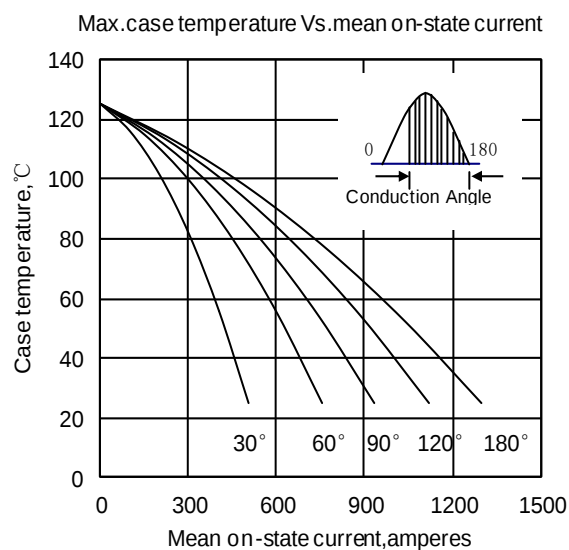


Fig4

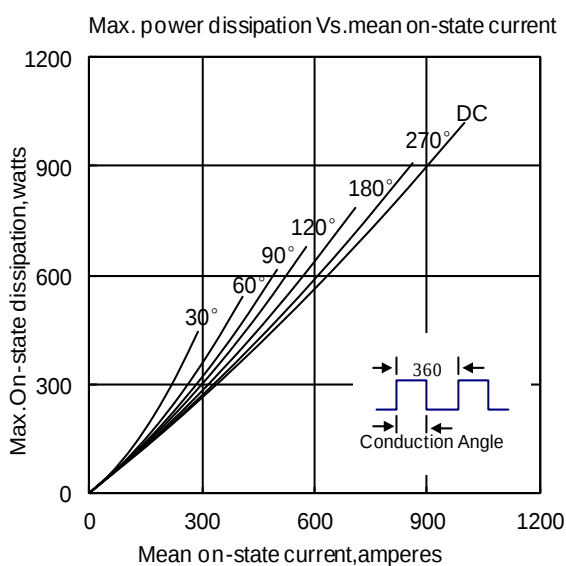


Fig5

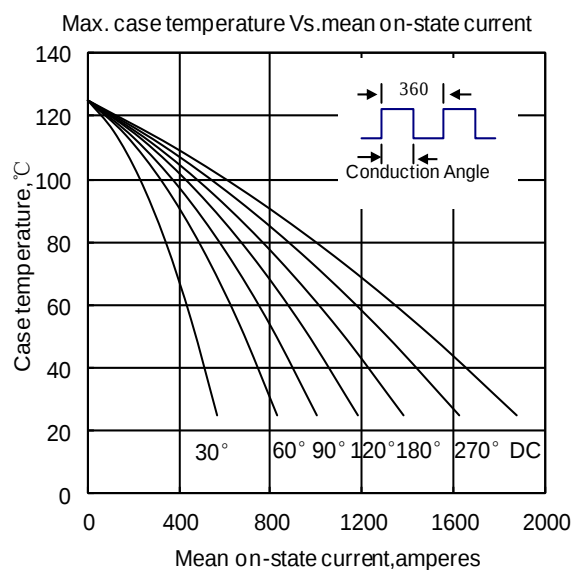


Fig6

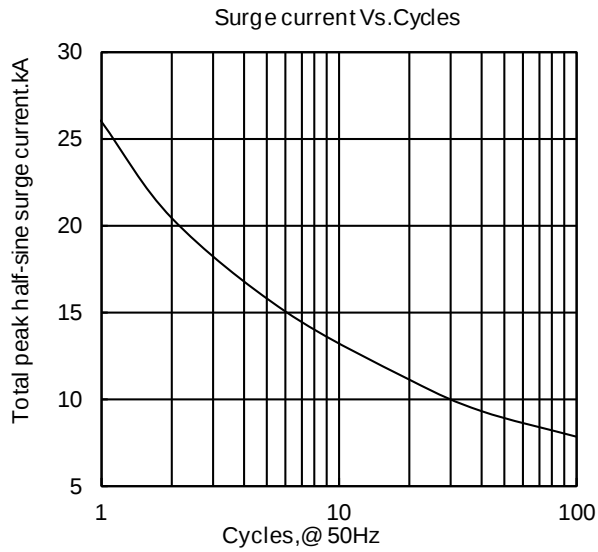


Fig7

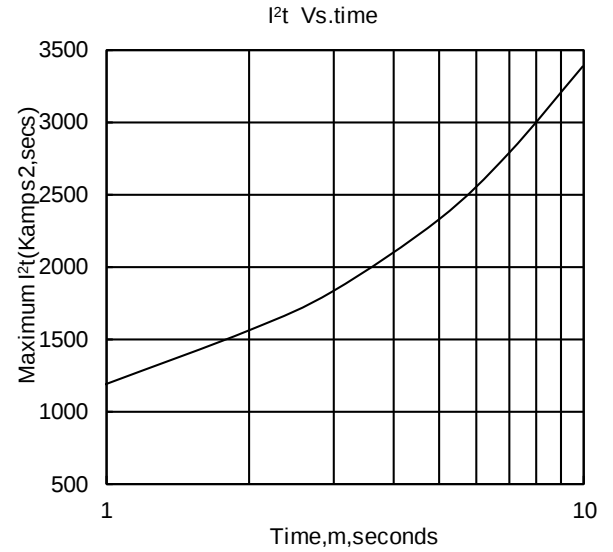


Fig8

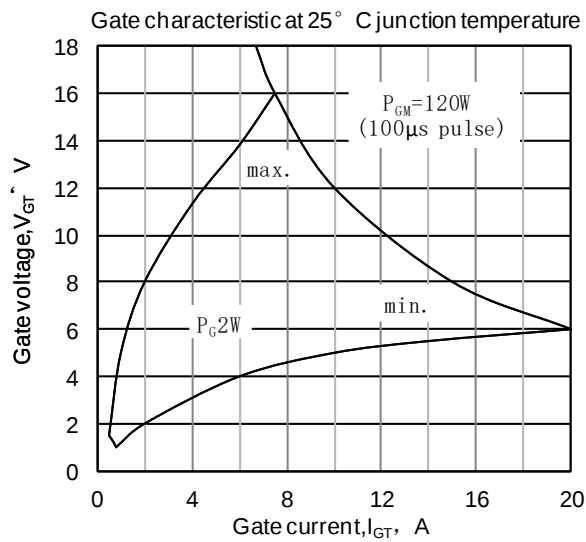


Fig9

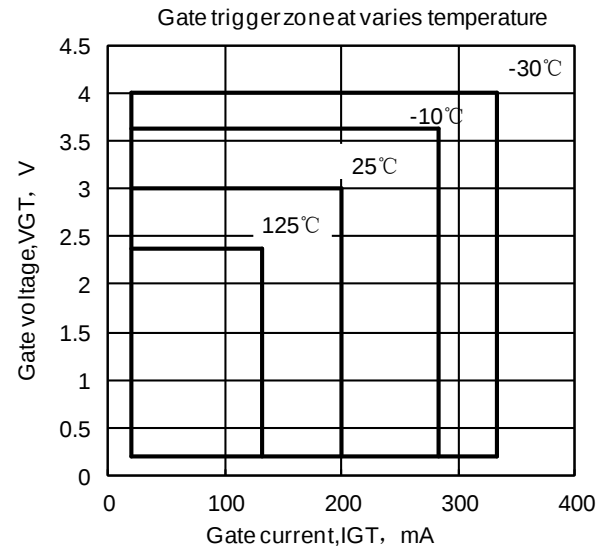


Fig10

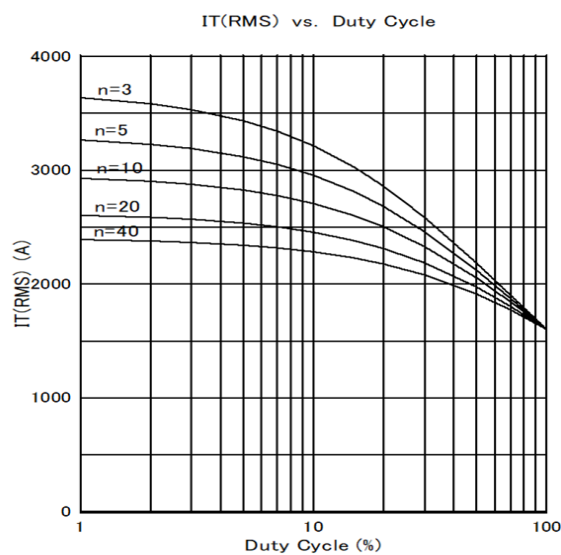


Fig.11

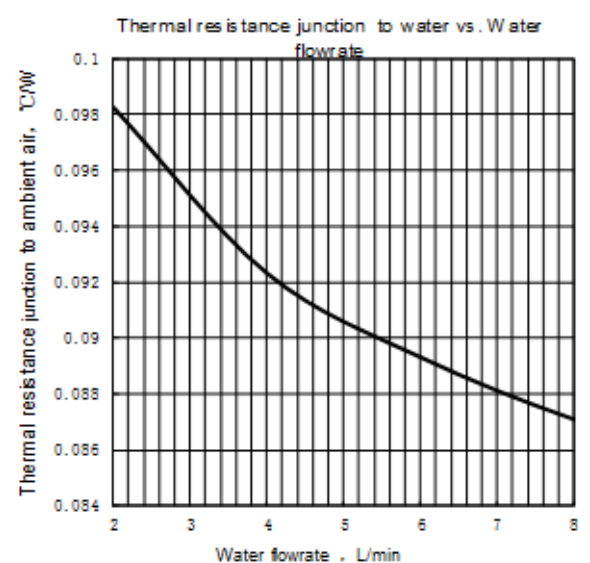


Fig.12

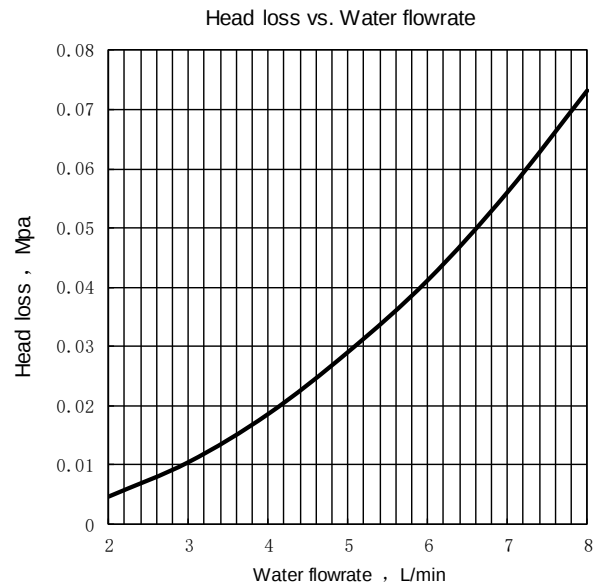
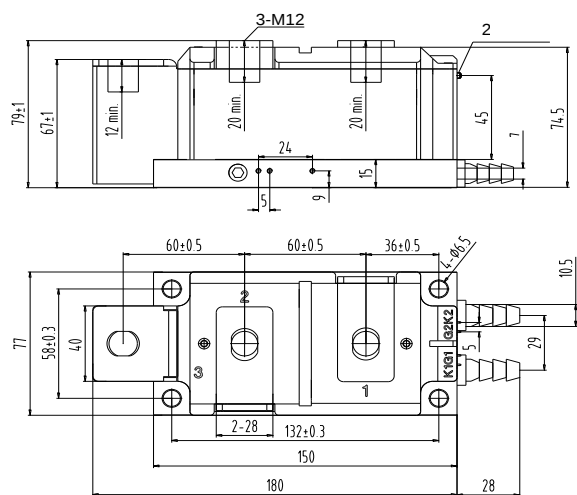


Fig.13



MD1000T160W

