

**Features :**

- Non-Isolated.Mounting base as anode or cathode terminal
- Pressure contact technology with Increased power cycling capability
- Low on-state voltage drop

**Typical Applications**

- Welding Power Supply
- Various DC Power supplies
- DC supply for PWM inverter

| $V_{DSM}, V_{RSM}$ | $V_{DRM}, V_{RRM}$ | Type         |
|--------------------|--------------------|--------------|
| 900V               | 800V               | Mx100TH80N*  |
| 1100V              | 1000V              | Mx100TH100N* |
| 1300V              | 1200V              | Mx100TH120N* |
| 1500V              | 1400V              | Mx100TH140N* |
| 1700V              | 1600V              | Mx100TH160N* |
| 1900V              | 1800V              | Mx100TH180N* |

| SYMBOL                 | CHARACTERISTIC                             | TEST CONDITIONS                                                   | $T_j(^{\circ}C)$ | VALUE |      |      | UNIT          |
|------------------------|--------------------------------------------|-------------------------------------------------------------------|------------------|-------|------|------|---------------|
|                        |                                            |                                                                   |                  | Min   | Type | Max  |               |
| $I_{T(AV)}$            | Mean on-state current                      | 180° half sine wave 50Hz<br>Single side cooled, $T_c=90^{\circ}C$ | 125              |       |      | 100  | A             |
| $I_{T(RMS)}$           | RMS on-state current                       |                                                                   |                  |       |      | 157  | A             |
| $I_{DRM}$<br>$I_{RRM}$ | Repetitive peak current                    | at $V_{DRM}$<br>at $V_{RRM}$                                      | 125              |       |      | 8    | mA            |
| $I_{TSM}$              | Surge on-state current                     | 10ms half sine wave                                               | 125              |       |      | 2.5  | kA            |
| $I^2t$                 | $I^2t$ for fusing coordination             | $V_R=60\%V_{RRM}$                                                 |                  |       |      | 31   | $A^2s*10^3$   |
| $V_{TO}$               | Threshold voltage                          |                                                                   | 125              |       |      | 0.80 | V             |
| $r_T$                  | On-state slope resistance                  |                                                                   |                  |       |      | 2.45 | m $\Omega$    |
| $V_{TM}$               | Peak on-state voltage                      | $I_{TM}=300A$                                                     | 25               |       |      | 1.67 | V             |
| dv/dt                  | Critical rate of rise of off-state voltage | $V_{DM}=67\%V_{DRM}$                                              | 125              |       |      | 800  | V/ $\mu s$    |
| di/dt                  | Critical rate of rise of on-state current  | Gate source 1.5A<br>$t_r \leq 0.5\mu s$ Repetitive                | 125              |       |      | 100  | A/ $\mu s$    |
| $I_{GT}$               | Gate trigger current                       | $V_A=12V, I_A=1A$                                                 | 25               | 30    |      | 150  | mA            |
| $V_{GT}$               | Gate trigger voltage                       |                                                                   |                  | 0.7   |      | 2.5  | V             |
| $I_H$                  | Holding current                            |                                                                   |                  | 10    |      | 120  | mA            |
| $V_{GD}$               | Non-trigger gate voltage                   | At 67% $V_{DRM}$                                                  | 125              | 0.2   |      |      | V             |
| $R_{th(j-c)}$          | Thermal resistance<br>Junction to case     | Single side cooled per chip                                       |                  |       |      | 0.25 | $^{\circ}C/W$ |
| $R_{th(c-h)}$          | Thermal resistance<br>case to heatsink     | Single side cooled per chip                                       |                  |       |      | 0.10 | $^{\circ}C/W$ |
| $F_m$                  | Terminal connection torque(M6)             |                                                                   |                  |       | 6.0  |      | N·m           |
|                        | Mounting torque(M6)                        |                                                                   |                  |       | 6.0  |      | N·m           |
| $T_{vj}$               | Junction temperature                       |                                                                   |                  | -40   |      | 125  | $^{\circ}C$   |
| $T_{stg}$              | Stored temperature                         |                                                                   |                  | -40   |      | 125  | $^{\circ}C$   |
| $W_t$                  | Weight                                     |                                                                   |                  |       | 280  |      | g             |
| Outline                | M10                                        |                                                                   |                  |       |      |      |               |

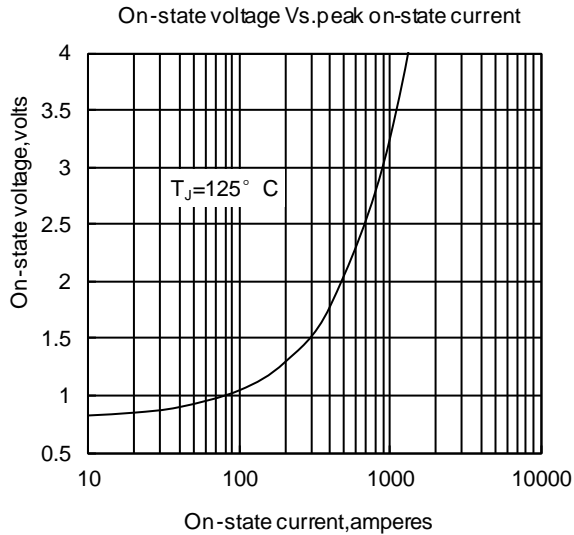


Fig1

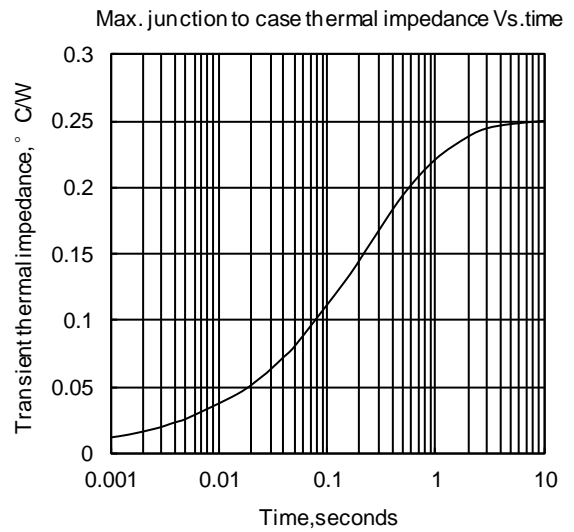


Fig2

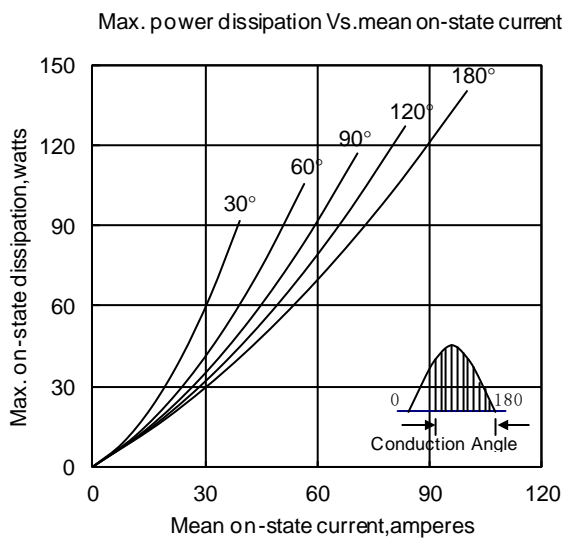


Fig3

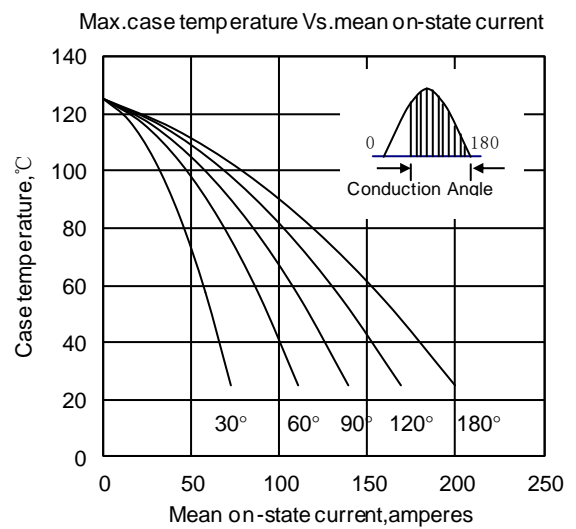


Fig4

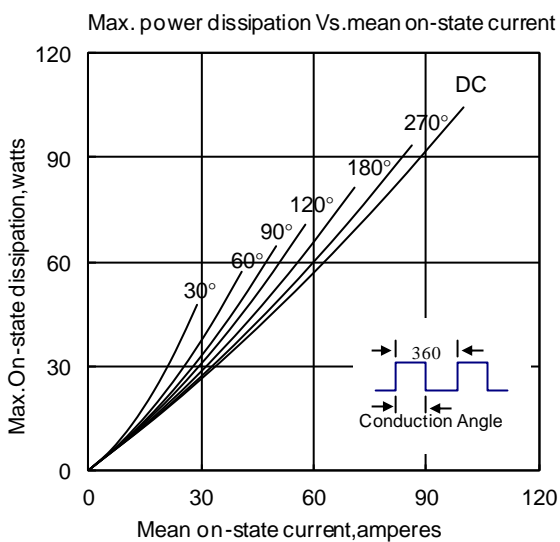


Fig5

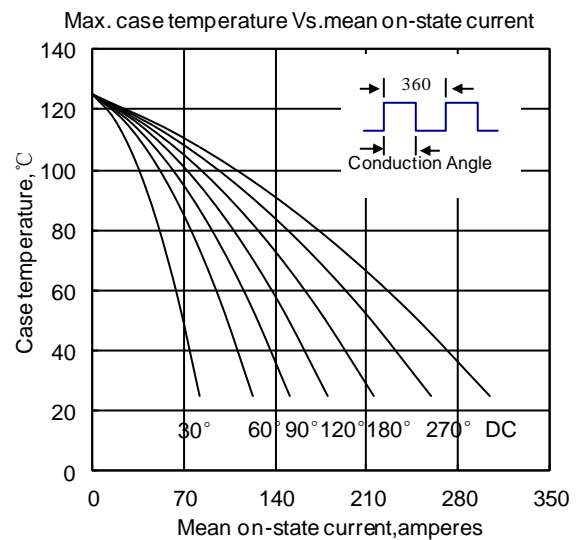


Fig6

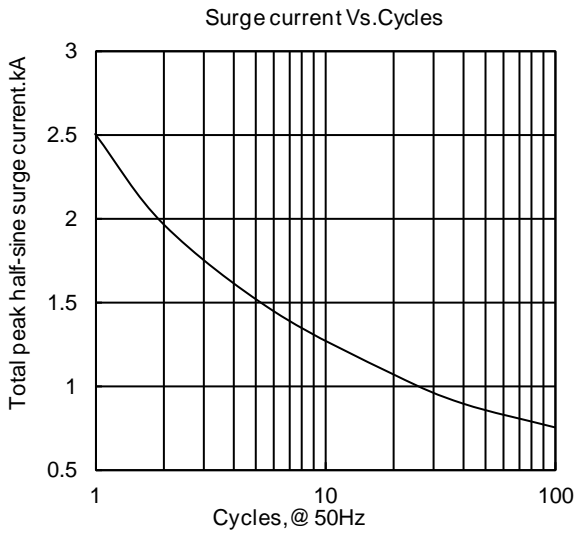


Fig7

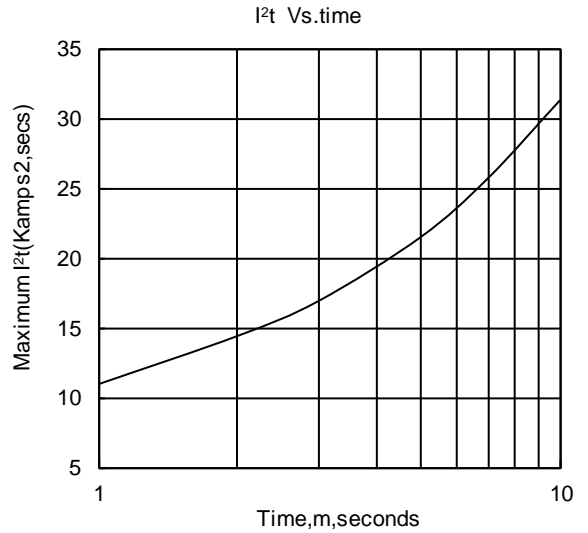


Fig8

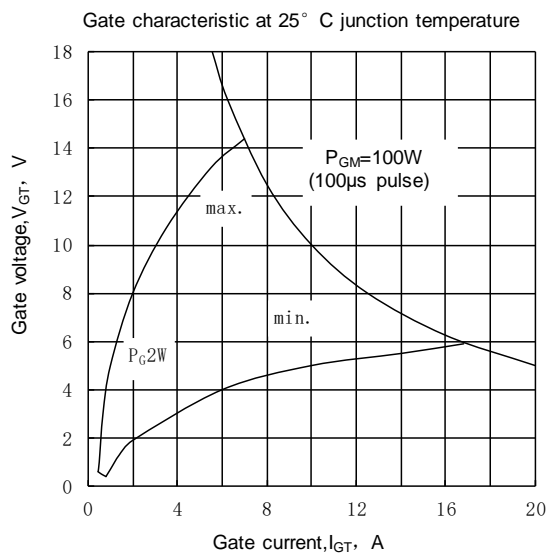


Fig.9

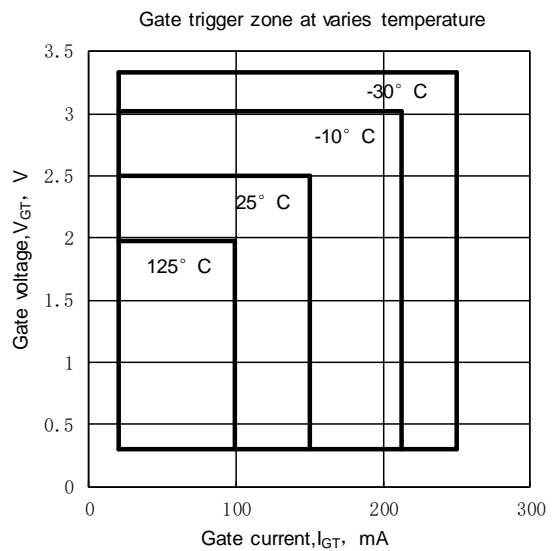
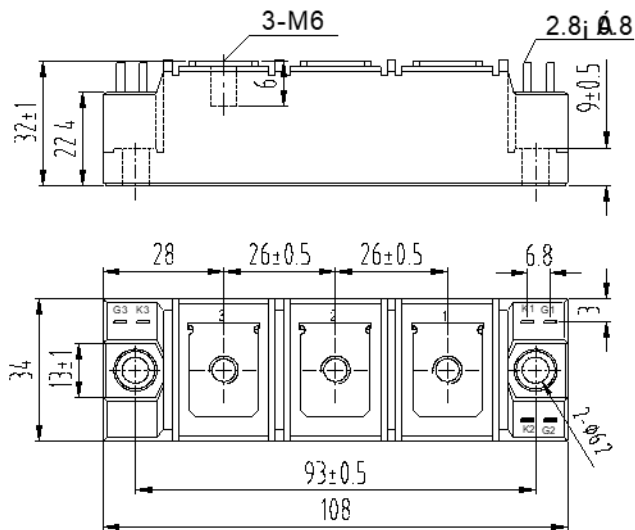
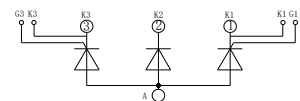


Fig.10

Outline:



ME100TH\*NK



MF100TH\*NA

