

**Features:**

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

**Typical Applications**

- AC/DC Motor drives
- Various rectifiers
- DC supply for PWM inverter

| $V_{DSM}, V_{RSM}$ | $V_{DRM}, V_{RRM}$ | Type & Outline         |
|--------------------|--------------------|------------------------|
| 900V               | 800V               | MFx182-08-216F3/216F3B |
| 1100V              | 1000V              | MFx182-10-216F3/216F3B |
| 1300V              | 1200V              | MFx182-12-216F3/216F3B |
| 1500V              | 1400V              | MFx182-14-216F3/216F3B |
| 1700V              | 1600V              | MFx182-16-216F3/216F3B |
| 1900V              | 1800V              | MFx182-18-216F3/216F3B |

| 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, $T_c=85^{\circ}C$ | 125              |       |      | 182  | A                 |
| $I_{T(RMS)}$           | RMS on-state current                       |   |                  |       |      | 286  | A                 |
| $I_{DRM}$<br>$I_{RRM}$ | Repetitive peak current                    | at $V_{DRM}$<br>at $V_{RRM}$                                      | 125              |       |      | 20   | mA                |
| $I_{TSM}$              | Surge on-state current                     | 10ms half sine wave   | 125              |       |      | 7    | kA                |
| $I^2t$                 | $I^2t$ for fusing coordination             | $V_R=60\%V_{RRM}$   |                  |       |      | 245  | $A^2s \cdot 10^3$ |
| $V_{TO}$               | Threshold voltage                          |   | 125              |       |      | 0.80 | V                 |
| $r_T$                  | On-state slope resistance                  |   |                  |       |      | 1.26 | m $\Omega$        |
| $V_{TM}$               | Peak on-state voltage                      | $I_{TM}=550A$   | 25               |       |      | 1.62 | 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    |      | 150  | mA                |
| $V_{GD}$               | Non-trigger gate voltage                   | $V_{DM}=67\%V_{DRM}$  | 125              | 0.2   |      |      | V                 |
| $R_{th(j-c)}$          | Thermal resistance<br>Junction to case     | Single side cooled per chip                                       |                  |       |      | 0.16 | $^{\circ}C/W$     |
| $R_{th(c-h)}$          | Thermal resistance<br>case to heatsink     | Single side cooled per chip                                       |                  |       |      | 0.08 | $^{\circ}C/W$     |
| $V_{iso}$              | Isolation voltage                          | 50Hz, R.M.S, $t=1min, I_{iso}=1mA(MAX)$                           |                  | 2500  |      |      | V                 |
| $F_m$                  | 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                                     |   |                  |       | 320  |      | g                 |
| <b>Outline</b>         | 216F3、216F3B                               |   |                  |       |      |      |                   |

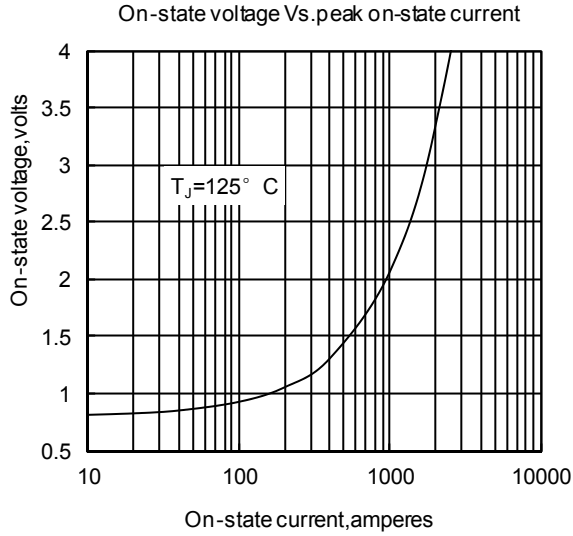


Fig1

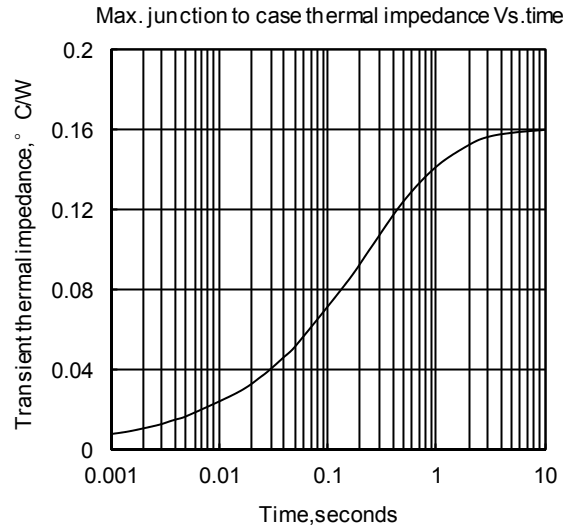


Fig2

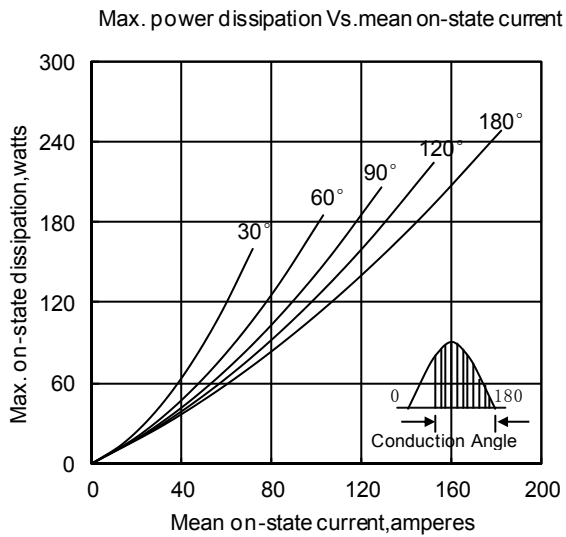


Fig3

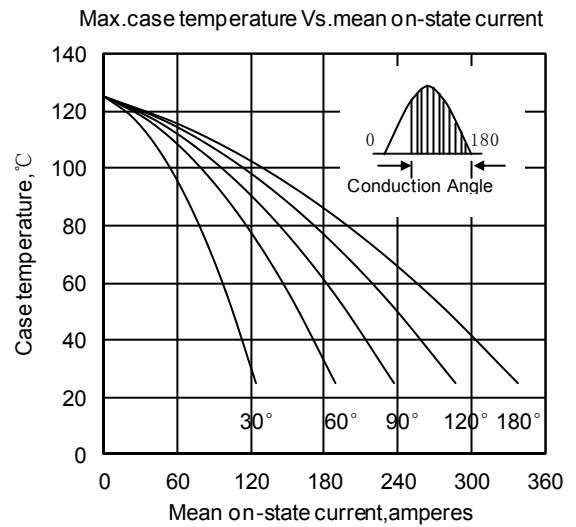


Fig4

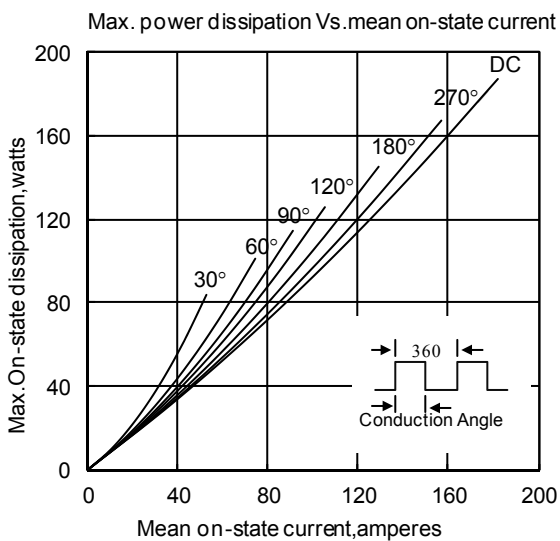


Fig5

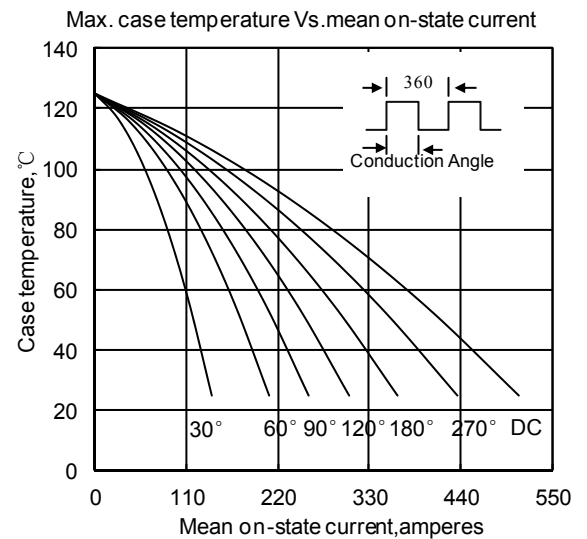


Fig6

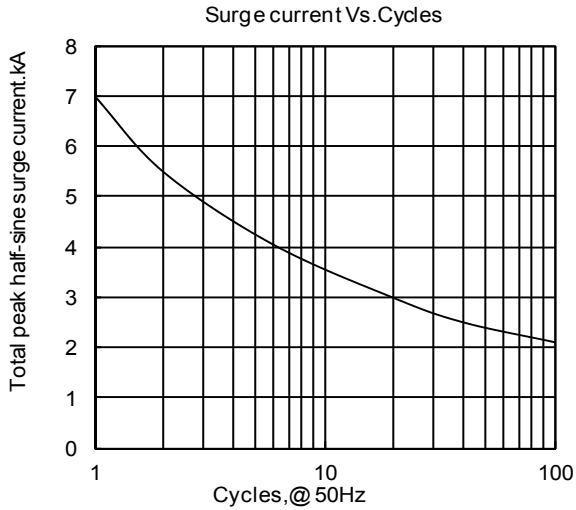


Fig7

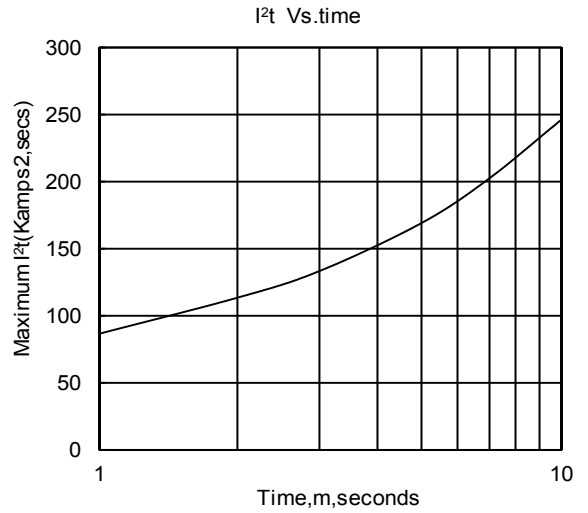


Fig8

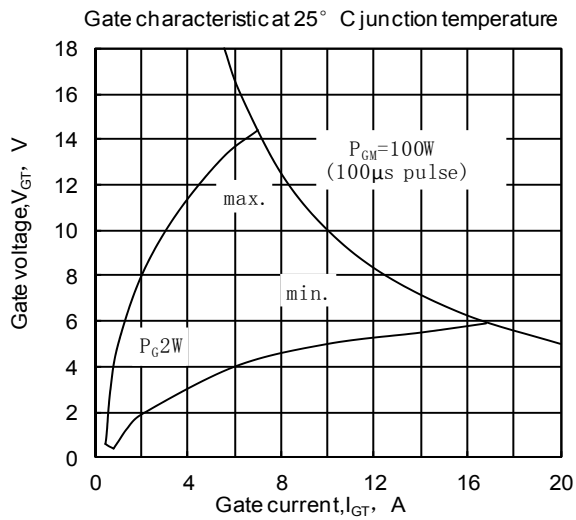


Fig9

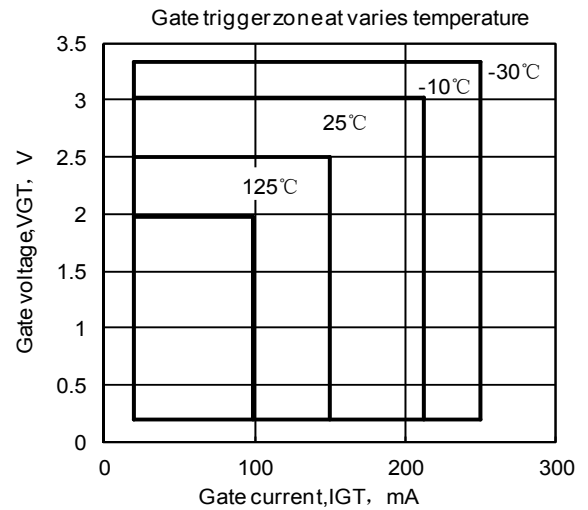
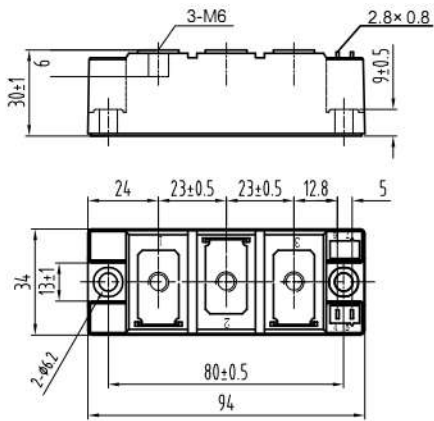


Fig10

Outline:



216F3: 4 is Gate



216F3B: 5 is Gate

