

**Features:**

- Isolated mounting base 4000V~
- 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  |
|--------------------|--------------------|-----------------|
| 2700V              | 2600V              | MFx400-26-410F3 |
| 2900V              | 2800V              | MFx400-28-410F3 |
| 3100V              | 3000V              | MFx400-30-410F3 |
| 3300V              | 3200V              | MFx400-32-410F3 |
| 3500V              | 3400V              | MFx400-34-410F3 |
| 3700V              | 3600V              | MFx400-36-410F3 |

| 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              |       |      | 400   | A             |
| $I_{T(RMS)}$           | RMS on-state current                       |   |                  |       |      | 628   | A             |
| $I_{DRM}$<br>$I_{RRM}$ | Repetitive peak current                    | at $V_{DRM}$<br>at $V_{RRM}$                                      | 125              |       |      | 55    | mA            |
| $I_{TSM}$              | Surge on-state current                     | 10ms half sine wave   | 125              |       |      | 10.5  | kA            |
| $I^2t$                 | $I^2t$ for fusing coordination             | $V_R=60\%V_{RRM}$   |                  |       |      | 551   | $A^2s*10^3$   |
| $V_{TO}$               | Threshold voltage                          |   | 125              |       |      | 0.98  | V             |
| $r_T$                  | On-state slope resistance                  |   |                  |       |      | 0.88  | mΩ            |
| $V_{TM}$               | Peak on-state voltage                      | $I_{TM}=1200A$  | 25               |       |      | 2.35  | V             |
| $dv/dt$                | Critical rate of rise of off-state voltage | $V_{DM}=67\%V_{DRM}$  | 125              |       |      | 800   | V/μs          |
| $di/dt$                | Critical rate of rise of on-state current  | Gate source 1.5A<br>$t_r \leq 0.5\mu s$ Repetitive                | 125              |       |      | 100   | A/μs          |
| $I_{GT}$               | Gate trigger current                       | $V_A=12V, I_A=1A$   | 25               | 30    |      | 200   | mA            |
| $V_{GT}$               | Gate trigger voltage                       |   |                  | 0.8   |      | 3.0   | V             |
| $I_H$                  | Holding current                            |   |                  | 10    |      | 200   | 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                                       |                  |       |      | 0.054 | $^{\circ}C/W$ |
| $R_{th(c-h)}$          | Thermal resistance<br>case to heatsink     | Single side cooled per chip                                       |                  |       |      | 0.024 | $^{\circ}C/W$ |
| $V_{iso}$              | Isolation voltage                          | 50Hz, R.M.S, $t=1min, I_{iso}:1mA(MAX)$                           |                  | 4000  |      |       | V             |
| $F_m$                  | Terminal connection torque(M10)            |   |                  |       | 12.0 |       | 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                                     |   |                  |       | 3240 |       | g             |
| Outline                | 410F3                                      |   |                  |       |      |       |               |

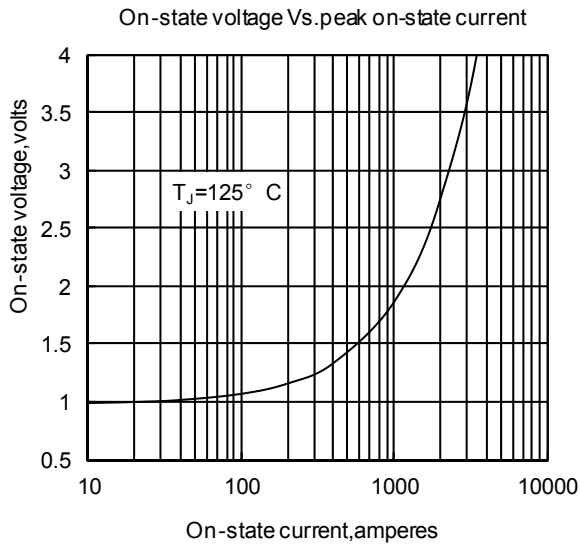


Fig. 1

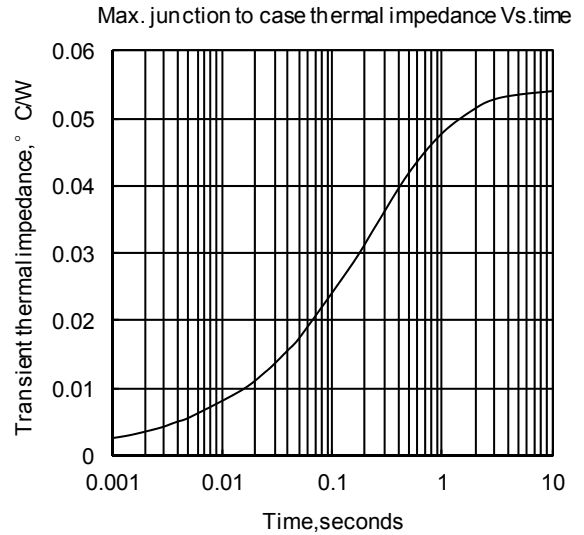


Fig. 2

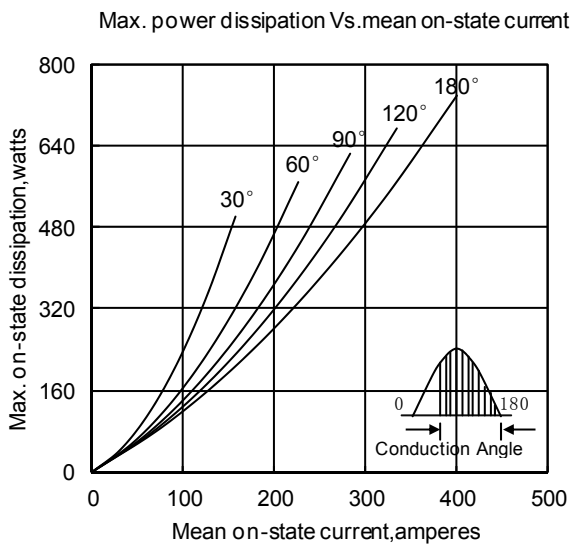


Fig. 3

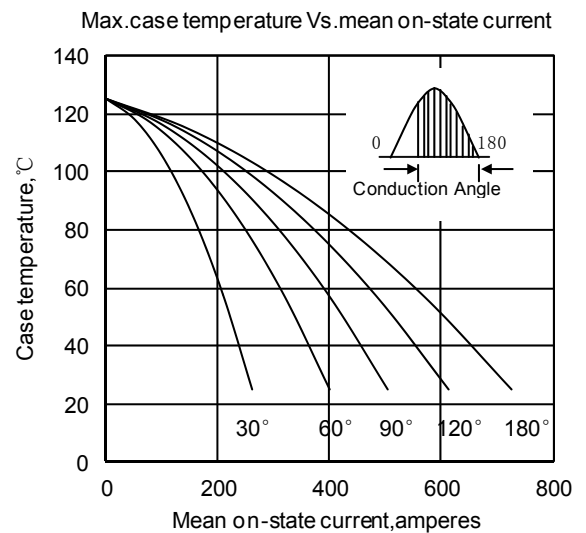


Fig. 4

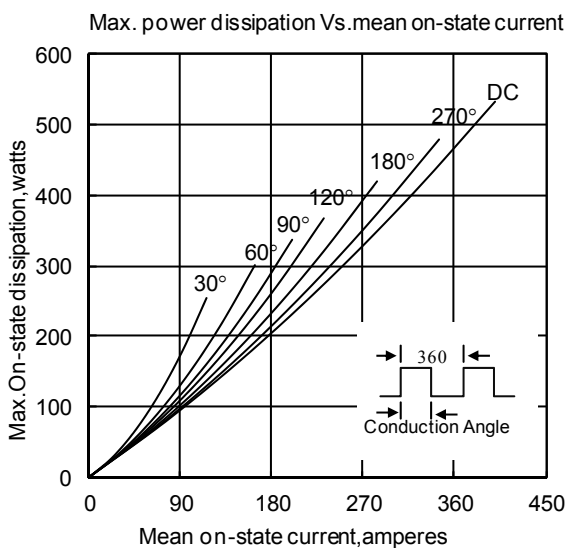


Fig. 5

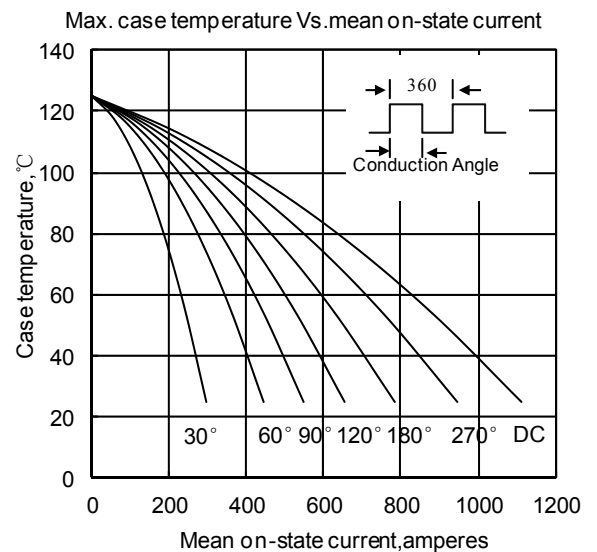


Fig. 6

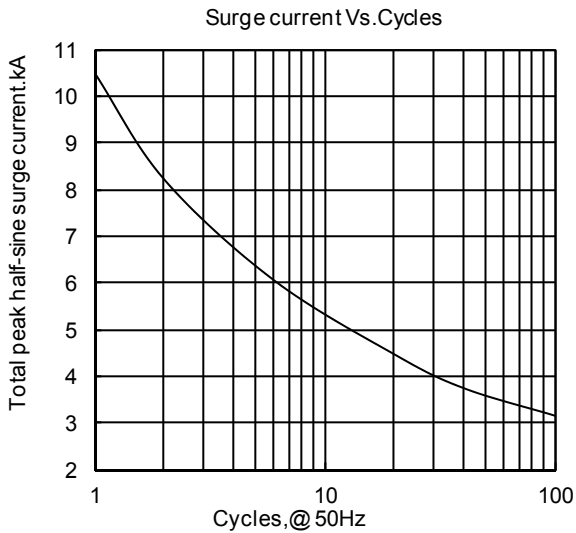


Fig. 7

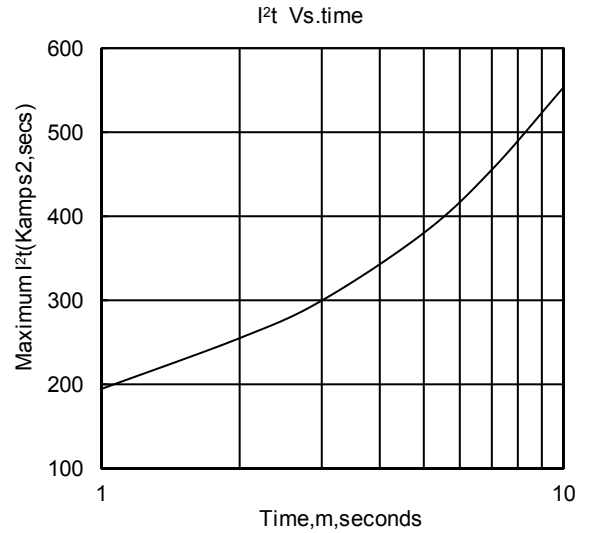


Fig. 8

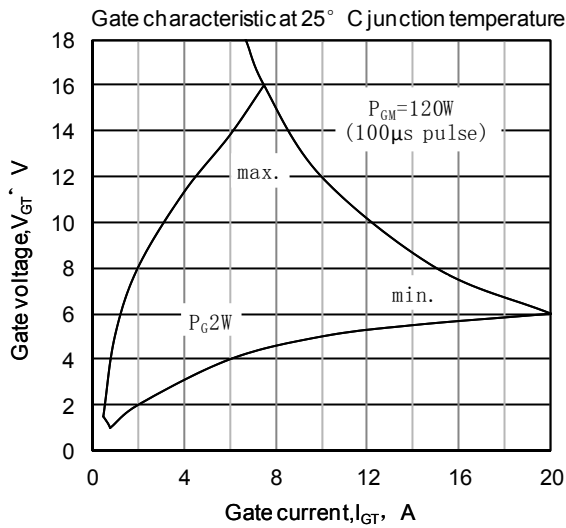


Fig. 9

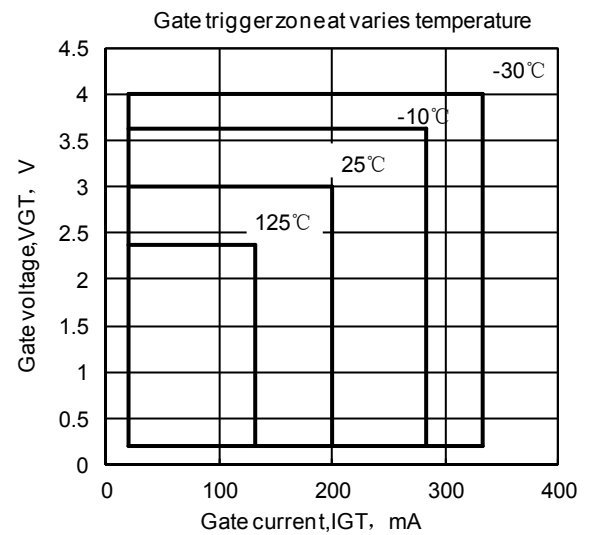


Fig. 10

Outline:

