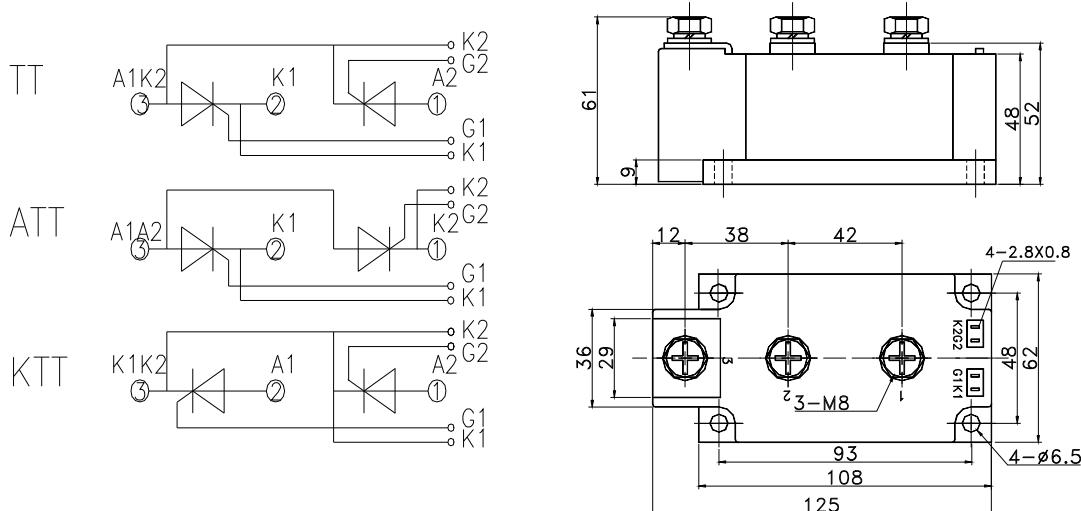


## TT300 ATT300 KTT300

| SYMBOL                               | CHARACTERISTIC                                                       | TEST CONDITIONS                                                                                                                                               | $T_J(^{\circ}\text{C})$ | VALUE |      |       | UNIT                             |
|--------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------|------|-------|----------------------------------|
|                                      |                                                                      |                                                                                                                                                               |                         | Min   | Type | Max   |                                  |
| $I_{T(\text{AV})}$                   | Mean on-state current                                                | 180° half sine wave 50Hz<br>Single side cooled, $T_C=85^{\circ}\text{C}$                                                                                      | 125                     |       |      | 300   | A                                |
| $I_{T(\text{RMS})}$                  | RMS on-state current                                                 | Single side cooled, $T_C=85^{\circ}\text{C}$                                                                                                                  | 125                     |       |      | 471   | A                                |
| $V_{\text{DRM}}$<br>$V_{\text{RRM}}$ | Repetitive peak off-state voltage<br>Repetitive peak reverse voltage | $V_{\text{DRM}} \& V_{\text{RRM}} \text{ tp}=10\text{ms}$<br>$V_{\text{DsM}} \& V_{\text{RsM}} = V_{\text{DRM}} \& V_{\text{RRM}} + 200\text{V}$ respectively | 125                     | 600   |      | 1800  | V                                |
| $I_{\text{DRM}}$<br>$I_{\text{RRM}}$ | Repetitive peak current                                              | at $V_{\text{DRM}}$<br>at $V_{\text{RRM}}$                                                                                                                    | 125                     |       |      | 40    | mA                               |
| $I_{\text{TSM}}$                     | Surge on-state current                                               | 10ms half sine wave                                                                                                                                           | 125                     |       |      | 9.30  | KA                               |
| $I^2t$                               | $I^2T$ for fusing coordination                                       | $V_R=60\%V_{\text{RRM}}$                                                                                                                                      |                         |       |      | 441   | $\text{A}^2\text{s} \times 10^3$ |
| $V_{\text{TO}}$                      | Threshold voltage                                                    |                                                                                                                                                               | 125                     |       |      | 0.80  | V                                |
| $r_T$                                | On-state slop resistance                                             |                                                                                                                                                               |                         |       |      | 0.72  | $\text{m}\Omega$                 |
| $V_{\text{TM}}$                      | Peak on-state voltage                                                | $I_{\text{TM}}=900\text{A}$                                                                                                                                   | 125                     |       |      | 1.58  | V                                |
| $dv/dt$                              | Critical rate of rise of off-state voltage                           | $V_{\text{DM}}=67\%V_{\text{DRM}}$                                                                                                                            | 125                     |       |      | 800   | $\text{V}/\mu\text{s}$           |
| $di/dt$                              | Critical rate of rise of on-state current                            | From 67% $V_{\text{DRM}}$<br>to 900A, Gate source 1.5A<br>$t_r \leq 0.5\mu\text{s}$ Repetitive                                                                | 125                     |       |      | 100   | $\text{A}/\mu\text{s}$           |
| $I_{\text{GT}}$                      | Gate trigger current                                                 |                                                                                                                                                               | 25                      | 30    |      | 180   | mA                               |
| $V_{\text{GT}}$                      | Gate trigger voltage                                                 | $V_A=12\text{V}, I_A=1\text{A}$                                                                                                                               |                         | 1.0   |      | 2.5   | V                                |
| $I_H$                                | Holding current                                                      |                                                                                                                                                               |                         | 20    |      | 100   | mA                               |
| $V_{\text{GD}}$                      | Non-trigger gate voltage                                             | At 67% $V_{\text{DRM}}$                                                                                                                                       | 125                     |       |      | 0.2   | V                                |
| $R_{\text{th(j-c)}}$                 | Thermal resistance<br>Junction to heatsink                           | At 180° sine Single side cooled                                                                                                                               |                         |       |      | 0.100 | $^{\circ}\text{C}/\text{W}$      |
| $V_{\text{iso}}$                     | Isolation voltage                                                    | 50Hz, R.M.S, t=1min, $I_{\text{iso}}:1\text{mA}(\text{MAX})$                                                                                                  |                         | 2500  |      |       | V                                |
| $F_m$                                | Thermal connection torque(M8)                                        |                                                                                                                                                               |                         |       | 0.45 |       | N·m                              |
|                                      | Mounting torque(M6)                                                  |                                                                                                                                                               |                         |       | 0.30 |       | N·m                              |
| $T_{\text{stg}}$                     | Stored temperature                                                   |                                                                                                                                                               |                         | -40   |      | 140   | $^{\circ}\text{C}$               |
| $W_t$                                | Weight                                                               |                                                                                                                                                               |                         |       | 1340 |       | g                                |
| Outline                              |                                                                      | 402F3                                                                                                                                                         |                         |       |      |       |                                  |

## OUTLINE DRAWING & CIRCUIT DIAGRAM



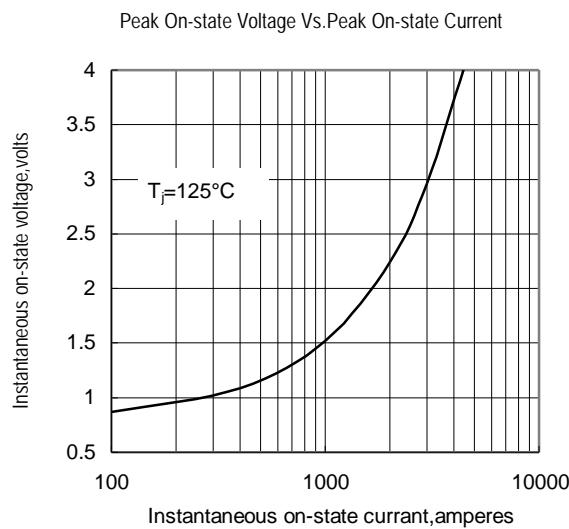


Fig.1

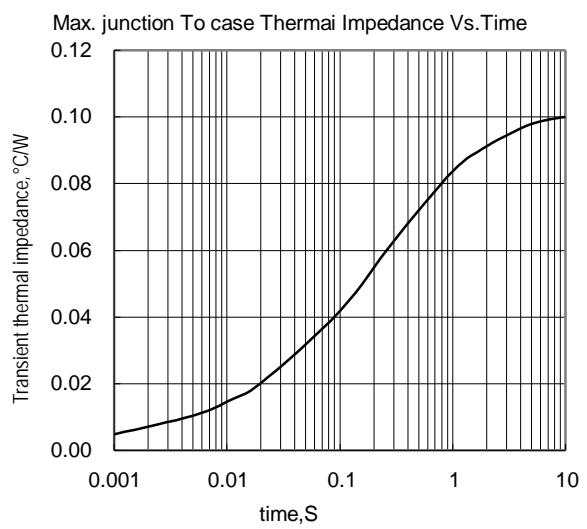


Fig.2

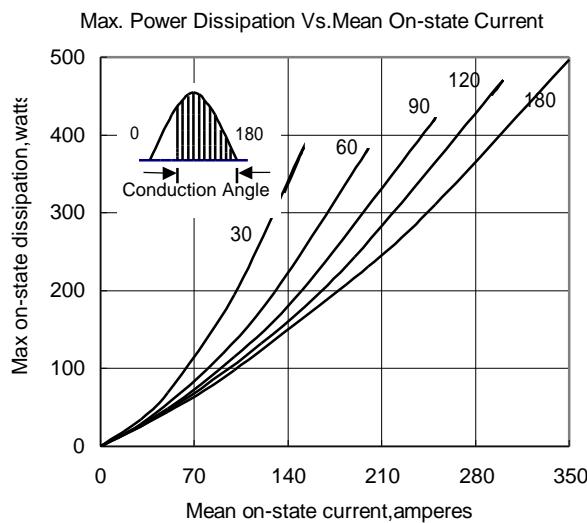


Fig.3

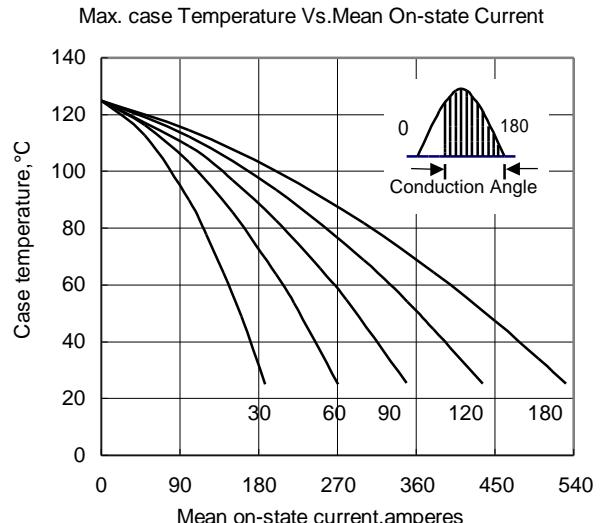


Fig.4

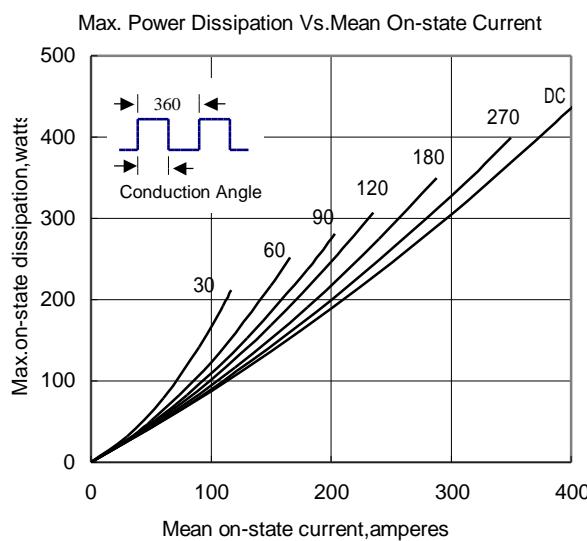


Fig.5

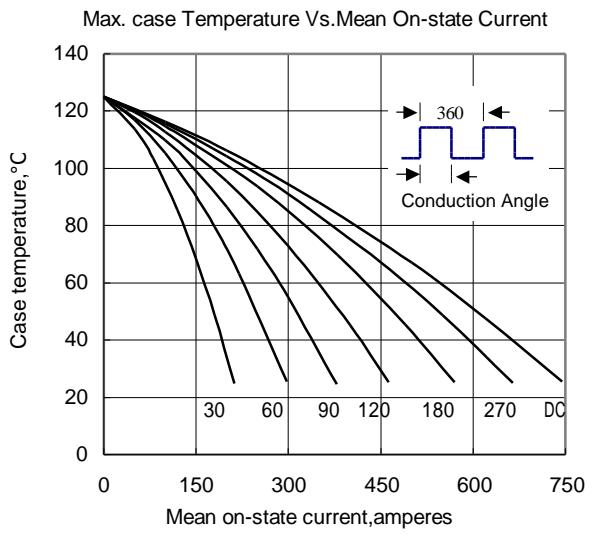


Fig.6

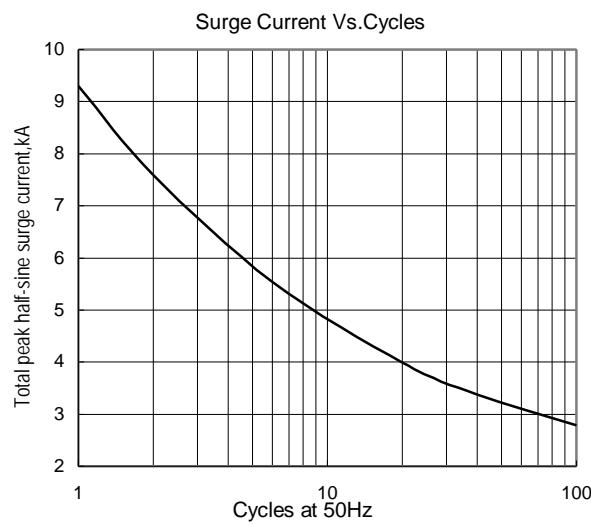


Fig.7

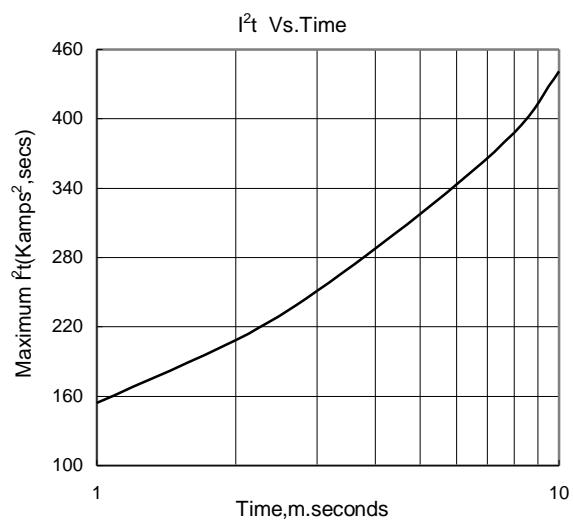


Fig.8

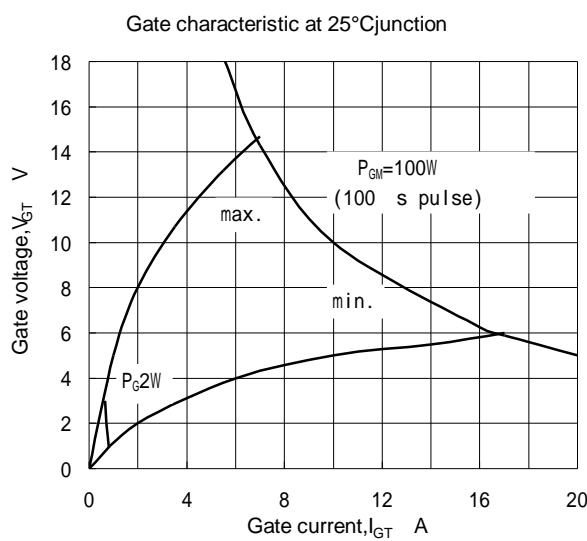


Fig.9

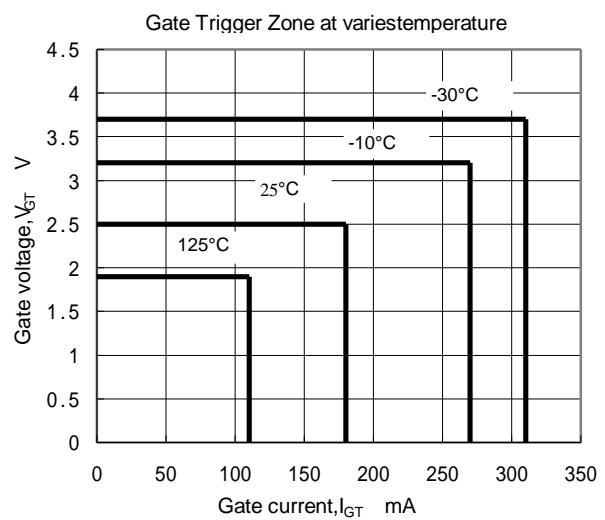


Fig.10