



## JST134QP-600D 4A TRIAC

Rev.A.1.0

The JST134QP-600D triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. From T2 terminals to external heatsink. Package SOT-82 is RoHS compliant.

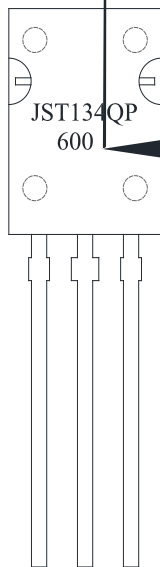
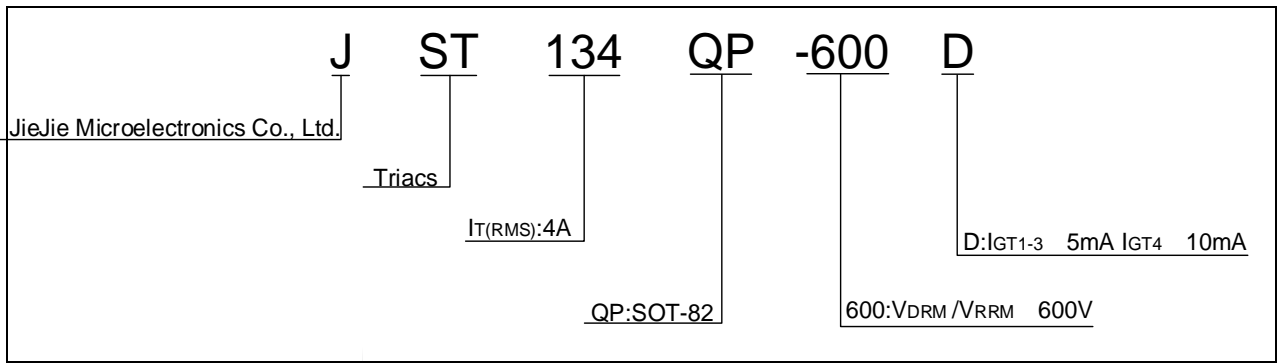
| Parameter  | Symbol    | Value   | Unit |
|--|-----------|---------|------|
| Storage junction temperature range                           | $T_{stg}$ | -40-150 |      |
| Operating junction temperature range                         | $T_j$     | -40-125 |      |
| Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ ) | $V_{DRM}$ | 600     | V    |
| Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )   | $V_{RRM}$ | 600     | V    |
| RMS on-state current ( $T_c=84^\circ\text{C}$ )              | $I_{T00}$ |         |      |

( $T_j=25$  unless otherwise specified)

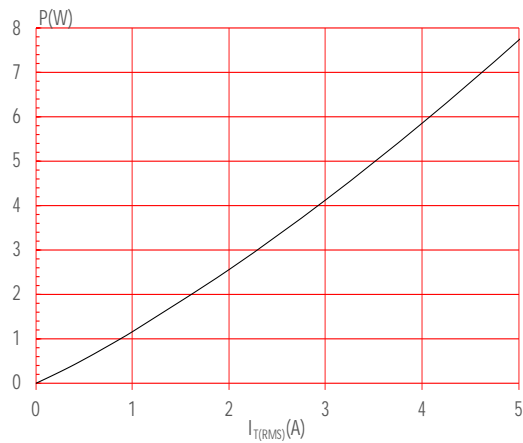
| Symbol      | Test Condition                            | Quadrant | Value |     | Unit |
|-------------|---|----------|-------|-----|------|
| $I_{GT}$    | $V_D=12V R_L=33$                          | - -      | MAX.  | 5   | mA   |
|             |   |          |       | 10  |      |
| $V_{GT}$    |   | ALL      | MAX.  | 1   | V    |
| $V_{GD}$    | $V_D=V_{DRM} T_j=125$<br>$R_L=3.3K$       | ALL      | MIN.  | 0.2 | V    |
| $I_L$       | $I_G=1.2I_{GT}$                           | - -      | MAX.  | 10  | mA   |
|             |   |          |       | 20  |      |
| $I_H$       | $I_T=100mA$                               |          | MAX.  | 7   | mA   |
| $dV/dt$     | $V_D=400V$ Gate Open $T_j=110$            |          | MIN.  | 120 | V s  |
| $(dV/dt)_c$ | $(dI/dt)_c=1.8A/ms, T_j=110$              |          | MIN.  | 2.5 |      |
| $t_{on}$    | $I_G=20mA I_A=200mA I_R=20mA$<br>$T_j=25$ |          | TYP.  | 2.5 | s    |
| $t_{off}$   |   |          |       | 25  |      |

| Symbol    | Parameter                 |           | Value(MAX.) | Unit |
|-----------|---------------------------|-----------|-------------|------|
| $V_{TM}$  | $I_{TM}=5A t_p=380 s$     | $T_j=25$  | 1.55        | V    |
| $V_{TO}$  | Threshold voltage         | $T_j=125$ | 0.92        | V    |
| $R_D$     | Dynamic resistance        | $T_j=125$ | 107         |      |
| $I_{DRM}$ | $V_D=V_{DRM} V_R=V_{RRM}$ | $T_j=25$  | 5           | A    |
| $I_{RRM}$ |                           | $T_j=125$ | 0.25        | mA   |

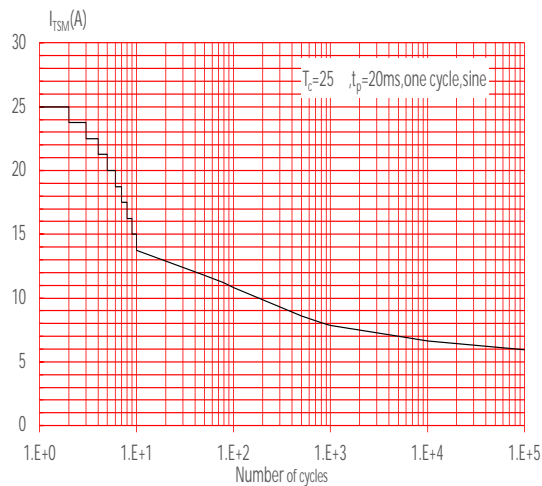
| Symbol        | Parameter                | Value | Unit |
|---------------|--------------------------|-------|------|
| $R_{th(j-c)}$ | junction to case (AC)    | 7.0   | /W   |
| $R_{th(j-a)}$ | junction to ambient (AC) | 150   | /W   |



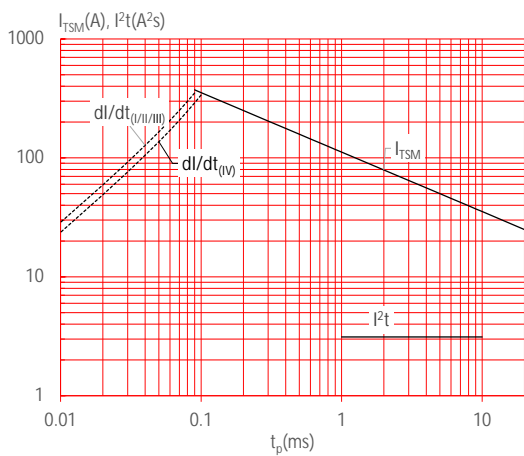
**FIG.1** Maximum power dissipation versus RMS on-state current



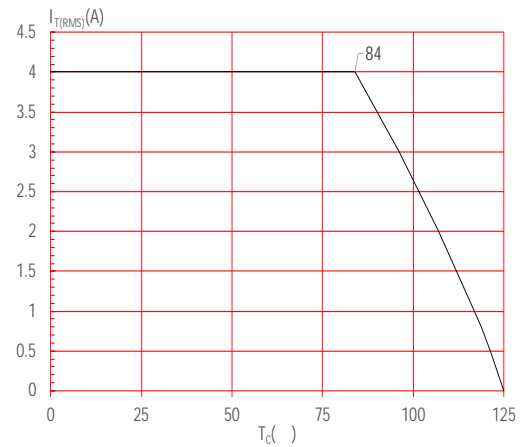
**FIG.3:** Surge peak on-state current versus number of cycles



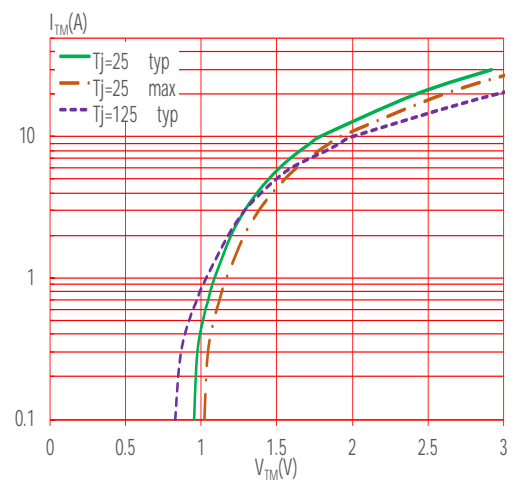
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( - - ) :  $di/dt < 30$



**FIG.2:** RMS on-state current versus case temperature



**FIG.4:** On-state characteristics



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

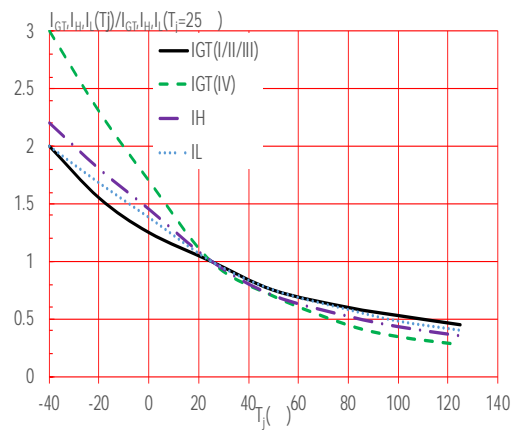
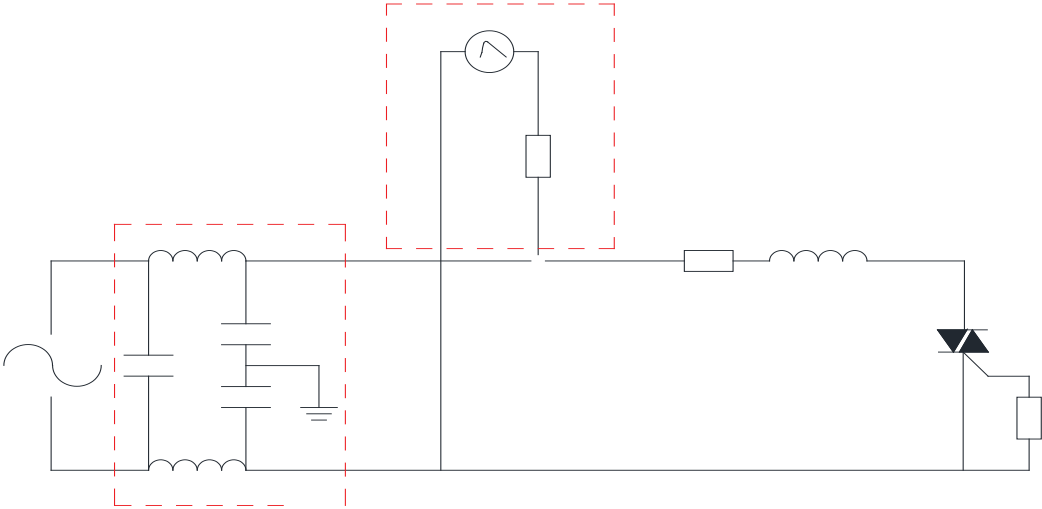
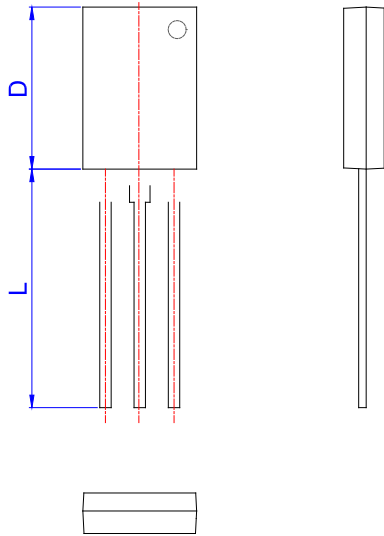


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



**JST134QP-600D**



| Ref. | Dimensions  |      |      |        |      |      |
|------|-------------|------|------|--------|------|------|
|      | Millimeters |      |      | Inches |      |      |
|      | Min.        | Typ. | Max. | Min.   | Typ. | Max. |
| A    | 2.45        |      |      | 0.095  |      |      |
| b    | 0.71        |      | 0.81 |        |      |      |
| B    | 1.27        |      | 1.45 |        |      |      |
| c    | 0.48        |      | 0.52 |        |      |      |
| D    |             |      |      |        |      |      |
| E    |             |      |      |        |      |      |
| e    |             |      |      |        |      |      |
| L    |             |      |      |        |      |      |
| Q1   |             |      |      |        |      |      |

