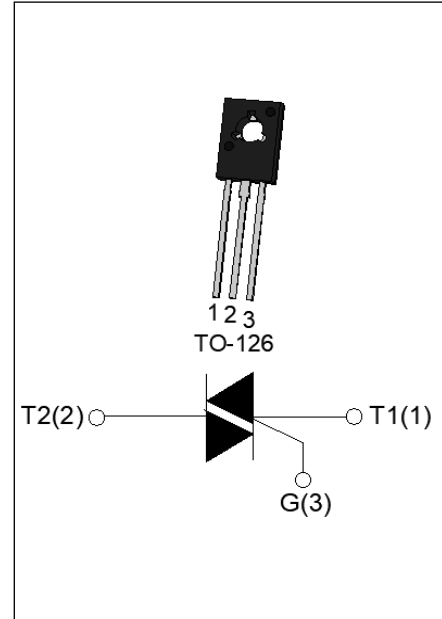


DESCRIPTION:

The JST134Q-600E 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 TO-126 is RoHS compliant.

MAIN FEATURES

| Symbol | Value | Unit |
|-----------------------|-------------|------|
| $I_{T(RMS)}$ | 4 | A |
| V_{DRM}/V_{RRM} | 600 | V |
| $I_{GT\ I/II/III/IV}$ | 10/10/10/25 | mA |


ABSOLUTE MAXIMUM RATINGS

| Parameter | | Symbol | Value | Unit |
|--|-------------|--------------|---------|------------------------|
| Storage junction temperature range | | T_{stg} | -40-150 | °C |
| Operating junction temperature range | | T_j | -40-125 | °C |
| 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 ($T_c \leq 81^\circ\text{C}$) | | $I_{T(RMS)}$ | 4 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$) | | I_{TSM} | 25 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$) | | | 27.5 | |
| I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$) | | I^2t | 3.125 | A^2s |
| Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$) | I - II -III | di/dt | 70 | $\text{A}/\mu\text{s}$ |
| | IV | | 40 | |
| Peak gate current ($t_p=20\mu\text{s}$, $T_j=125^\circ\text{C}$) | | I_{GM} | 2 | A |
| Average gate power dissipation ($T_j=125^\circ\text{C}$) | | $P_{G(AV)}$ | 0.5 | W |
| Peak gate power | | P_{GM} | 5 | W |
| Peak pulse voltage ($T_j=25^\circ\text{C}$; non-repetitive,off-state;FIG.7) | | V_{pp} | 4 | kV |

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|----------------------|--|--------------|-------|-----|------------------|
| I_{GT} | $V_D=12\text{V } R_L=33\Omega$ | I - II - III | MAX. | 10 | mA |
| | | IV | | 25 | |
| V_{GT} | | ALL | MAX. | 1 | V |
| V_{GD} | $V_D=V_{DRM} T_j=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$ | ALL | MIN. | 0.2 | V |
| I_L | $I_G=1.2I_{GT}$ | I - III - IV | MAX. | 15 | mA |
| | | II | | 25 | |
| I_H | $I_T=100\text{mA}$ | | MAX. | 20 | mA |
| dV/dt | $V_D=400\text{V}$ Gate Open $T_j=110^{\circ}\text{C}$ | | MIN. | 300 | V/ μs |
| (dV/dt) _c | (dI/dt) _c =1.8A/ms, $T_j=110^{\circ}\text{C}$ | | MIN. | 6 | V/ μs |
| t_{on} | $I_G=40\text{mA } I_A=200\text{mA } I_R=20\text{mA}$ $T_j=25^{\circ}\text{C}$ | | TYP. | 3 | μs |
| t_{off} | | | | 30 | |

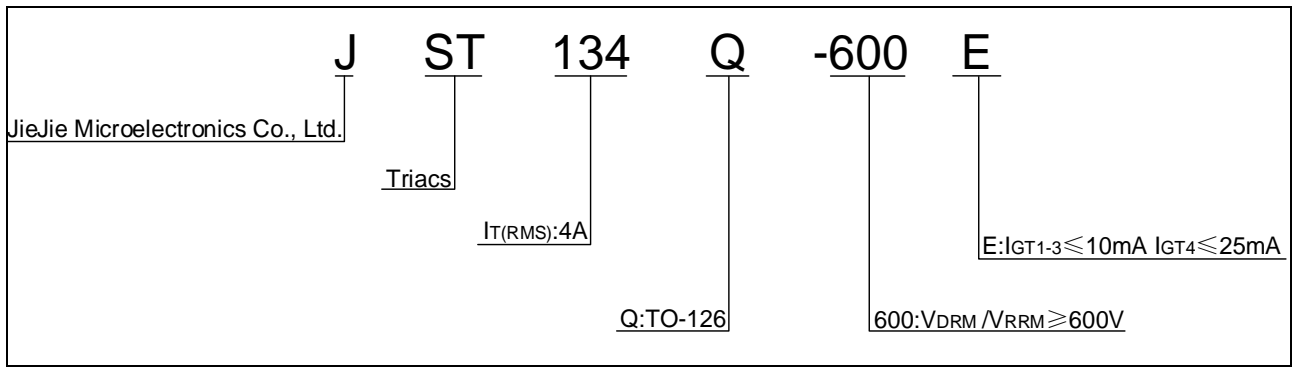
STATIC CHARACTERISTICS

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

THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---------------|--------------------------|-------|-----------------------------|
| $R_{th(j-c)}$ | junction to case (AC) | 7.5 | $^{\circ}\text{C}/\text{W}$ |
| $R_{th(j-a)}$ | junction to ambient (AC) | 150 | $^{\circ}\text{C}/\text{W}$ |

ORDERING INFORMATION



MARKING

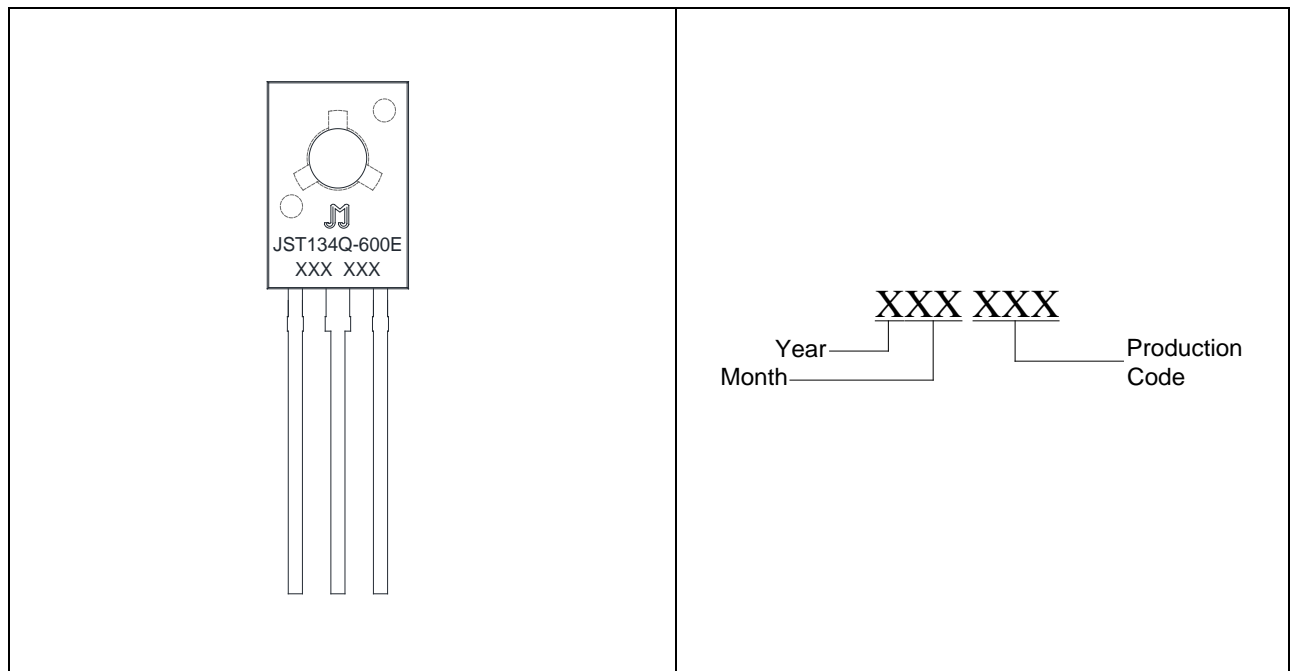


FIG.1 Maximum power dissipation versus RMS on-state current

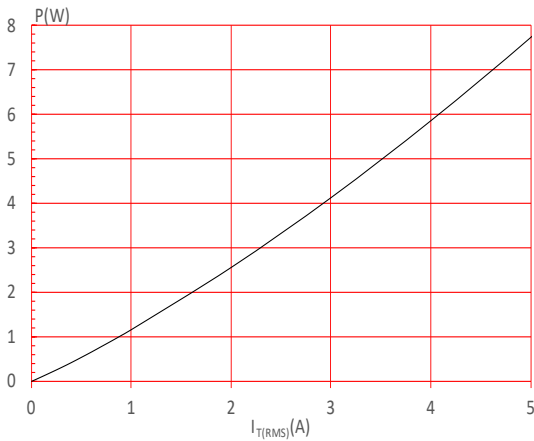


FIG.3: Surge peak on-state current versus number of cycles

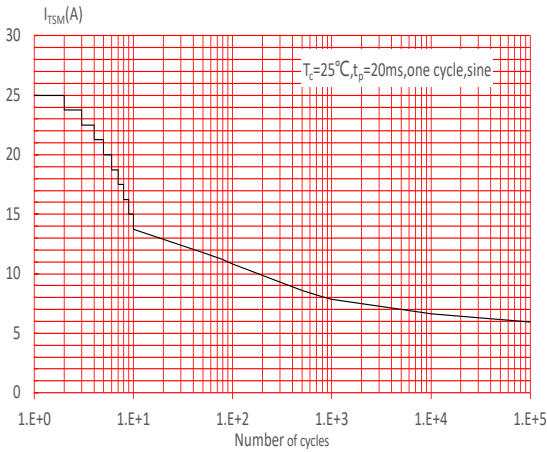


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II -III: $di/dt < 70\text{A}/\mu\text{s}$; IV: $di/dt < 40\text{A}/\mu\text{s}$)

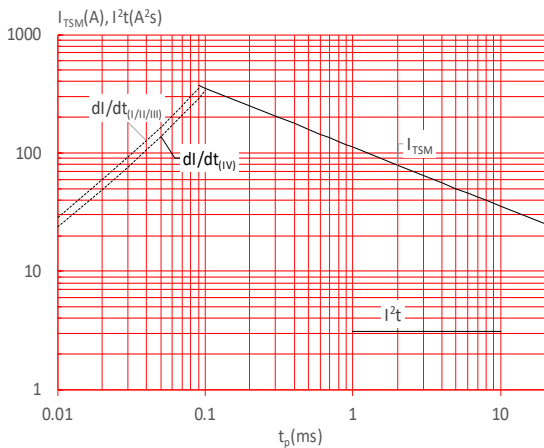


FIG.2: RMS on-state current versus case temperature

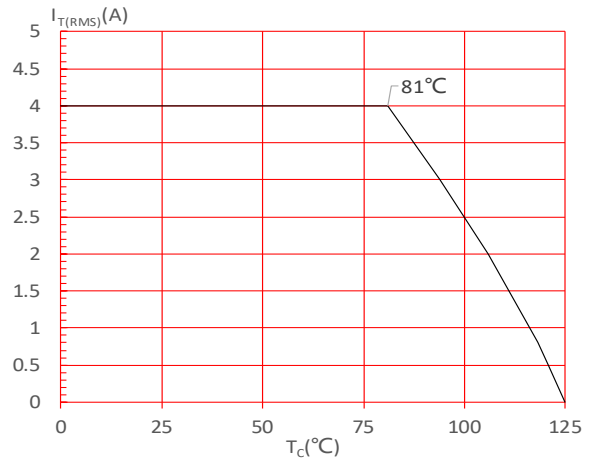


FIG.4: On-state characteristics

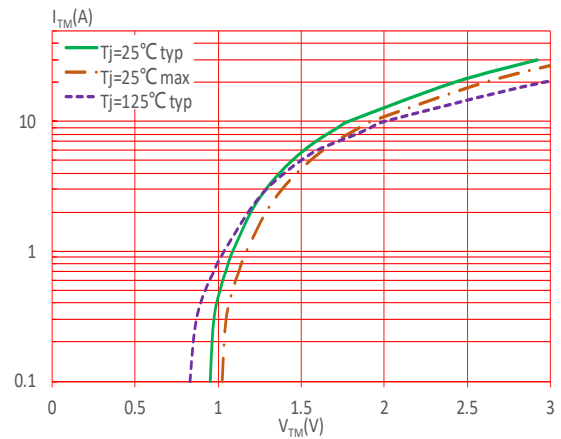


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

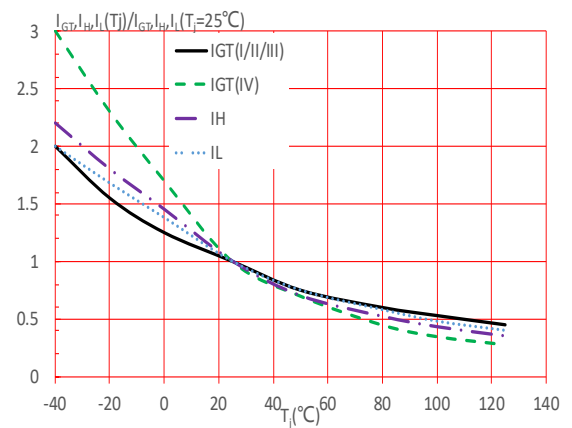
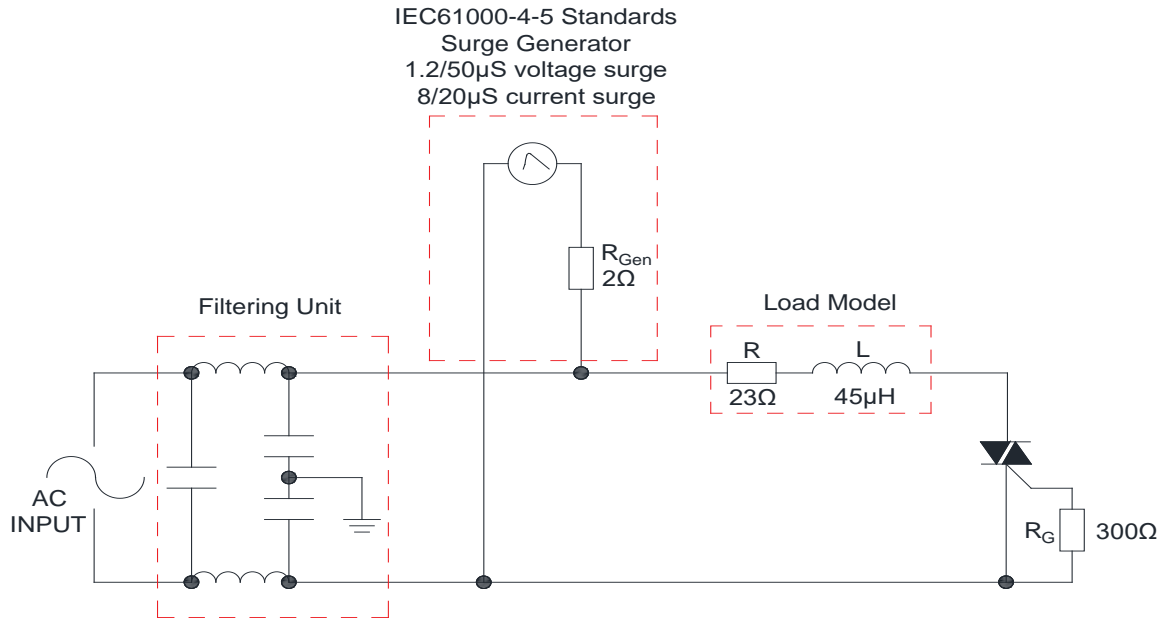


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



SHAPING AND SOLDERING PARAMETERS

Refer to 《Instructions for installation of plastic-sealed in-line power devices》 released by JieJie.

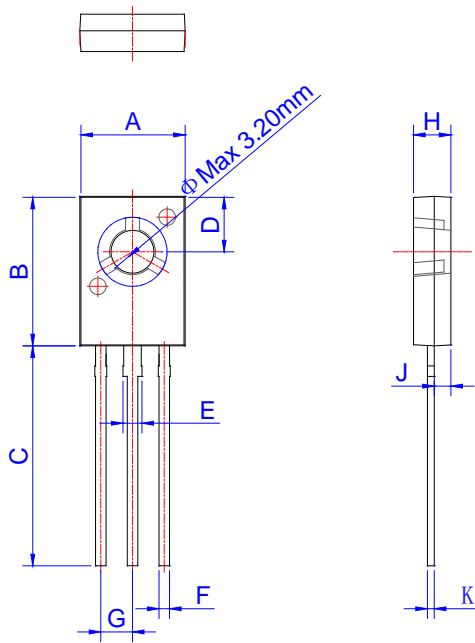
ORDERING INFORMATION

| Order code | Voltage V_{DRM}/V_{RRM} (V) | IGT(mA) | | Package | Base qty. (pcs) | Delivery mode |
|--------------|----------------------------------|--------------|----|---------|--------------------|---------------|
| | | I - II - III | IV | | | |
| JST134Q-600E | 600 | 10 | 25 | TO-126 | 500 | Bulk Pack |

Document Revision History

| Date | Revision | Changes |
|--------------|----------|--------------|
| Apr.14, 2023 | A.1.0 | Last updated |

PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | | | |
|------|-------------|------|------|--------|------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 7.40 | | 7.80 | 0.291 | | 0.307 |
| B | 10.6 | | 11.2 | 0.417 | | 0.441 |
| C | 15.3 | | 16.3 | 0.602 | | 0.642 |
| D | 3.90 | | 4.10 | 0.154 | | 0.161 |
| E | 1.17 | | 1.47 | 0.046 | | 0.058 |
| F | 0.66 | | 0.86 | 0.026 | | 0.034 |
| G | 2.15 | | 2.45 | 0.085 | | 0.096 |
| H | 2.50 | | 2.90 | 0.098 | | 0.114 |
| J | 1.10 | | 1.50 | 0.043 | | 0.059 |
| K | 0.45 | | 0.60 | 0.018 | | 0.024 |

DELIVERY MODE

| PACKAGE | OUTLINE | BAG (PCS) | INNER BOX (PCS) | CARTON BOX (PCS) |
|---------|-----------|-----------|-----------------|------------------|
| TO-126 | Bulk Pack | 500 | 2,000 | 10,000 |

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