

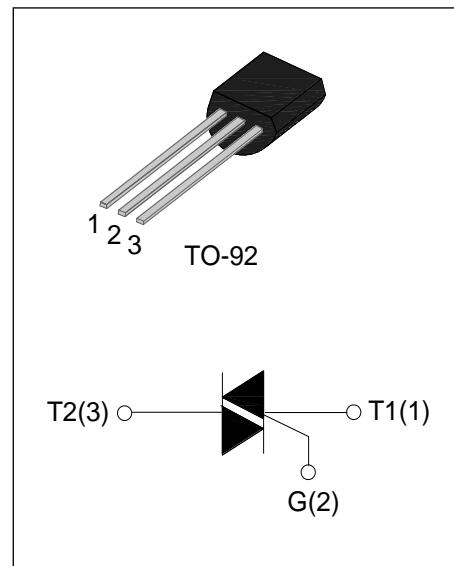


## JST134CW Series 4A TRIACs

Rev.1.0

## DESCRIPTION:

JST134CW series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.



## MAIN FEATURES

| Symbol            | Value     | Unit |
|-------------------|-----------|------|
| $I_{T(RMS)}$      | 4         | A    |
| $V_{DRM}/V_{RRM}$ | 800       | V    |
| $I_{GT}$          | $\leq 35$ | 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( $T_j=25^\circ\text{C}$ )                  | $V_{DRM}$          | 800             | V                      |
| Repetitive peak reverse voltage( $T_j=25^\circ\text{C}$ )                    | $V_{RRM}$          | 800             | V                      |
| Non repetitive surge peak Off-state voltage                                  | $V_{DSM}$          | $V_{DRM} + 100$ | V                      |
| Non repetitive peak reverse voltage  | $V_{RSM}$          | $V_{RRM} + 100$ | V                      |
| RMS on-state current<br>TO-92 ( $T_C=90^\circ\text{C}$ )                     | $I_{T(RMS)}$       | 4               | A                      |
| Non repetitive surge peak on-state current<br>(full cycle, $F=50\text{Hz}$ ) | $I_{TSM}$          | 25              | A                      |
| $I^2t$ value for fusing ( $t_p=10\text{ms}$ )                                | $I^2t$             | 3.1             | $\text{A}^2\text{s}$   |
| Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )          | I - II - III<br>IV | 50<br>10        | $\text{A}/\mu\text{s}$ |
| Peak gate current  | $I_{GM}$           | 2               | A                      |
| Average gate power dissipation   | $P_{G(AV)}$        | 0.5             | W                      |
| Peak gate power  | $P_{GM}$           | 5               | W                      |

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 | 35    | mA               |
| $V_{GT}$   |  | I - II -III | MAX | 1.5   | V                |
| $V_{GD}$   | $V_D=V_{DRM}$ $T_j=125^\circ\text{C}$<br>$R_L=3.3\text{K}\Omega$ | I - II -III | MIN | 0.2   | V                |
| $I_L$      | $I_G=1.2I_{GT}$  | I -III      | MAX | 60    | mA               |
|            |  | II          |     | 80    |                  |
| $I_H$      | $I_T=100\text{mA}$   |             | MAX | 60    | mA               |
| $dV/dt$    | $V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$               |             | MIN | 500   | V/ $\mu\text{s}$ |
| $(dV/dt)c$ | $(dI/dt)c=1.1\text{A/ms}$ $T_j=125^\circ\text{C}$                |             | MIN | 10    | V/ $\mu\text{s}$ |

## STATIC CHARACTERISTICS

| Symbol    | Parameter                               | Value(MAX)              | Unit          |
|-----------|---|-------------------------|---------------|
| $V_{TM}$  | $I_{TM}=5\text{A}$ $t_p=380\mu\text{s}$ | $T_j=25^\circ\text{C}$  | V             |
| $I_{DRM}$ | $V_D=V_{DRM}$ $V_R=V_{RRM}$             | $T_j=25^\circ\text{C}$  | $\mu\text{A}$ |
| $I_{RRM}$ |   | $T_j=125^\circ\text{C}$ | mA            |

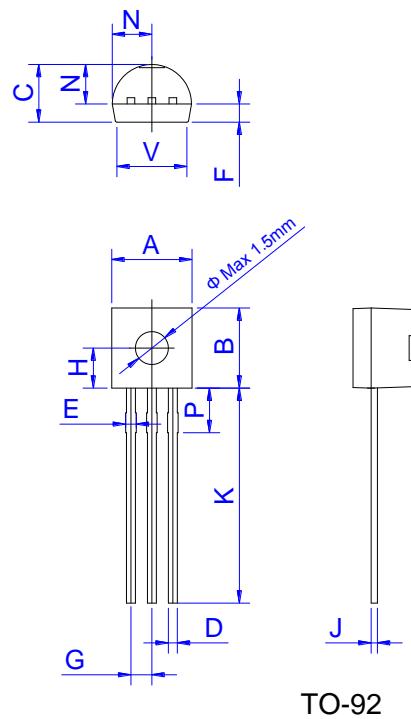
## THERMAL RESISTANCES

| Symbol        | Parameter            | Value | Unit                      |
|---------------|----------------------|-------|---------------------------|
| $R_{th(j-c)}$ | junction to case(AC) | TO-92 | $^\circ\text{C}/\text{W}$ |

## ORDERING INFORMATION

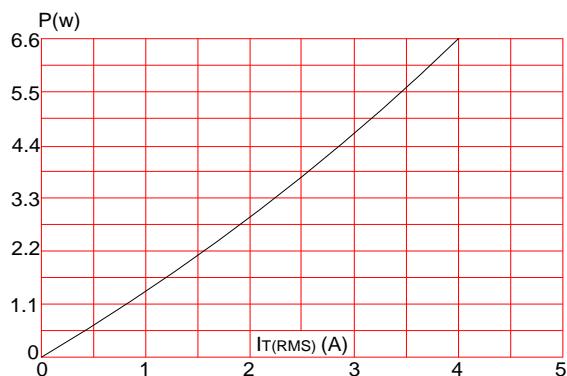
|                                 |        |                             |         |      |  |
|---------------------------------|--------|-----------------------------|---------|------|--|
| J                               | ST     | 134                         | U       | -800 | CW   |
| JieJie Microelectronics Co.,Ltd |        |                             |         |      | CW: $I_{GT1-3} \leqslant 35\text{mA}$          |
|                                 | Triacs |                             |         |      | 800: $V_{DRM} / V_{RRM} \geqslant 800\text{V}$ |
|                                 |        | $I_T(\text{RMS}):4\text{A}$ | U:TO-92 |      |  |

## PACKAGE MECHANICAL DATA

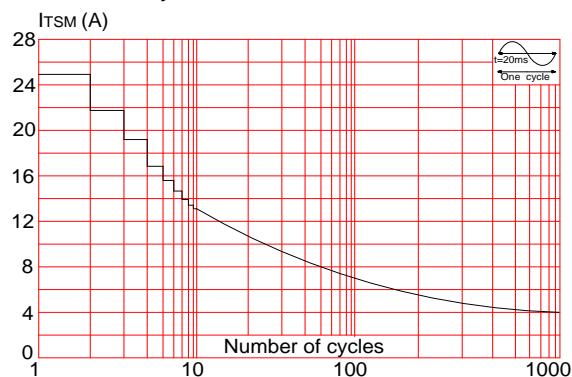


| Ref. | Dimensions  |      |       |        |       |       |
|------|-------------|------|-------|--------|-------|-------|
|      | Millimeters |      |       | Inches |       |       |
|      | Min.        | Typ. | Max.  | Min.   | Typ.  | Max.  |
| A    | 4.45        |      | 5.20  | 0.175  |       | 0.205 |
| B    | 4.32        |      | 5.33  | 0.170  |       | 0.210 |
| C    | 3.18        |      | 4.19  | 0.125  |       | 0.165 |
| D    | 0.407       |      | 0.533 | 0.016  |       | 0.021 |
| E    | 0.60        |      | 0.80  | 0.024  |       | 0.031 |
| F    | -           | 1.1  | -     | -      | 0.043 | -     |
| G    | -           | 1.27 | -     | -      | 0.050 | -     |
| H    | -           | 2.30 | -     | -      | 0.091 | -     |
| J    | 0.36        |      | 0.50  | 0.014  |       | 0.020 |
| K    | 12.70       |      | 15.0  | 0.500  |       | 0.591 |
| N    | 2.04        |      | 2.66  | 0.080  |       | 0.105 |
| P    | 1.86        |      | 2.06  | 0.073  |       | 0.081 |
| V    | -           |      | 4.3   | -      |       | 0.169 |

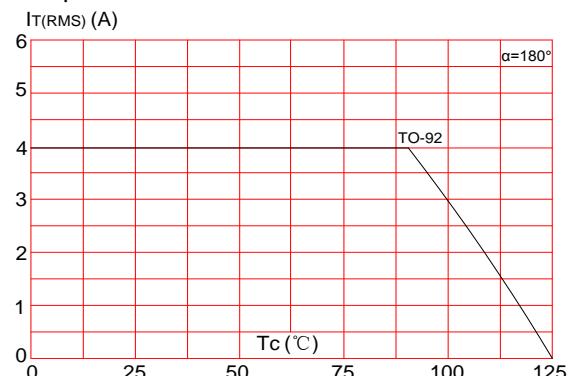
**FIG.1:** Maximum power dissipation versus RMS on-state current



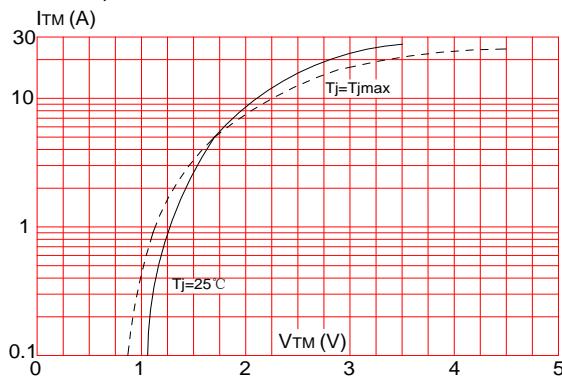
**FIG.3:** Surge peak on-state current versus number of cycles



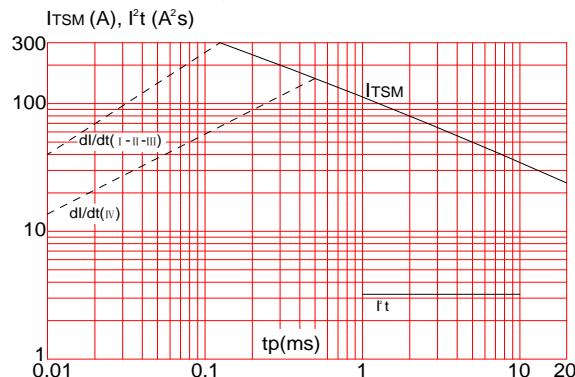
**FIG.2:** RMS on-state current versus case temperature



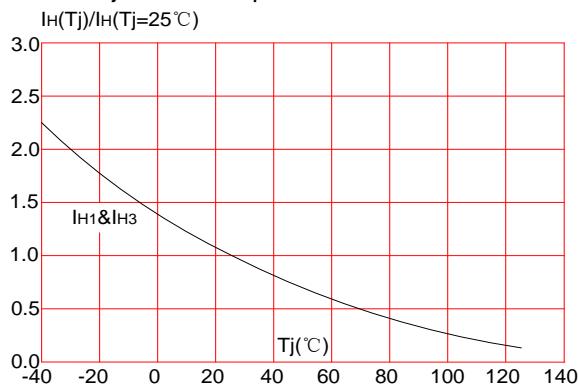
**FIG.4:** On-state characteristics (maximum values)



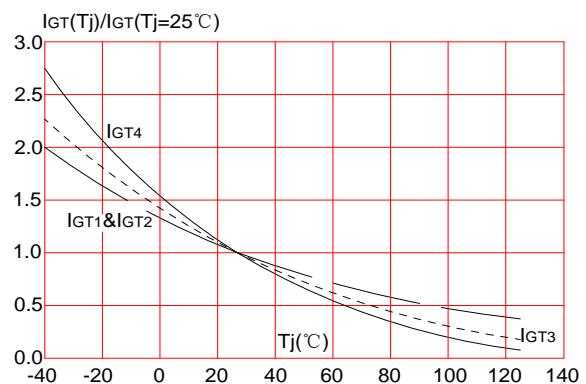
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2t$  ( $\text{I - II - III: } dI/dt < 50\text{A}/\mu\text{s}; \text{IV: } dI/dt < 10\text{A}/\mu\text{s}$ )



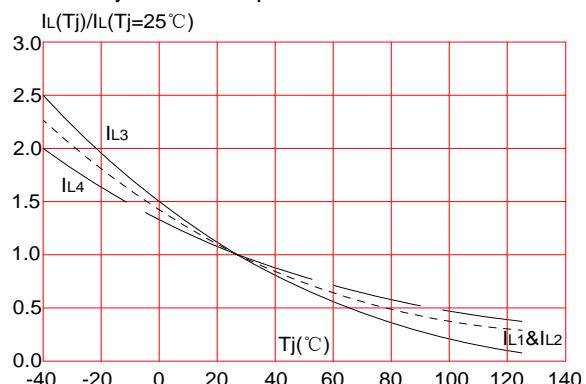
**FIG.7:** Relative variations of holding current versus junction temperature



**FIG.6:** Relative variations of gate trigger current versus junction temperature



**FIG.8:** Relative variations of latching current versus junction temperature



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