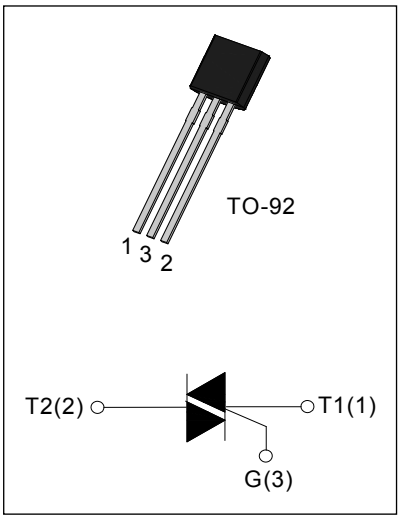
## JST130 Series 0.8A TRIACs

Rev.9.0

### DESCRIPTION:

With low holding and latching current, JST130 series triacs are especially recommended for use on middle and small resistance type power load. Package TO-92 is RoHS compliant. (2011/65/EU)




### MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 0.8 | A |
| $V_{TM}$ | 1.5 | V |

### ABSOLUTE MAXIMUM RATINGS

| 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℃) | | $V_{DRM}$ | 600/800 | V |
| Repetitive peak reverse voltage ($T_j$=25℃) | | $V_{RRM}$ | 600/800 | V |
| RMS on-state current | TO-92 ($T_C$=50℃) | $I_{T(RMS)}$ | 0.8 | A |
| Non repetitive surge peak on-state current (full cycle, F=50Hz) | | $I_{TSM}$ | 9 | A |
| $I^2t$ value for fusing (tp=10ms) | | $I^2t$ | 0.45 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2×$I_{GT}$) | Ⅰ-Ⅱ-Ⅲ | dI/dt | 50 | A/μs |
| | Ⅳ | | 20 | |
| Peak gate current | | $I_{GM}$ | 1 | A |
| Average gate power dissipation | | $P_{G(AV)}$ | 0.1 | W |
| Peak gate power | | $P_{GM}$ | 1 | W |

## ELECTRICAL CHARACTERISTICS ($T_j$=25℃ unless otherwise specified)

| Symbol | Test Condition | Quadrant | | Value | | Unit |
|---|---|---|---|---|---|---|
| | | | | D | T | |
| $I_{GT}$ | $V_D$=12V | Ⅰ-Ⅱ-Ⅲ | MAX | 5 | 5 | mA |
| | | Ⅳ | | 10 | 5 | |
| $V_{GT}$ | | ALL | MAX | 1.3 | | V |
| $V_{GD}$ | $V_D$=$V_{DRM}$ $T_j$=125℃ $R_L$=3.3KΩ | ALL | MIN | 0.2 | | V |
| $I_L$ | $I_G$=1.2$I_{GT}$ | Ⅰ-Ⅲ-Ⅳ | MAX | 10 | 5 | mA |
| | | Ⅱ | | 20 | 15 | |
| $I_H$ | $I_T$=100mA | | MAX | 7 | 5 | mA |
| dV/dt | $V_D$=2/3$V_{DRM}$ Gate Open $T_j$=125℃ | | MIN | 30 | 10 | V/μs |

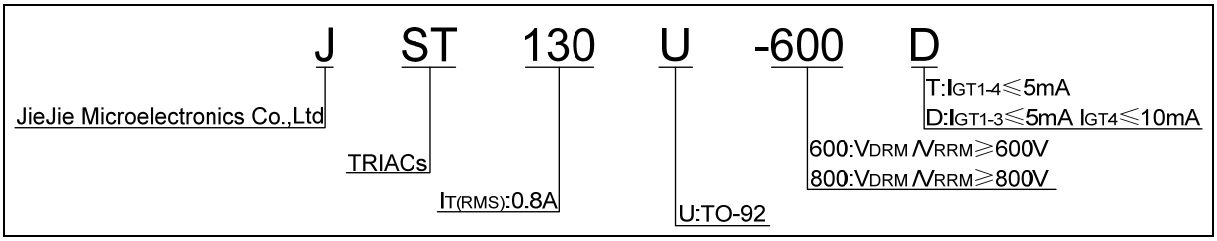
## STATIC CHARACTERISTICS

| Symbol | Parameter | | Value(MAX) | Unit |
|---|---|---|---|---|
| $V_{TM}$ | $I_{TM}$=1.1A tp=380μs | $T_j$=25℃ | 1.5 | V |
| $I_{DRM}$ | $V_D$=$V_{DRM}$ $V_R$=$V_{RRM}$ | $T_j$=25℃ | 5 | μA |
| $I_{RRM}$ | | $T_j$=125℃ | 100 | μA |

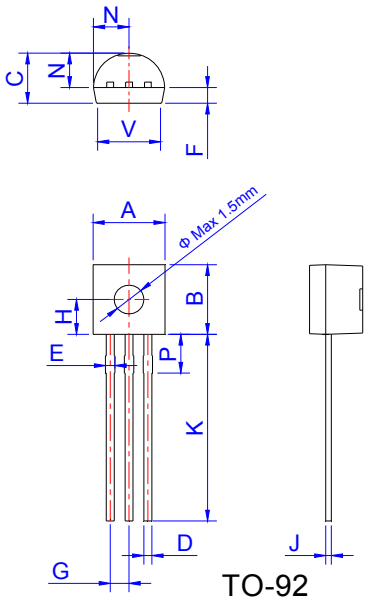
## THERMAL RESISTANCES

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $R_{th(j-c)}$ | junction to case(AC) | TO-92 | 75 | ℃/W |

## ORDERING INFORMATION



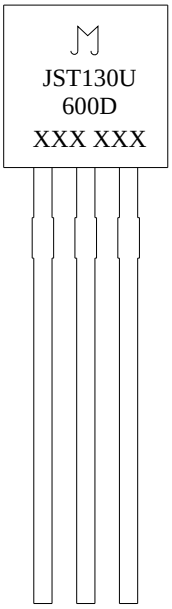
## PACKAGE MECHANICAL DATA

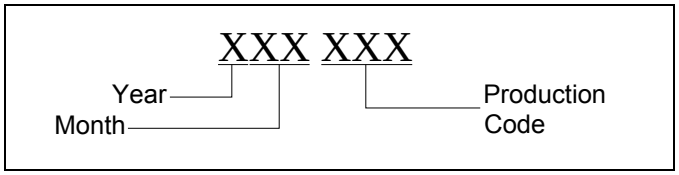


TO-92

| 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 | 0.50 | | 0.70 | 0.020 | | 0.028 |
| 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 |

## MARKING




## PACKAEG INFORMATION

| PACKAGE | WEIGHT (PER PCS) | OUTLINE | BAG (PCS) | INNER BOX (PCS) | PER CARTON |
|---|---|---|---|---|---|
| TO-92 | 0.1894g | Shielding Bag | 1,000 | 10,000 | 30,000 |
| TO-92 | 0.1894g | Shielding Bag | 1,000 | 10,000 | 50,000 |
| TO-92 | 0.1894g | Shielding Bag | 1,000 | 10,000 | 100,000 |

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

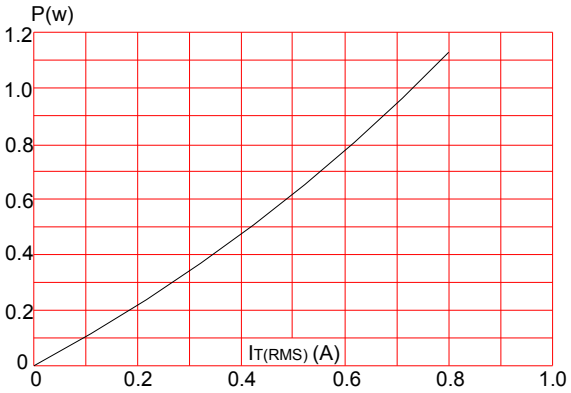



**FIG.2:** RMS on-state current versus case temperature

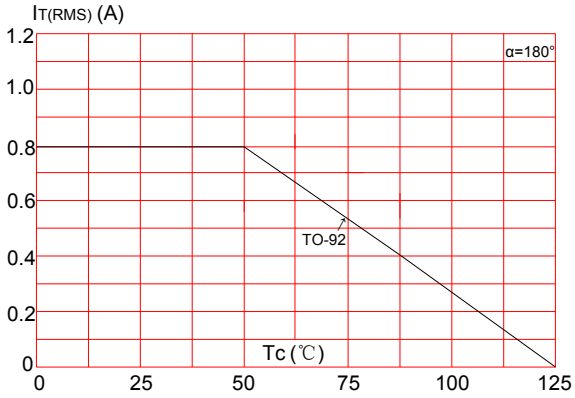



**FIG.3:** Surge peak on-state current versus number of cycles

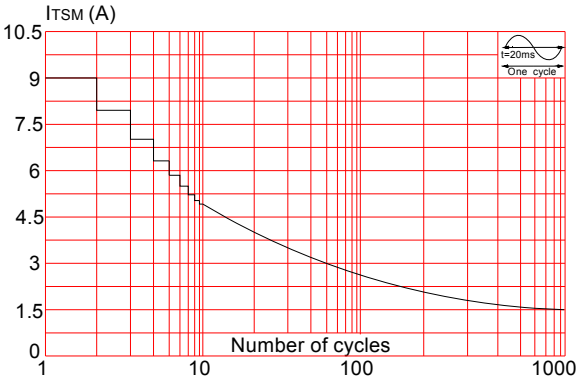



**FIG.4:** On-state characteristics (maximum values)

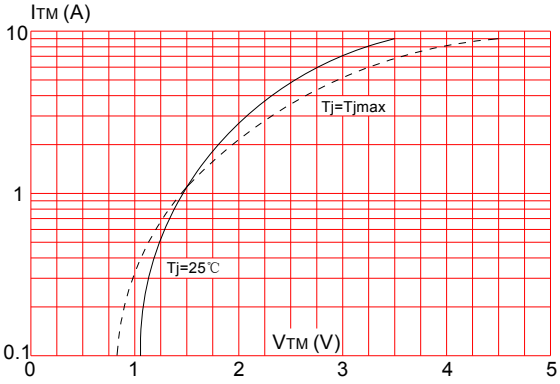



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms ( Ⅰ-Ⅱ-Ⅲ:dI/dt < 50A/μs; Ⅳ:dI/dt < 20A/μs)

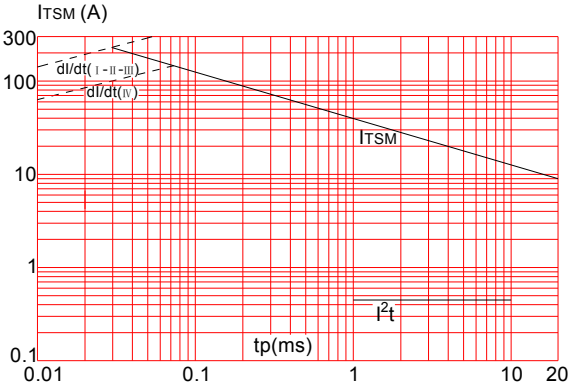
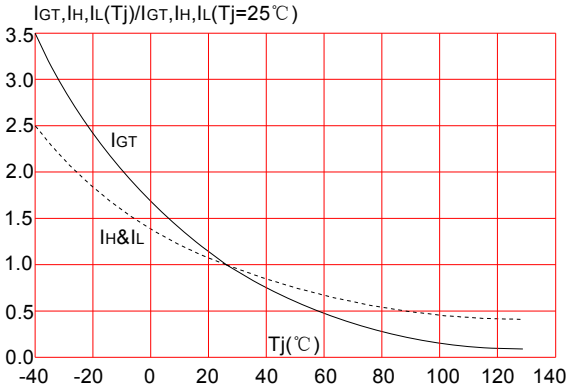



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature



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