



JST04K-800SW 4A TRIAC

Rev.A.1.2

DESCRIPTION:

The JST04K-800SW 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. JST04K-800SW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. Package TO-252 is RoHS compliant.

MAIN FEATURES

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 ($T_j=25^\circ\text{C}$) | V_{DRM} | 800 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 800 | V |
| RMS on-state current ($T_c=97^\circ\text{C}$) | $I_{T(RMS)}$ | 4 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$) | I_{TSM} | 40 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$) | | 44 | |

| | | | |
|--|----------|---|----|
| Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.8) | V_{pp} | 3 | kV |
|--|----------|---|----|

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

| Symbol | Test Condition | Quadrant | Value | | Unit |
|----------|-------------------------------------|----------|-------|-----|------------|
| I_{GT} | $V_D=12V R_L=33$ | - - | MAX. | 10 | mA |
| V_{GT} | | - - | MAX. | 1 | V |
| V_{GD} | $V_D=V_{DRM} T_j=125$ $R_L=3.3k$ | - - | MIN. | 0.2 | V |
| I_L | $I_G=1.2I_{GT}$ | - | MAX. | 20 | mA |
| | | | | 35 | |
| I_H | $I_T=100mA$ | | MAX. | 15 | mA |
| dV/dt | $V_D=540V$ Gate Open $T_j=125$ | | MIN. | 200 | V/ μs |

ORDERING INFORMATION

| | | | | | | | |
|-----------------------------------|----------|-----------------|------------|----------|------------------------------|-----------------------|-------------------------------|
| | J | ST | 04 | K | -800 | SW | -/ |
| JieJie Microelectronics Co., Ltd. | Triacs | $I_{T(RMS)}:4A$ | | | | | Blank:Tube -TR:Tape & Reel |
| | | | $K:TO-252$ | | | $SW:I_{GT1-3} \ 10mA$ | |
| | | | | | $800:V_{DRM}/V_{RRM} \ 800V$ | | |

MARKING

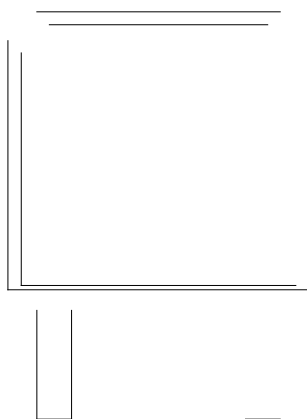


FIG.1: Maximum power dissipation versus RMS on-state current

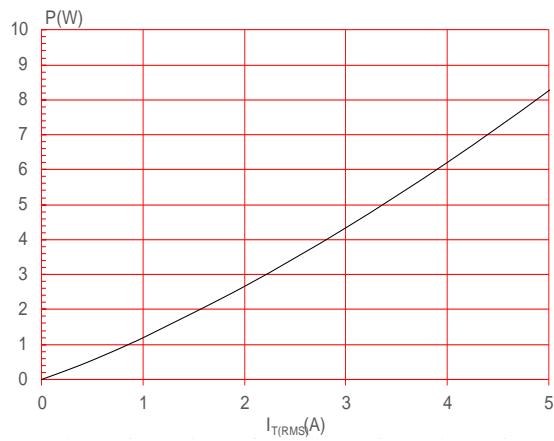


FIG.3: RMS on-state current versus ambient temperature (printed circuit board FR4,copper thickness:35 μ m)(full cycle)

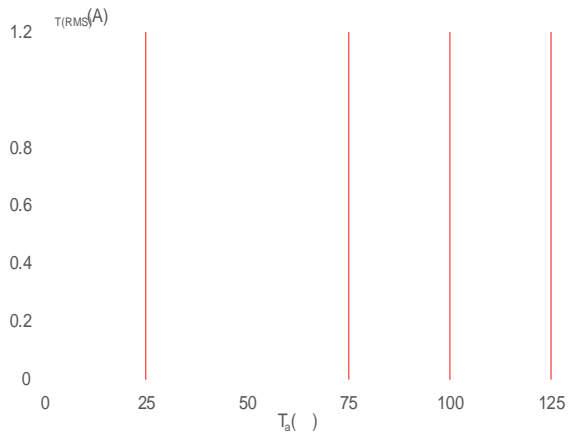


FIG.2: RMS on-state current versus case temperature

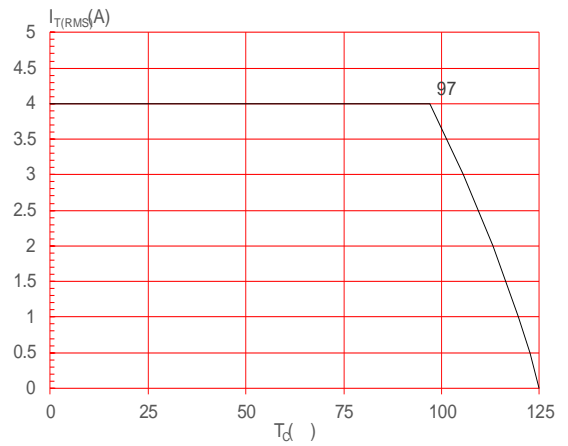
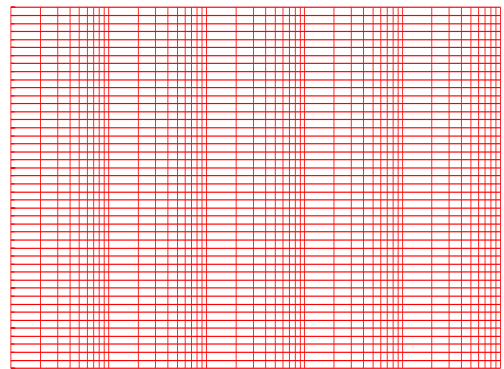


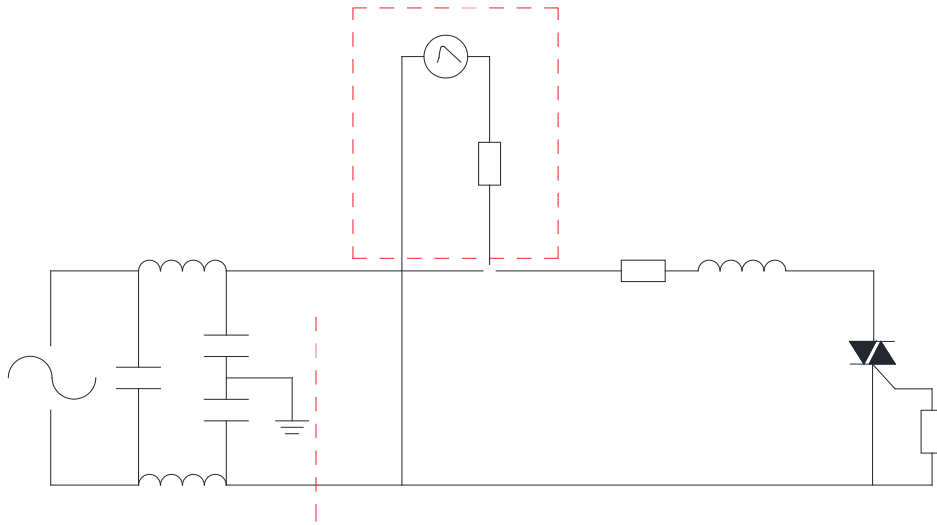
FIG.4: Surge peak on-state current versus number of cycles



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FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards PDFCLASS



ORDERING INFORMATION

| Order code | Voltage V_{DRM}/V_{RRM} (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|-----------------|----------------------------------|---------|---------|--------------------|---------------|
| | | - - | | | |
| JST04K-800SW | 800 | 10 | TO-252 | 80 | Tube |
| JST04K-800SW-TR | | | | 2,500 | Tape & Reel |

Document Revision History

| Date | Revision | Changes |
|------|----------|---------|
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