## JST04W-600SW 1A TRIAC

Rev.A.1.2

## DESCRIPTION:

The JST04W-600SW 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. JST04W-600SW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. Package SOT-223-2L is RoHS compliant.

## MAIN FEATURES

## ABSOLUTE MAXIMUM RATINGS

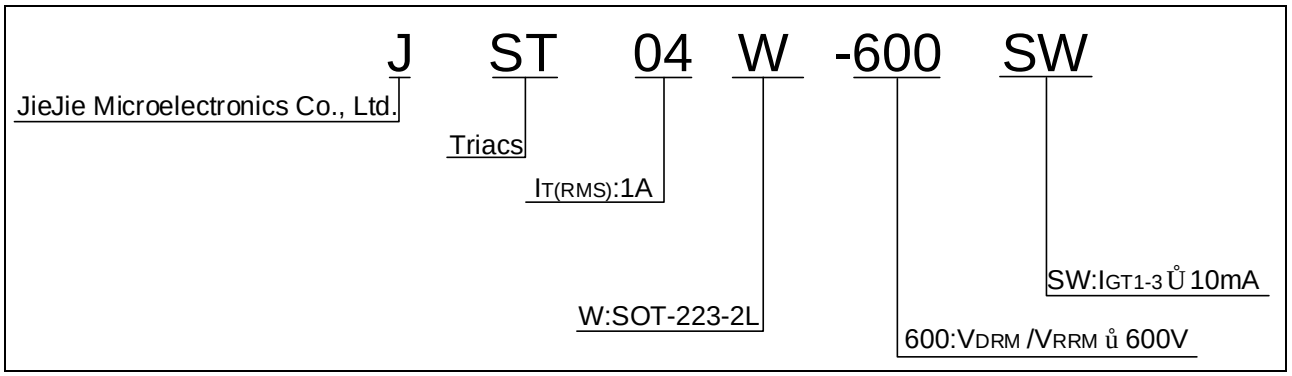
| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Storage junction temperature range | $T_{stg}$ | -40-150 | Ņ |
| Operating junction temperature range | $T_j$ | -40-125 | Ņ |
| Repetitive peak off-state voltage ($T_j$=25Ņ) | $V_{DRM}$ | 600 | V |
| Repetitive peak reverse voltage ($T_j$=25Ņ) | $V_{RRM}$ | 600 | V |
| RMS on-state current ($T_C$ Ů 102Ņ) | $I_{T(RMS)}$ | 1 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25Ņ) | $I_{TSM}$ | 25 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25Ņ) | | 27.5 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25Ņ) | $I^2t$ | 3.1 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2 $I_{GT}$ , f=100Hz , $T_j$=125Ņ) | dI/dt | 100 | A/μs |
| Peak gate current ($t_p$=20μs , $T_j$=125Ņ) | $I_{GM}$ | 2 | A |
| Average gate power dissipation ($T_j$=125Ņ) | $P_{G(AV)}$ | 0.1 | W |

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

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

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$ =12V $R_L$ =33Ω | Ň - ň - ʾn | MAX. | 10 | mA |
| $V_{GT}$ | | Ň - ň - ʾn | MAX. | 1 1 | |

## ORDERING INFORMATION




## MARKING

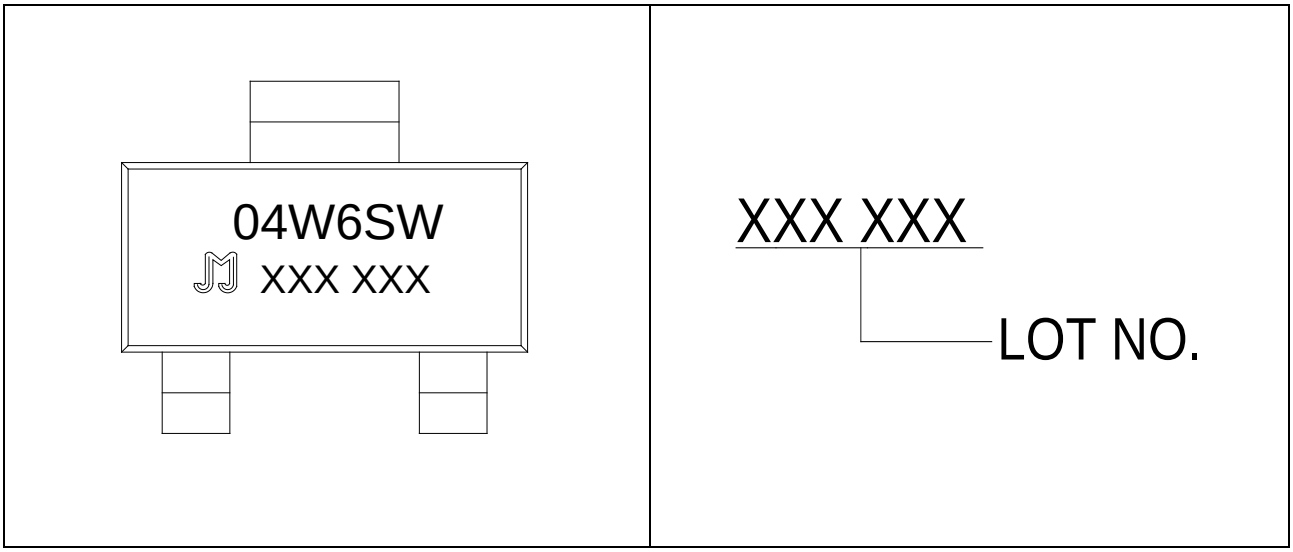


**FIG.1:** Maximum power dissipation versus RMS on-state current



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

**FIG.7:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

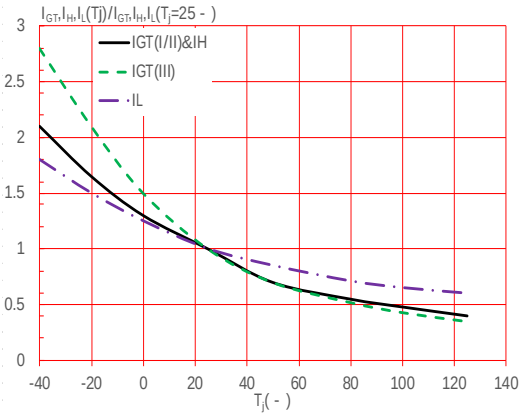


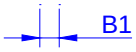
FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-R61EMC547N99552.8262.9

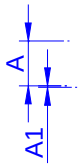
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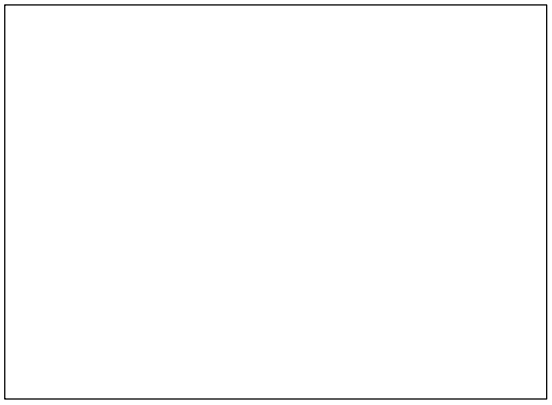
| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | Package | |
|---|---|---|---|---|
| | | | | |

## PACKAGE MECHANICAL DATA





## DELIVERY MODE

| Dimensions | | | | | | |
|---|---|---|---|---|---|---|
| Ref. | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| W | | | | | | |
| E D0( )Tj7.895 80 ie P2( )Tj 5.002 Tc -5Tc 0 Tc5-2.895 -: | | | | | | |

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