## DESCRIPTION:

The JST06F-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. JST06F-600SW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. By using an external plastic package, JST06F-600SW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

## MAIN FEATURES

## ABSOLUTE MAXIMUM RATINGS

| | | | |
|---|---|---|---|
| perature range | $T_{stg}$ | -40-150 | |
| Operating junction temperature range | $T_j$ | -40-125 | |

| | | | |
|---|---|---|---|
| Peak gate current ($t_p$=20μs , $T_j$=125 ) | $I_{GM}$ | 4 | A |
| Average gate power dissipation ($T_j$=125 ) | $P_{G(AV)}$ | 0.5 | W |
| Peak gate power | $P_{GM}$ | 10 | W |
| Peak pulse voltage ($T_j$=25 ; non-repetitive,off-state;FIG.7) | $V_{pp}$ | 3 | kV |

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

| | | | | | |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$ =12V $R_L$ =33Ω | - - | MAX. | 10 | mA |
| $V_{GT}$ | | - - | MAX. | 1 | V |
| $V_{GD}$ | $V_D$ =$V_{DRM}$ $T_j$ =125 $R_L$ =3.3kΩ | - - | MIN. | 0.2 | V |
| $I_L$ | $I_G$ =1.2$I_{GT}$ | - | MAX. | 15 | mA |
| | | | | 25 | |
| $I_H$ | $I_T$ =100mA | | MAX. | 15 | mA |
| dV/dt | $V_D$=400V Gate Open $T_j$ =125 | | MIN. | 300 | V/μs |
| (dI/dt)c | (dV/dt)c=10V/μs, $T_j$=125 | | MIN. | 1 | A/ms |
| $t_{on}$ | $I_G$=20mA $I_A$=200mA $I_R$=20mA $T_j$=25 | | TYP. | 2.5 | μs |
| $t_{off}$ | | | | 25 | |

## STATIC CHARACTERISTICS

| | | | | |
|---|---|---|---|---|
| $V_{TM}$ | $I_{TM}$ =8.5A $t_p$=380μs | $T_j$=25 | 1 .5 | V |
| $V_{TO}$ | Threshold voltage | $T_j$=125 | 0.82 | V |
| $R_D$ | Dynamic resistance | $T_j$=125 | 57 | mΩ |
| $I_{DRM}$ | $V_D$ =$V_{DRM}$ $V_R$ =$V_{RRM}$ | $T_j$=25 | 5 | μA |
| $I_{RRM}$ | | $T_j$=125 | 0 .2 | mA |

## THERMAL RESISTANCES

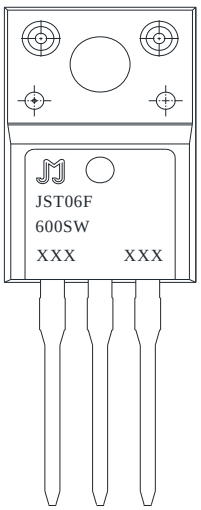
| | | | |
|---|---|---|---|
| $R_{th(j-c)}$ | junction to case (AC) | 3.2 | /W |
| $R_{th(j-a)}$ | junction to ambient (AC) | 60 | /W |

## ORDERING INFORMATION

J ST 06 F -600 SW

- J: JieJie Microelectronics Co., Ltd.
- ST: Triacs
- 06: $I_{T(RMS)}$:6A
- F: F:TO-220F(Ins)
- -600: 600:$V_{DRM}$ /$V_{RRM}$ 1 600V
- SW: SW:$I_{GT1-3}$ 0 10mA

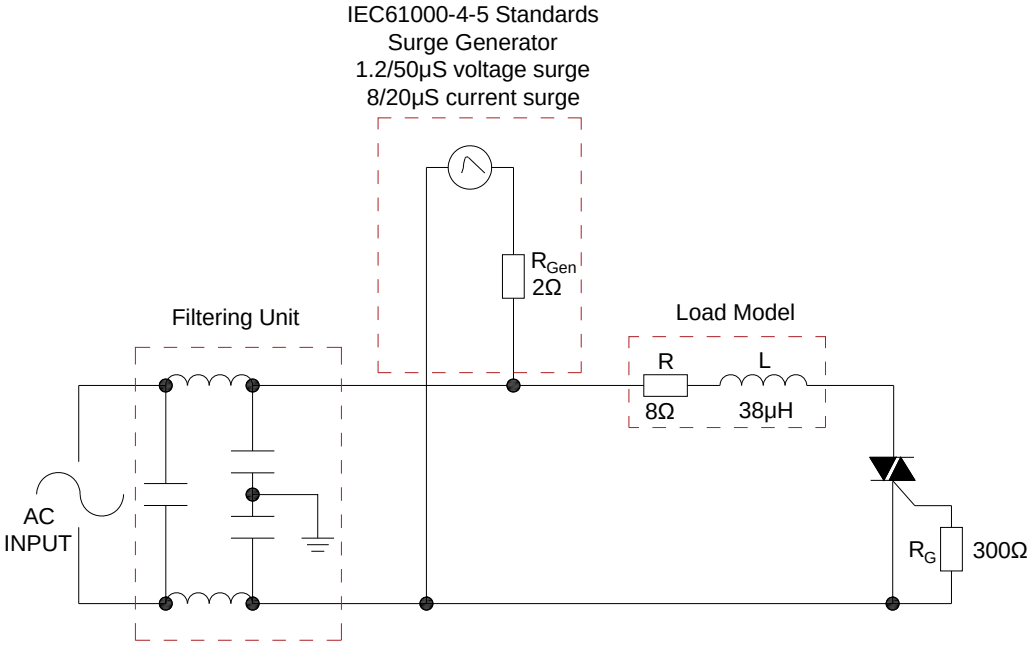
## MARKING




XXX XXX

Year
Month

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




## LEAD FORMING AND SOLDERING

Refer to the application note “Assembly Instructions for Thyristors in Through-hole Package” released by JieJie D ] Œ } o š Œ } v ] • X

## ORDERING INFORMATION

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| | | | | | |
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| Date | Revision | Changes |
|---|---|---|
| Apr.11, 2023 | A.1.0 | Last updated |
| Oct.13, 2025 | A.1.1 | Revise PACKAGE MECHANICAL DATA |

## PACKAGE MECHANICAL DATA

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