# JST138E-600F 12A TRIAC

Rev.A.1.1

## DESCRIPTION:

The JST138E-600F 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.Package TO-263 is RoHS compliant.

## MAIN FEATURES

## ABSOLUTE MAXIMUM RATINGS

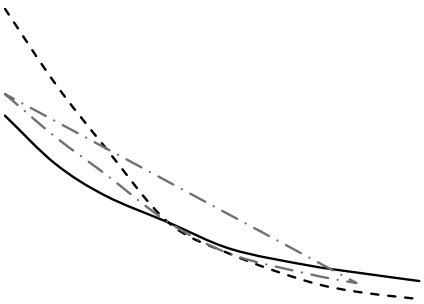
| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Storage junction temperature range | | $T_{stg}$ | -40-150 | |
| Operating junction temperature range | | $T_j$ | -40-125 | |
| Repetitive peak off-state voltage ($T_j$=25 ) | | $V_{DRM}$ | 600 | V |
| Repetitive peak reverse voltage ($T_j$=25 ) | | $V_{RRM}$ | 600 | V |
| RMS on-state current ($T_C$ 096 ) | | $I_{T(RMS)}$ | 12 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25 ) | | $I_{TSM}$ | 95 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25 ) | | | 105 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | | $I^2t$ | 45 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2×$I_{GT}$ , f=100Hz , $T_j$=125 ) | - | dI/dt | 100 | A s |
| | - | | 70 | |
| Peak gate current ($t_p$=20 s , $T_j$=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 |

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

| Symbol | Test Condition | Quadrant | Value | Unit |
|---|---|---|---|---|
| $I_{GT}$ | $V_D$=12V $R_L$=33 | | | |

JST138E-600F Jie Jie M

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



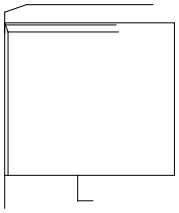
## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|---|
| | | - - | | | | |
| JST138E-600F | 600 | 25 | 70 | TO-263 | 50 | Tube |
| JST138E-600F-TR | | | | | 800 | Tape & Reel |

Document Revision History

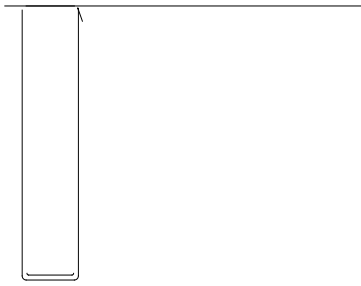
| Date | Revision | Changes |
|---|---|---|
| Apr.14, 2023 | A.1.0 | Last updated |
| Oct.21, 2025 | A.1.1 | Revise PACKAGE MECHANICAL DATA |

# PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 9.90 | | 10.20 | 0.390 | | 0.402 |
| | | | | | | |
| B | 14.70 | | 15.80 | 0.579 | | 0.622 |
| | | | | | | |
| C | 9.40 | | 9.60 | 0.370 | | 0.378 |
| | | | | | | |
| D | 2.40 | | | 0.094 | | |
| E | 1.20 | | 1.50 | 0.047 | | 0.059 |
| F | 0.75 | | 0.85 | 0.029 | | 0.033 |
| | | | | | | |
| | | | | | | |
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DELIVERY MODE



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