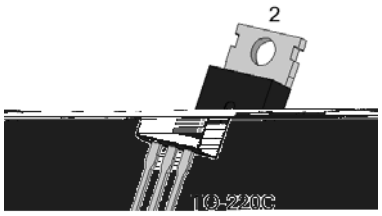
# JST137C-600F 8A TRIAC

Rev.A.1.1

## DESCRIPTION:

The JST137C-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. From T2 terminals to external heatsink. Package TO-220C is RoHS compliant.




## MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 8 | A |
| $V_{DRM}$ /$V_{RRM}$ | 600 | V |
| $I_{GT}$ / / / | 25/25/25/70 | mA |

## 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 ($T_C$ 101 ) | $I_{T(RMS)}$ | 8 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25 ) | $I_{TSM}$ | 65 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25 ) | | 72 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | $I^2t$ | 21 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2×$I_{GT}$ , f=100Hz , $T_j$=125 ) - - | dI/dt | 100 | A s |
| | | 50 | |
| 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 |

| | | | |
|---|---|---|---|
| Peak pulse voltage ($T_j$=25 ; non-repetitive,off-state;FIG.7) | $V_{pp}$ | 4 | kV |

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

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$=12V $R_L$=33 | - - | MAX. | 25 | mA |
| | | | | 70 | |
| $V_{GT}$ | | ALL | MAX. | 1 | V |
| $V_{GD}$ | $V_D$=$V_{DRM}$ $T_j$=125 $R_L$=3.3k | ALL | MIN. | 0.2 | V |
| $I_L$ | $I_G$=1.2$I_{GT}$ | - - | MAX. | 50 | mA |
| | | | | 80 | |
| $I_H$ | $I_T$=500mA | | MAX. | 40 | mA |
| dV/dt | $V_D$=400V Gate Open $T_j$=125 | | MIN. | 350 | V s |
| (dV/dt)c | (dI/dt)c=2.7A/ms, $T_j$=125 | | MIN. | 8 | 9 V |
| $t_{on}$ | $I_G$=80mA $I_A$=400mA $I_R$=40mA $T_j$=25 | | TYP. | 5 | s |
| $t_{off}$ | | | | 50 | |

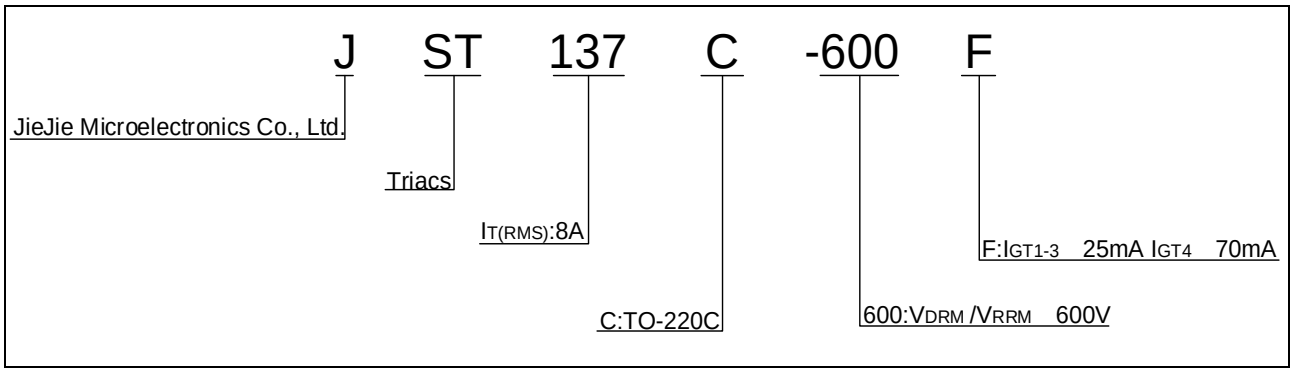
## STATIC CHARACTERISTICS

| Symbol | Parameter | | Value(MAX.) | Unit |
|---|---|---|---|---|
| $V_{TM}$ | $I_{TM}$=10A $t_p$=380 s | $T_j$=25 | 1.5 | V |
| $V_{TO}$ | Threshold voltage | $T_j$=125 | 0.8 | V |
| $R_D$ | Dynamic resistance | $T_j$=125 | 53 | P |
| $I_{DRM}$ | $V_D$=$V_{DRM}$ $V_R$=$V_{RRM}$ | $T_j$=25 | 5 | A |
| $I_{RRM}$ | | $T_j$=125 | 0.35 | mA |

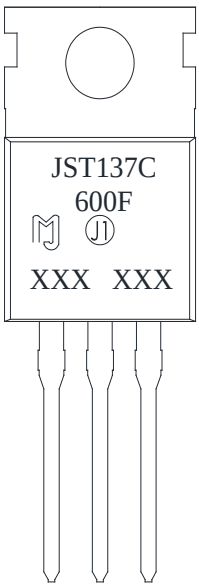
## THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $R_{th(j-c)}$ | junction to case (AC) | 2.1 | /W |
| $R_{th(j-a)}$ | junction to ambient (AC) | 60 | /W |

## ORDERING INFORMATION




## MARKING



## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|---|
| | | - | - | | | |
| JST137C-600F | 600 | 25 | 70 | TO-220C | 50 | Tube |

## Document Revision History

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

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