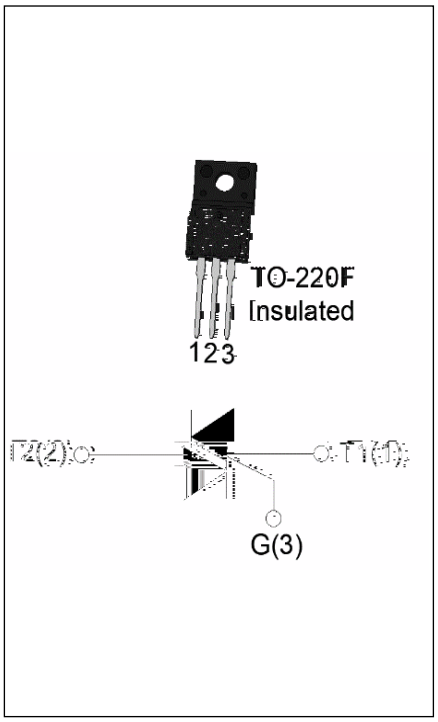
## JST24F-600C 25A TRIAC

Rev.A.1.1

The JST24F-600C 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. By using an external plastic package, JST24F-600C provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.




| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 25 | A |
| $V_{DRM}$ /$V_{RRM}$ | 600 | V |
| $I_{GT}$ / / / | 25/25/25/50 | mA |

| 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 ($T_C \leq$ 72 ) | | $I_{T(RMS)}$ | 25 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25 ) | | $I_{TSM}$ | 250 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25 ) | | | 275 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | | $I^2t$ | 340 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2 × $I_{GT}$ , f=100Hz , $T_j$=125 ) | - | dI/dt | 80 | A/μs |
| | - | | 40 | |
| 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) | $V_{pp}$ | 2 | kV |

($T_j$=25 unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$=12V $R_L$=33Ω | - - | MAX. | 25 | mA |
| | | | | 50 | |
| $V_{GT}$ | | ALL | MAX. | 1 | V |
| $V_{GD}$ | $V_D$=$V_{DRM}$ $T_j$=125 $R_L$=3.3kΩ | ALL | MIN. | 0.2 | V |
| $I_L$ | $I_G$=1.2$I_{GT}$ | - - | MAX. | 70 | mA |
| | | | | 100 | |
| $I_H$ | $I_T$=500mA | | MAX. | 60 | mA |
| dV/dt | $V_D$=400V Gate Open $T_j$=125 | | MIN. | 800 | V/μs |
| (dV/dt)c | (dI/dt)c=13.3A/ms, $T_j$=125 | | MIN. | 6 | V/μs |
| $t_{on}$ | $I_G$=80mA $I_A$=400mA $I_R$=40mA $T_j$=25 | | TYP. | 3 | μs |
| $t_{off}$ | | | | 50 | |

| Symbol | Parameter | | Value(MAX.) | Unit |
|---|---|---|---|---|
| $V_{TM}$ | $I_{TM}$=35A $t_p$=380μs | $T_j$=25 | 1.5 | V |
| $V_{TO}$ | Threshold voltage | $T_j$=125 | 0.75 | V |

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

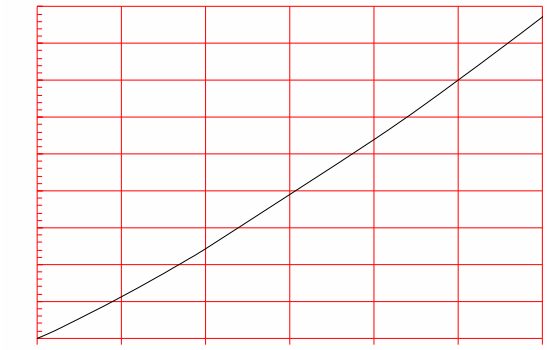


**FIG.2:** RMS on-state current versus case temperature

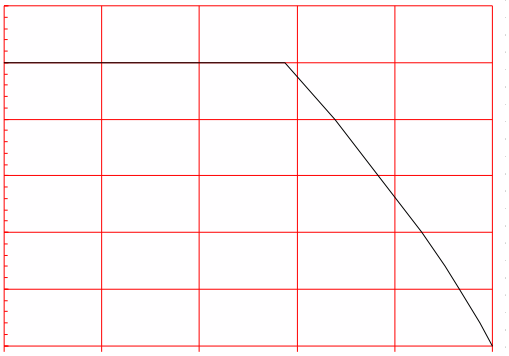
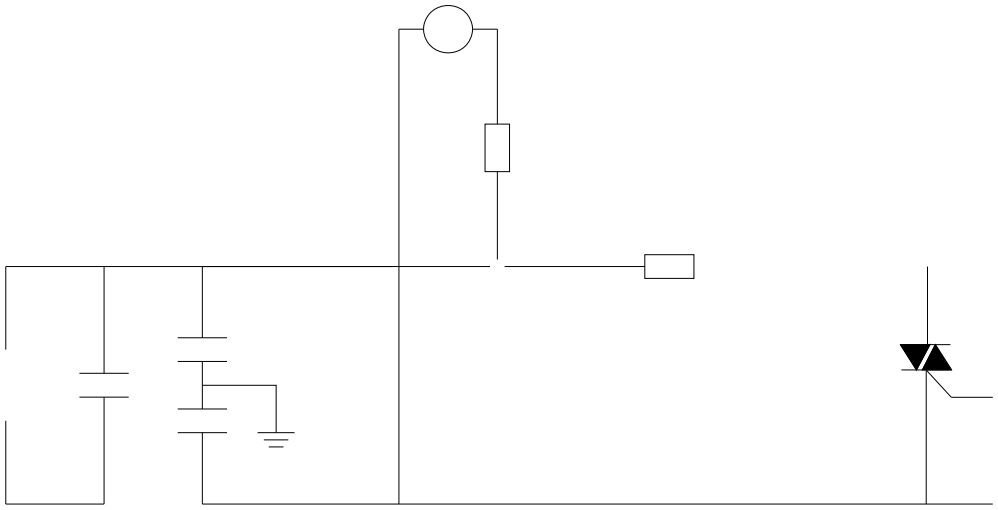


**FIG.3:** Surge peak on-state current versus number of cycles



**FIG.4:** On-state characteristics

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



| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|---|
| | | - - | | | | |
| JST24F-600C | 600 | 25 | 50 | TO-220F(Ins) | 50 | Tube |

## Document Revision History

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



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