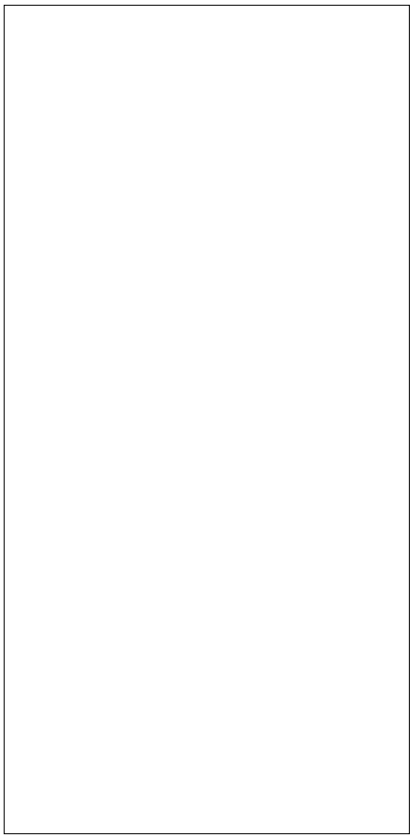
# ACJT1010-10A 10A TRIAC

Rev.A.1.1

## DESCRIPTION:

The ACJT1010-10A 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. The ACJT1010-10A embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. By using an internal ceramic pad, ACJT1010-10A provides a rated insulation voltage of 2500 VRMS. Package TO-220A 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 ) | $V_{DRM}$ | 1000 | V |
| Repetitive peak reverse voltage ($T_j$=25 ) | $V_{RRM}$ | 1000 | V |
| RMS on-state current ($T_C$ 95 ) | $I_{T(RMS)}$ | 10 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25 ) | $I_{TSM}$ | 100 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25 ) | | 110 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | $I^2t$ | 50 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2× I | | | |

| | | | |
|---|---|---|---|
| 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) | $V_{pp}$ | 4.5 | kV |

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

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$ =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. | 20 | mA |
| | | | | 35 | |
| $I_H$ | $I_T$ =500mA | | MAX. | 20 | mA |
| dV/dt | $V_D$=670V Gate Open $T_j$ =125 | | MIN. | 300 | V/μs |
| (dI/dt)c | (dV/dt)c=10V/μs, $T_j$=125 | | MIN. | 5 | A/ms |
| $t_{on}$ | $I_G$=20mA $I_A$=200mA $I_R$=20mA $T_j$=25 | | TYP. | 4 | μs |
| $t_{off}$ | | | | 50 | |
| $V_{CL}$ | $I_{CL}$=0.1mA $t_p$=1ms | | MIN. | 1050 | V |

## STATIC CHARACTERISTICS

| Symbol | Parameter | | Value(MAX .) | Unit |
|---|---|---|---|---|
| $V_{TM}$ | $I_{TM}$ =14A $t_p$=380μs | $T_j$=25 | 1.4 | V |
| $V_{TO}$ | Threshold voltage | $T_j$=125 | 0.78 | V |
| $R_D$ | Dynamic resistance | $T_j$=125 | 29 | mΩ |
| $I_{DRM}$ | $V_D$ =$V_{DRM}$ $V_R$ =$V_{RRM}$ | $T_j$=25 | 10 | μA |
| $I_{RRM}$ | | $T_j$=125 | 1 | mA |

## THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $R_{th(j-c)}$ | junction to case (AC) | 2.3 | /W |

## ORDERING INFORMATION

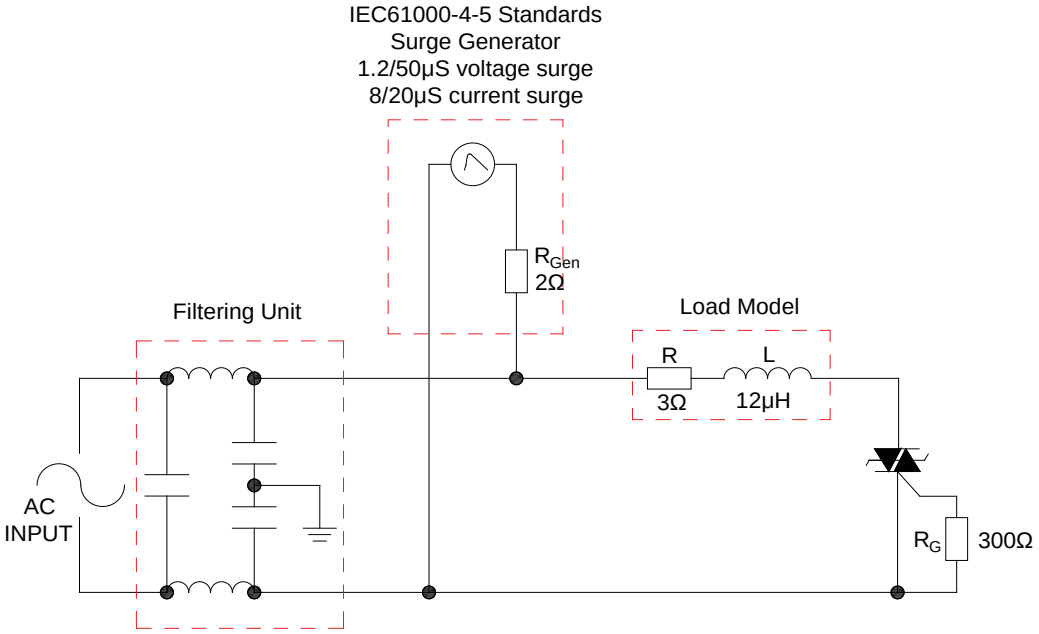
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FIG.1: Maximum power dissipation versus RMS on-state current



FIG.2: RMS on-state current versus case temperature 3691215

FIG.7 Test 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 Microelectronics

## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|
| ACJT1010-10A | 1000 | 10 | TO-220A(Ins) | 50 | Tube |

## Document Revision History

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