**JIEJIE MICROELECTRONICS CO., LTD.**

# JCT612TC 12A SCR

Rev.A.1.1

## DESCRIPTION:

JCT612TC silicon controlled rectifier is specifically designed for medium power switching and phase control applications. High current density due to mesa technology; SIPOS and Glass Passivation technology used has reliable operation up to 125 junction temperature. Low $I_{GT}$ parts available. Package TO-220C is RoHS compliant.

## MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 12 | A |
| $V_{DRM}$/$V_{RRM}$ | 600 | V |
| $I_{GT}$ | ≤5 | 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 |
| Average on-state current ($T_C$ ≤ 105 ) | $I_{T(AV)}$ | 7.6 | A |
| RMS on-state current ($T_C$ ≤ 105 ) | $I_{T(RMS)}$ | 12 | A |
| Non repetitive surge peak on-state current ($t_p$=10ms, $T_j$=25 ) | $I_{TSM}$ | 140 | A |
| Non repetitive surge peak on-state current ($t_p$=8.l4ɪ1θm 197.28 254.64 31.81 72ET Q B | | | |

| | | | |
|---|---|---|---|
| Average gate power dissipation ($T_j$=125 ) | $P_{G(AV)}$ | 1 | W |
| Peak gate power | $P_{GM}$ | 10 | W |
| Peak pulse voltage<br>($T_j$=25 ; non-repetitive,off-state;FIG.7) | $V_{pp}$ | 0.5 | kV |

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

| Symbol | Test Condition | Value | | | Unit |
|---|---|---|---|---|---|
| | | MIN. | TYP. | MAX. | |
| $I_{GT}$ | $V_D$=12V $R_L$=33Ω | - | - | 5 | mA |

## ORDERING INFORMATION

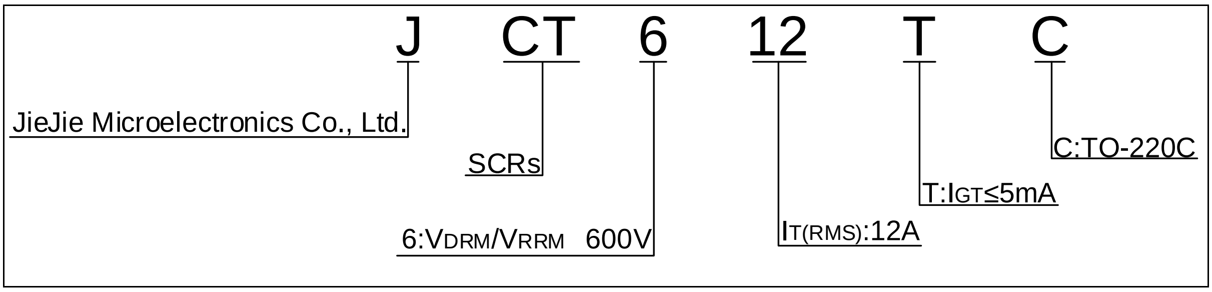
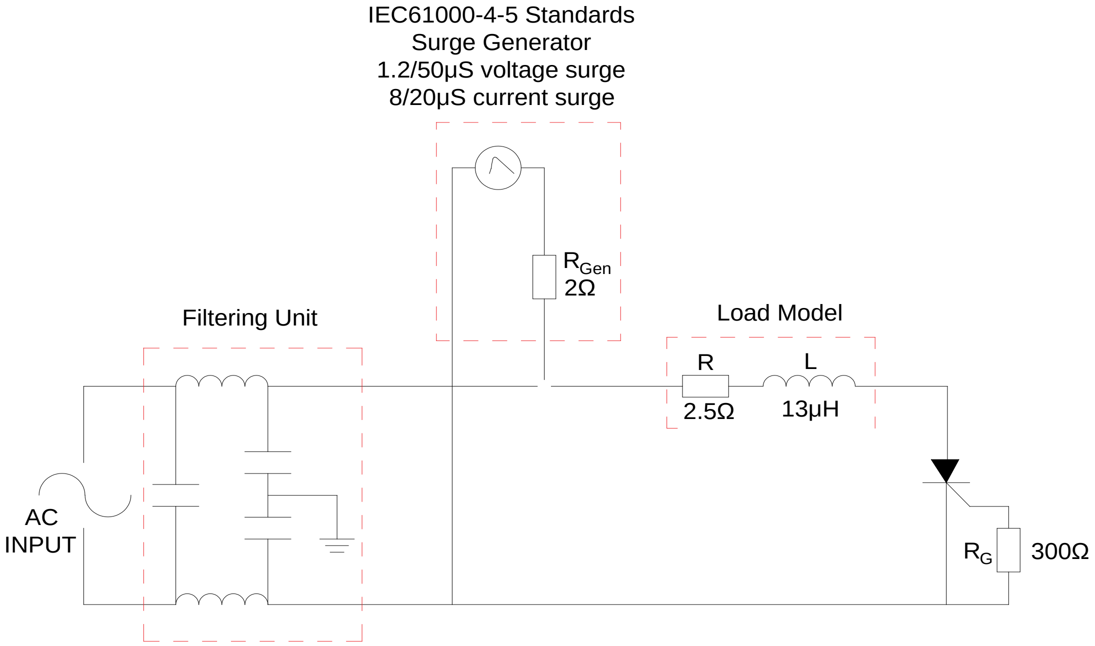


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|---|---|---|---|---|---|
| JCT612TC | 600 | 5 | TO-220C | 50 | Tube |

## Document Revision History

| Date | Revision | Changes |
|---|---|---|
| Apr.13, 2023 | A. | |

## PACKAGE MECHANICAL DATA

TEL