



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

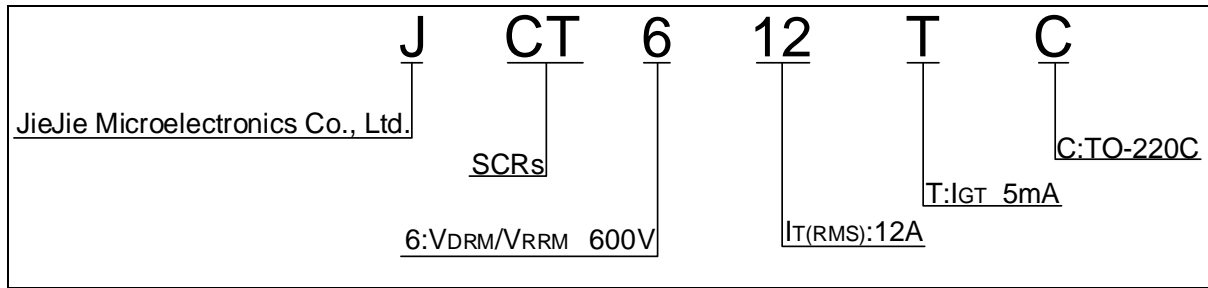
| Parameter | Symbol | Value | Unit |
|---|--------------|---------|------|
| Storage junction temperature range | T_{stg} | -40-150 | |
| Operating junction temperature range | T_j | -40-125 | |
| Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$) | V_{DRM} | 600 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 600 | V |
| Average on-state current ($T_c=105^\circ\text{C}$) | $I_{T(AV)}$ | 7.6 | A |
| RMS on-state current ($T_c=105^\circ\text{C}$) | $I_{T(RMS)}$ | 12 | A |
| Non repetitive surge peak on-state current ($t_p=10\text{ms}, T_j=25^\circ\text{C}$) | I_{TSM} | 140 | A |
| Non repetitive surge peak on-state current ($t_p=8.14\text{ms}, T_j=100^\circ\text{C}$) | | | |

| | | | |
|--|-------------|-----|----|
| Average gate power dissipation ($T_j=125$) | $P_{G(AV)}$ | 1 | W |
| Peak gate power | P_{GM} | 10 | W |
| Peak pulse voltage ($T_j=25$; 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} | $V_D=12V$ $R_L=33$ | - | - | 5 | mA |

ORDERING INFORMATION

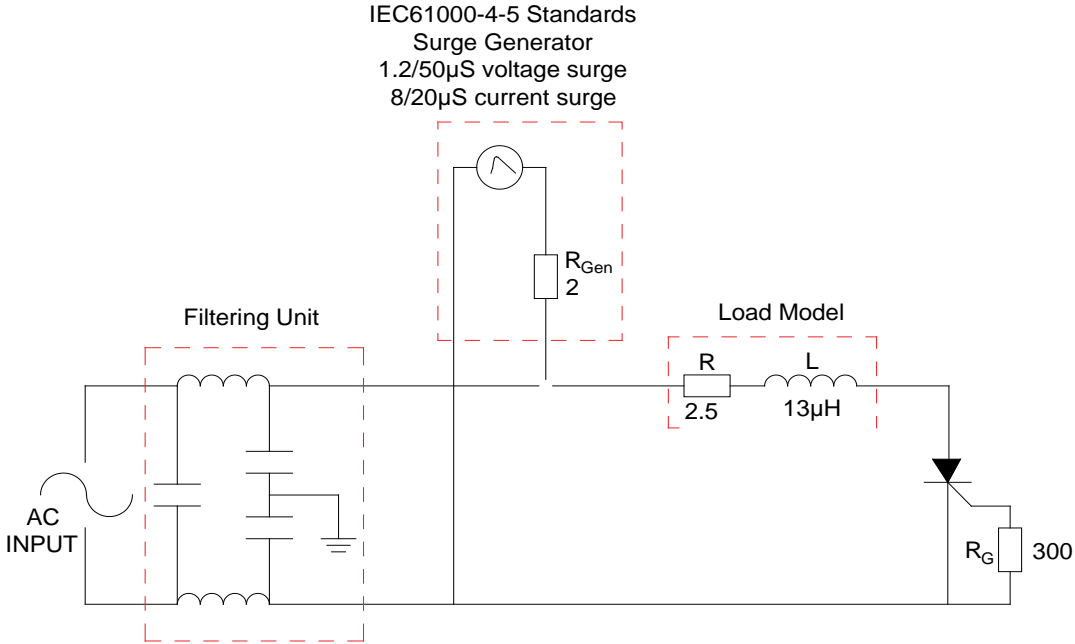


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JCT612TC

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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 G



