

**JX075C 12A Sensitive SCR**

Rev.A.1.1

**DESCRIPTION:**

The JX075C SCR provides high dV/dt rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Package TO-220C is RoHS compliant.

**MAIN FEATURES**

| Symbol              | Value      | Unit    |
|---------------------|------------|---------|
| $I_{T(RMS)}$        | 12         | A       |
| $V_{DRM} / V_{RRM}$ | 800        | V       |
| $I_{GT}$            | $\leq 200$ | $\mu A$ |

**ABSOLUTE MAXIMUM RATINGS**

| Parameter                                              | Symbol      | Value   | Unit |
|--------------------------------------------------------|-------------|---------|------|
| Storage junction temperature range                     | $T_{stg}$   | -40-150 |      |
| Operating junction temperature range                   | $T_j$       | -40-110 |      |
| Repetitive peak off-state voltage ( $T_j=25^\circ C$ ) | $V_{DRM}$   | 800     | V    |
| Repetitive peak reverse voltage ( $T_j=25^\circ C$ )   | $V_{RRM}$   | 800     | V    |
| Average on-state current ( $T_C \leq 89^\circ C$ )     | $I_{T(AV)}$ | 7.5     | A    |

RMS on-state current ( $T$

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|----------------------------------------------------------------------|----------|-----|----|
| Peak pulse voltage<br>( $T_j=25$ ; non-repetitive, off-state; FIG.7) | $V_{pp}$ | 0.5 | kV |
|----------------------------------------------------------------------|----------|-----|----|

## ELECTRICAL CHARACTERISTICS (unless otherwise specified)

| Symbol    | Test Condition                              | Value |      |      | Unit      |
|-----------|---------------------------------------------|-------|------|------|-----------|
|           |                                             | MIN.  | TYP. | MAX. |           |
| $I_{GT}$  | $V_D=12V$ $R_L=33\Omega$                    | -     | 60   | 200  | $\mu A$   |
| $V_{GT}$  |                                             | -     | -    | 0.8  | V         |
| $V_{GD}$  | $V_D=V_{DRM}$ $T_j=110$                     | 0.2   | -    | -    | V         |
| $I_L$     | $I_G=1.2 I_{GT}$                            | -     | -    | 6    | mA        |
| $I_H$     | $I_T=0.05A$                                 | -     | -    | 5    | mA        |
| $dV/dt$   | $V_D=540V$ $T_j=25$ $R_{GK}=1k\Omega$       | 50    | -    | -    | $V/\mu s$ |
|           | $V_D=540V$ $T_j=25$ $R_{GK}=220\Omega$      | 200   | -    | -    |           |
| $t_{on}$  | $I_G=10mA$ $I_A=20mA$ $I_R=2mA$<br>$T_j=25$ | -     | 2    | -    | $\mu s$   |
| $t_{off}$ |                                             | -     | 70   | -    | $\mu s$   |

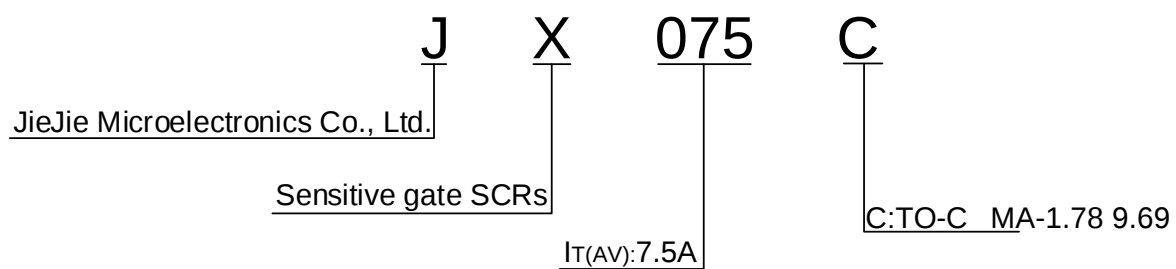
## STATIC CHARACTERISTICS

| Symbol    | Parameter                   |           | Value(MAX.) | Unit     |
|-----------|-----------------------------|-----------|-------------|----------|
| $V_{TM}$  | $I_T=24A$ $t_p=380\mu s$    | $T_j=25$  | 1.6         | V        |
| $V_{TO}$  | Threshold voltage           | $T_j=110$ | 0.9         | V        |
| $R_D$     | Dynamic Resistance          | $T_j=110$ | 0.02        | $\Omega$ |
| $I_{DRM}$ | $V_D=V_{DRM}$ $V_R=V_{RRM}$ | $T_j=25$  | 5           | $\mu A$  |
| $I_{RRM}$ |                             | $T_j=110$ | 0.5         | mA       |

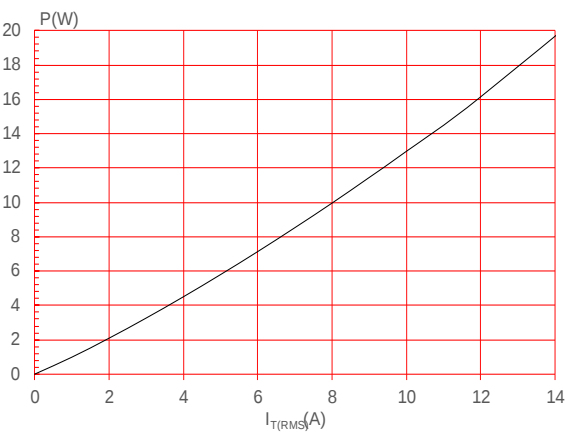
## THERMAL RESISTANCES

| Symbol        | Parameter                | Value | Unit |
|---------------|--------------------------|-------|------|
| $R_{th(j-c)}$ | junction to case (DC)    | 1.3   | $/W$ |
| $R_{th(j-a)}$ | junction to ambient (DC) | 40    | $/W$ |

ORDERING INFORMATION

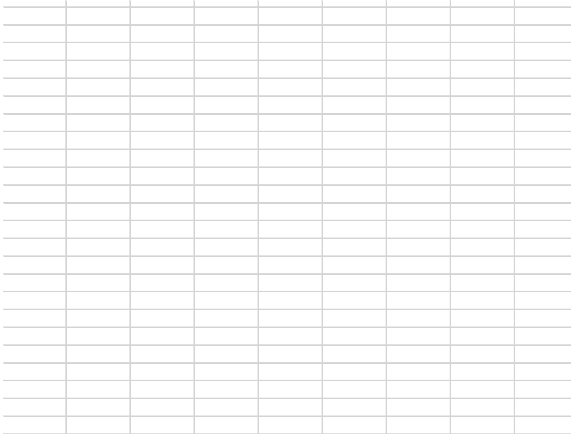


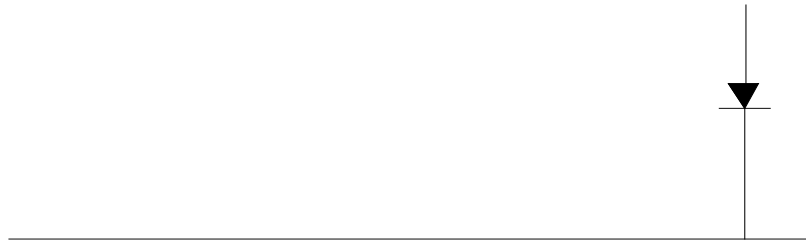
**FIG.1:** Maximum power dissipation versus RMS on-state current



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

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





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