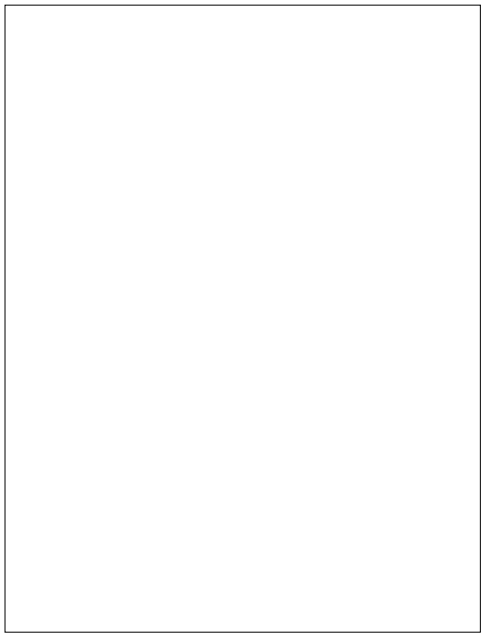
# JX020K 2 A Sensitive SCR

Rev.A.1.1

## DESCRIPTION:

The JX020K 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-252 is RoHS compliant.



## MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 2 | A |
| $V_{DRM}$ /$V_{RRM}$ | 600 | V |
| $I_{GT}$ | 200 | A |

## ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Storage junction temperature range | $T_{stg}$ | -40-150 | |
| Operating junction temperature range | $T_j$ | -40-125 [7] | |
| 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 ($T_C$ 0 104 ) | $I_{T(AV)}$ | 1.3 | A |
| RMS on-state current ($T_C$ 0104 ) | $I_{T(RMS)}$ | 2 | A |
| Non repetitive surge peak on-state current ($t_p$=10ms , $T_j$=25 ) | $I_{TSM}$ | 20 | A |
| Non repetitive surge peak on-state current ($t_p$=8.3ms , $T_j$=25 ) | | 22 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | $I^2t$ | 2 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2 $I_{GT}$ , f=100Hz , $T_j$=125 ) | dI/dt | 50 | A s |
| Peak gate current ($t_p$=20 s, $T_j$=125 ) | $I_{GM}$ | 1.2 | A |
| Average gate power dissipation ($T_j$=125 ) | $P_{G(AV)}$ | 0.2 | W |

| | | | |
|---|---|---|---|
| Peak gate power | $P_{GM}$ | 2 | W |
| Peak pulse voltage ($T_j$=25 ; non-repetitive,off-state;FIG.8) | $V_{pp}$ | 0.5 | kV |

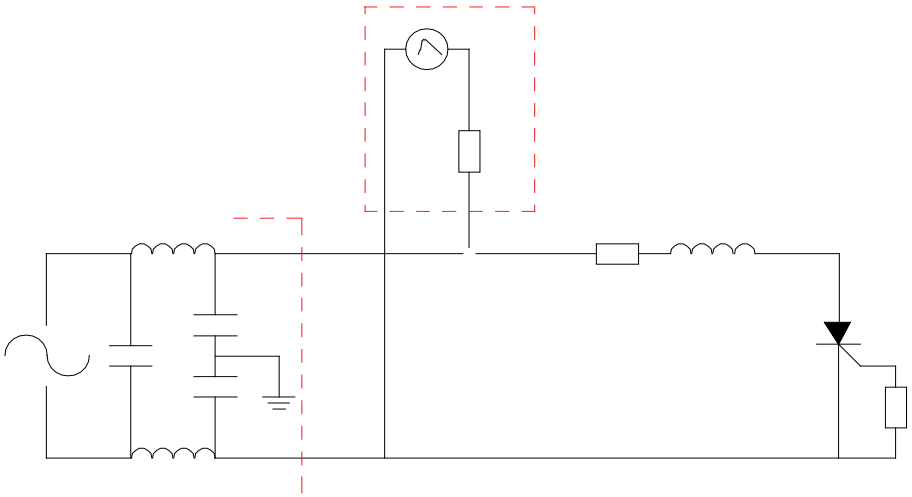
NOTE 1: Operating junction temperature $T_j$ is up to 125 when a resistor 1k is connected between Gate and Cathode. Without this resistor, the $T_j$ is up to 110 only.

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

| Symbol | Test Condition | Value | | | Unit |
|---|---|---|---|---|---|
| | | MIN. | TYP. | MAX. | |
| $I_{GT}$ | $V_D$=12V $R_L$=33 | - | 50 | 200 | A |
| $V_{GT}$ | | - | 0.6 | 0.8 | V |
| $V_{GD}$ | $V_D$=$V_{DRM}$ $T_j$=125 | 0.2 | - | - | V |
| $I_L$ | $I_G$=1.2 $I_{GT}$ | - | - | 6 | mA |
| $I_H$ | $I_T$=0.05A | - | - | 5 | mA |
| dV/dt | $V_D$=400V $T_j$=125 $R_{GK}$=1k | 20 | - | - | V s |
| | $V_D$=400V $T_j$=125 $R_{GK}$= | 100 | - | - | |
| $t_{on}$ | $I_G$=1 | | | | |

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FIG.8 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards.



## ORDERING INFORMATION

| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(εA) |
|---|---|---|

# PACKAGE MECHANICAL DATA

| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 2.10 | | 2.50 | 0.083 | | 0.098 |
| A2 | 0 | | 0.15 | 0 | | 0.006 |
| B | 0.66 | | 0.86 | 0.026 | | 0.034 |
| B2 | 5.18 | | 5.48 | 0.202 | | 0.216 |
| C | 0.40 | | 0.60 | 0.016 | | 0.024 |
| C2 | 0.44 | | 0.58 | 0.017 | | 0.023 |
| D | 5.90 | | 6.30 | 0.232 | | 0.248 |
| D1 | | | | | | |
| E | 6.40 | | 6.80 | 0.252 | | 0.268 |
| E1 | 4.63 | | | 0.182 | | |
| G | 4.47 | | 4.67 | 0.176 | | 0.184 |
| G1 | 2.18 | | 2.38 | 0.086 | | 0.094 |
| L | 1.09 | | 1.21 | 0.043 | | 0.048 |
| L2 | 1.35 | | 1.65 | 0.053 | | 0.065 |



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