

## DESCRIPTION

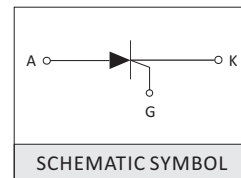
Sensitive triggering SCR is suitable for the application where gate current limited such as microcontrollers, logic integrated circuits, small motor control, gate driver for large SCR, sensing and detecting circuits. General purpose switching and phase control applications.

## FEATURES

- > High voltage capability
- > Planar passivated for voltage ruggedness and reliability
- > Sensitive gate

## APPLICATIONS

- > Ignition circuits
- > Lighting ballasts
- > Protection circuits
- > Switched Mode Power Supplies



## ABSOLUTE MAXIMUM RATINGS

| Parameter                                  | Symbol       | Condi ons                       | Value      | Units       |
|--------------------------------------------|--------------|---------------------------------|------------|-------------|
| Repetitive peak off-state voltage          | $V_{DRM}$    | $T_J=25^{\circ}C$               | 600        | V           |
| Repetitive peak reverse voltage            | $V_{RRM}$    | $T_J=25^{\circ}C$               | 600        | V           |
| RMS on-state current                       | $I_{T(RMS)}$ | $T_C=65^{\circ}C$               | 1.25       | A           |
| Non repetitive surge peak on-state current | $I_{TSM}$    | $T_P=10ms$                      | 20         | A           |
| $I^2t$ value for fusing                    | $I^2t$       | $T_P=10ms$                      | 2          | $A^2s$      |
| Critical rate of rise of on-state current  | $di/dt$      |                                 | 50         | A/us        |
| Peak gate current                          | $I_{GM}$     | $t_p=20\mu s, T_J=110^{\circ}C$ | 0.2        | A           |
| Average gate power dissipation             | $P_{G(AV)}$  | $T_J=110^{\circ}C$              | 0.1        | W           |
| Peak gate power                            | $P_{GM}$     | $t_p=20\mu s, T_J=110^{\circ}C$ | 0.5        | W           |
| Storage junction temperature range         | $T_{stg}$    |                                 | -40 to 150 | $^{\circ}C$ |
| Operating junction temperature range       | $T_J$        |                                 | -40 to 110 | $^{\circ}C$ |

## ELECTRICAL CHARACTERISTICS ( $T_J=25^{\circ}C$ unless otherwise specified)

| Parameter                         | Symbol   | Test Condi ons                                      | Value |      |      | Units   |
|-----------------------------------|----------|-----------------------------------------------------|-------|------|------|---------|
|                                   |          |                                                     | Min.  | Typ. | Max. |         |
| Gate trigger current              | $I_{GT}$ | $V_D=12V, R_L=33\Omega$                             | -     | 40   | 200  | $\mu A$ |
| Gate trigger voltage              | $V_{GT}$ |                                                     | -     | 0.6  | 0.8  | V       |
| Gate no-trigger Voltage           | $V_{GD}$ | $V_D=V_{DRM}, T_J=110^{\circ}C$                     | 0.2   | -    | -    | V       |
| Latching current                  | $I_L$    | $I_G=1.2I_{GT}$                                     | -     | -    | 5    | mA      |
| Holding current                   | $I_H$    | $I_T=50mA$                                          | -     | -    | 4    | mA      |
| Rate of rise of off-state voltage | $dv/dt$  | $V_D=2/3V_{DRM}, T_J=110^{\circ}C, R_{GK}=1K\Omega$ | 50    | -    | -    | V/us    |

## STATIC CHARACTERISTICS

| Parameter                         | Symbol    | Test Conditions                               | Value      | Units   |
|-----------------------------------|-----------|-----------------------------------------------|------------|---------|
| On-state voltage                  | $V_{TM}$  | $I_{TM}=4.0A$ $t_p=380\mu s$                  | $\leq 1.5$ | V       |
| Repetitive peak off-state current | $I_{DRM}$ | $V_D=V_{DRM}$ $V_R=V_{RRM}$ $T_j=25^\circ C$  | $\leq 5.0$ | $\mu A$ |
| Repetitive peak reverse current   | $I_{RRM}$ | $V_D=V_{DRM}$ $V_R=V_{RRM}$ $T_j=110^\circ C$ | $\leq 100$ | $\mu A$ |

## THERMAL RESISTANCES

| Parameter        | Symbol        | Value | Units        |
|------------------|---------------|-------|--------------|
| Junction to case | $R_{th(j-c)}$ | 30    | $^\circ C/W$ |

## PACKAGE OUTLINE DIMENSIONS

| Symbol | Millimeters |            | Inches    |            |
|--------|-------------|------------|-----------|------------|
|        | Min.        | Max.       | Min.      | Max.       |
| A      | 1.5 TYP     | 1.70       | 0.059 TYP | 0.067      |
| A1     | -           | 0.10       | -         | 0.004      |
| b      | 0.60        | 0.82       | 0.024     | 0.032      |
| b1     | 2.90        | 3.10       | 0.114     | 0.122      |
| C      | 0.24        | 0.35       | 0.009     | 0.014      |
| D      | 6.15        | 6.65       | 0.242     | 0.262      |
| E      | 3.30        | 3.70       | 0.130     | 0.146      |
| e      | 2.3 TYP     |            | 0.091 TYP |            |
| e1     | 4.50        | 4.70       | 0.177     | 0.185      |
| H      | 6.70        | 7.30       | 0.264     | 0.287      |
| L      | 0.80        | 1.15       | 0.031     | 0.045      |
| F      | $0^\circ$   | $10^\circ$ | $0^\circ$ | $10^\circ$ |

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