

**isc Thyristors**

**MCR100-6RLG**

**FEATURES**

- With TO-92 package
- Sensitive gate trigger current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

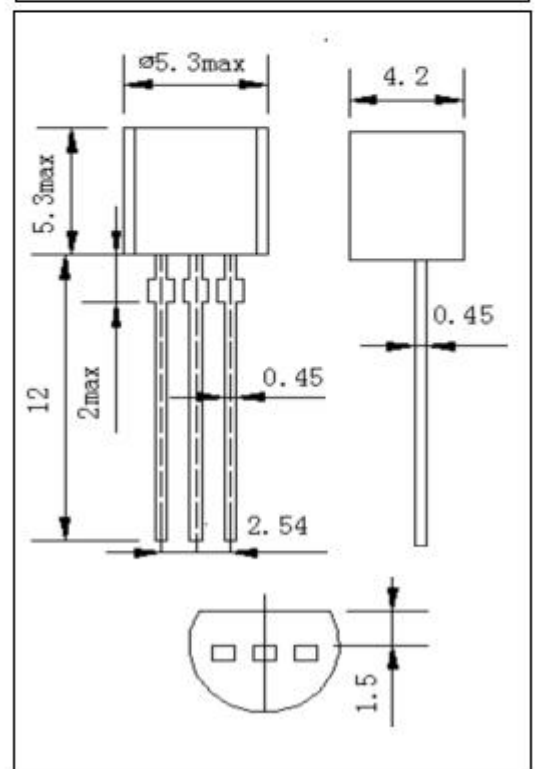
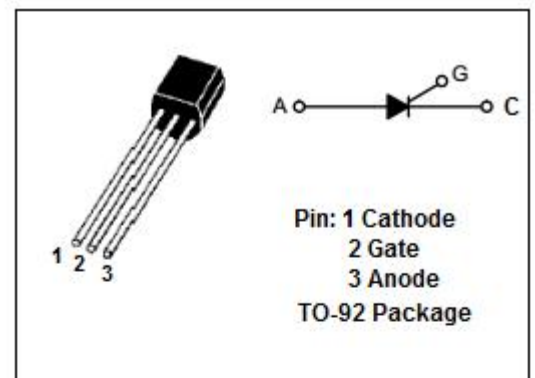
- Designed for high volume, line-powered consumer applications such as relay and lamp drivers, small motor controls, gate drivers for larger thyristors, and sensing and detection circuits.

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

| SYMBOL              | PARAMETER                                       | VALUE   | UNIT             |
|---------------------|---|---------|------------------|
| V <sub>DRM</sub>    | Repetitive peak off-state voltage               | 400     | V                |
| V <sub>RRM</sub>    | Repetitive peak off-state voltage               | 400     | V                |
| I <sub>T(RMS)</sub> | RMS on-state current(180° conduction angle)     | 0.8     | A                |
| I <sub>TSM</sub>    | Non-repetitive peak on-state current((tp=10ms)) | 10      | A                |
| I <sub>GM</sub>     | Peak gate current((tp=20 μ s))                  | 1       | A                |
| I <sup>2</sup> t    | I <sup>2</sup> t(tp=10ms)                       | 0.415   | A <sup>2</sup> S |
| P <sub>GM</sub>     | Peak gate power                                 | 2       | W                |
| P <sub>G(AV)</sub>  | Average gate power                              | 0.1     | W                |
| T <sub>j</sub>      | Operating junction temperature                  | -40-100 | °C               |
| T <sub>stg</sub>    | Storage temperature range                       | -40-150 | °C               |

**Thermal resistance**

| SYMBOL               | PARAMETER               | MAX | UNIT |
|----------------------|-------------------------|-----|------|
| R <sub>th(j-c)</sub> | Junction to case        | 75  | k/w  |
| R <sub>th(j-a)</sub> | Junction to ambient air | 200 | k/w  |



**isc Thyristors****MCR100-6RLG****ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$  unless otherwise specified)**

| SYMBOL    | PARAMETER                         | CONDITIONS  | MIN | TYP | MAX       | UNIT          |
|-----------|-----------------------------------|---|-----|-----|-----------|---------------|
| $I_{RRM}$ | Repetitive peak reverse current   | $V_R = V_{RRM}$<br>$V_R = V_{RRM}; T_J = 110^\circ\text{C}$ |     |     | 10<br>100 | $\mu\text{A}$ |
| $I_{DRM}$ | Repetitive peak off-state current | $V_D = V_{DRM}$<br>$V_D = V_{DRM}; T_J = 110^\circ\text{C}$ |     |     | 10<br>100 | $\mu\text{A}$ |
| $I_{GT}$  | Gate trigger current              | $V_D = 7\text{V}; R_L = 100\ \Omega$                        |     |     | 200       | $\mu\text{A}$ |
| $V_{TM}$  | On-state voltage                  | $I_T = 1.0\text{A}, t_p = 380\ \mu\text{s}$                 |     |     | 1.7       | V             |
| $I_H$     | Holding current                   | $I_T = 0.1\text{A}, \text{Gate Open}$                       |     | 1   | 5         | mA            |
| $V_{GT}$  | Gate trigger voltage              | $V_D = 7\text{V}; R_L = 100\ \Omega$                        |     |     | 0.8       | V             |