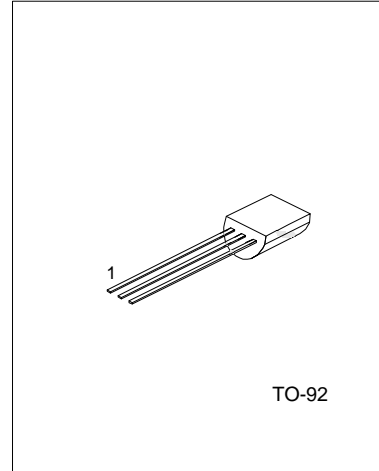


PLASTIC SILICON  
CONTROLLED RECTIFIERS

DESCRIPTION

PNPN devices 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. Supplied in an inexpensive plastic TO-92 package which is readily adaptable for use in automatic insertion equipment.



TO-92

1:CATHODE 2:GATE 3:ANODE

DESCRIPTION

- \*Sensitive Gate Trigger Current - 200µA Maximum
- \*Low Reverse and forward Blocking Current - 100µA Maximum, Tc=125°C
- \*Low Holding Current – 5mA Maximum
- \*Glass-Passivated Surface for Reliability and Uniformity
- \*Also Available with TO-5 or TO-18 Lead Form

THERMAL CHARACTERISTICS

| PARAMETER                               | SYMBOL           | MAX | UNIT |
|---|------------------|-----|------|
| Thermal Resistance, Junction to Case    | R <sub>θJC</sub> | 75  | °C/W |
| Thermal Resistance, Junction to Ambient | R <sub>θJA</sub> | 200 | °C/W |

ABSOLUTE MAXIMUM RATINGS

| PARAMETER  | SYMBOL              | MAX         | UNIT             |
|--|---------------------|-------------|------------------|
| Peak Reverse Blocking Voltage  | V <sub>RRM</sub>    |             | V                |
| MCR100-4   |                     | 200         |                  |
| MCR100-6   |                     | 400         |                  |
| MCR100-8   |                     | 600         |                  |
| Forward Current RMS  | I <sub>T(RMS)</sub> | 0.8         | A                |
| Peak Forward Surge Current, T <sub>A</sub> =25°C<br>(1/2 cycle, Sine Wave, 60Hz)   | I <sub>TSM</sub>    | 10          | A                |
| Circuit Fusing Considerations, T <sub>A</sub> =25°C<br>(t=1 to 8.3 ms)             | I <sup>2</sup> t    | 0.415       | A <sup>2</sup> s |
| Peak Gate Power – Forward, T <sub>A</sub> =25°C                                    | P <sub>GM</sub>     | 0.1         | W                |
| Average Gate Power – Forward, T <sub>A</sub> =25°C                                 | P <sub>GF(AV)</sub> | 0.01        | W                |
| Peak Gate Current – Forward, T <sub>A</sub> =25°C(300µs, 120PPS)                   | I <sub>GFM</sub>    | 1           | A                |
| Peak Gate Voltage - Reverse  | V <sub>GRM</sub>    | 5           | V                |
| Operating Junction Temperature Range @ Rated V <sub>RRM</sub> and V <sub>DRM</sub> | T <sub>J</sub>      | -65 to +110 | °C               |
| Storage Temperature Range  | T <sub>stg</sub>    | -40 to +150 | °C               |
| Lead Solder Temperature<br>(<1/16" from case, 10 s max)                            |                     | 230         | °C               |

ELECTRICAL CHARACTERISTICS (T<sub>j</sub>=25°C unless otherwise stated)

| PARAMETER  | SYMBOL     | MIN               | MAX        | UNIT     |
|--|------------|-------------------|------------|----------|
| Peak Forward Blocking Voltage<br>(T <sub>c</sub> =125°C)<br>MCR100-4<br>MCR100-6<br>MCR100-8   | VDRM       | 200<br>400<br>600 |            | V        |
| Peak Forward or Reverse Blocking Current<br>(Rated VDRM or VRRM) T <sub>c</sub> =25°C<br>T <sub>c</sub> =125°C   | IDRM, IRRM |                   | 10<br>100  | μA<br>μA |
| Forward "On" Voltage (Note1)<br>(I <sub>TM</sub> =1A peak @ TA=25°C)   | VTM        |                   | 1.7        | V        |
| Gate Trigger Current (continuous dc) (Note 2) T <sub>c</sub> =25 °C<br>(Anode Voltage=7Vdc, RL=100Ω)   | IGT        |                   | 200        | μA       |
| Gate Trigger Voltage (continuous dc) T <sub>c</sub> =25 °C<br>(Anode voltage=7Vdc, RL=100Ω) T <sub>c</sub> =-40 °C<br>(Anode Voltage=Rated VDRM, RL=100Ω) T <sub>c</sub> =125 °C | VGT        | 0.1               | 0.8<br>1.2 | V        |
| Holding Current T <sub>c</sub> =25 °C<br>(Anode Voltage=7Vdc, initiating current=20mA) T <sub>c</sub> =-40 °C  | IH         |                   | 5<br>10    | mA       |

Notes: 1. Forward current applied for 1 ms maximum duration, duty cycle <=1%  
2. RGK current is not included in measurement.

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.