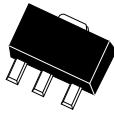




**CQ89DS  
CQ89MS  
CQ89NS**

**2.0 AMP TRIAC  
400 THRU 800 VOLTS**



**SOT-89 CASE**

**Central<sup>TM</sup>**  
Semiconductor Corp.

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ89DS series types are epoxy molded silicon triacs designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

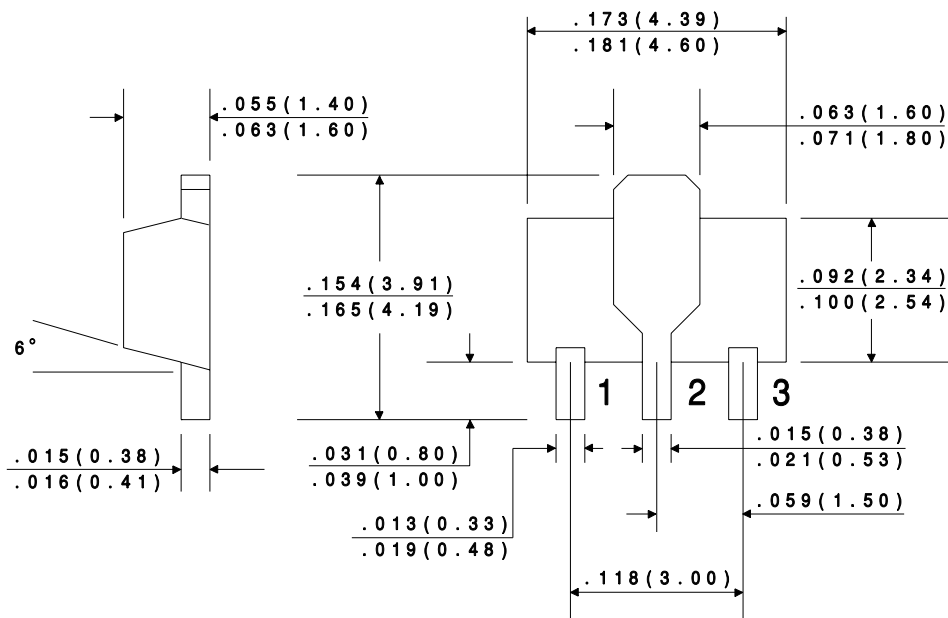
## MAXIMUM RATINGS (T<sub>C</sub>=25°C)

|                                             | SYMBOL              | CQ89DS | CQ89MS      | CQ89NS | UNITS |
|---------------------------------------------|---------------------|--------|-------------|--------|-------|
| Peak Repetitive Off-State Voltage           | V <sub>DRM</sub>    | 400    | 600         | 800    | V     |
| RMS On-State Current (T <sub>C</sub> =80°C) | I <sub>T(RMS)</sub> |        | 2.0         |        | A     |
| Peak One Cycle Surge (10ms)                 | I <sub>TSM</sub>    |        | 10          |        | A     |
| Peak Gate Current                           | I <sub>GM</sub>     |        | 1.0         |        | A     |
| Average Gate Power Dissipation              | P <sub>G(AV)</sub>  |        | 0.1         |        | W     |
| Storage Temperature                         | T <sub>stg</sub>    |        | -45 to +150 |        | °C    |
| Junction Temperature                        | T <sub>J</sub>      |        | -45 to +125 |        | °C    |
| Thermal Resistance                          | Θ <sub>J-C</sub>    |        | 10          |        | °C/W  |

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

| SYMBOL           | TEST CONDITIONS                                                | MIN | TYP | MAX  | UNITS |
|------------------|----------------------------------------------------------------|-----|-----|------|-------|
| I <sub>DRM</sub> | V <sub>D</sub> =Rated V <sub>DRM</sub>                         |     |     | 5.0  | μA    |
| I <sub>DRM</sub> | V <sub>D</sub> =Rated V <sub>DRM</sub> , T <sub>C</sub> =125°C |     |     | 200  | μA    |
| I <sub>GT</sub>  | V <sub>D</sub> =12V, QUAD I, II, III, IV                       |     |     | 5.0  | mA    |
| I <sub>H</sub>   | V <sub>D</sub> =12V                                            |     |     | 5.0  | mA    |
| V <sub>GT</sub>  | V <sub>D</sub> =12V                                            |     |     | 2.0  | V     |
| V <sub>TM</sub>  | I <sub>T</sub> =3.0A                                           |     |     | 1.75 | V     |
| dv/dt            | V <sub>D</sub> =2/3 V <sub>DRM</sub> , T <sub>C</sub> =125°C   | 30  |     |      | V/μs  |

All dimensions in inches (mm).



LEAD CODE:

- 1) GATE
- 2) MT2
- 3) MT1