

CQ202-4B-2  
CQ202-4D-2  
CQ202-4M-2  
CQ202-4N-2

4.0 AMP TRIAC  
200 THRU 800 VOLTS



TO-202-2 CASE



www.centrasemi.com

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ202-4B-2 series type is an epoxy molded silicon triac designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

#### MARKING: FULL PART NUMBER

#### MAXIMUM RATINGS: ( $T_C=25^\circ\text{C}$ unless otherwise noted)

|                                                        | SYMBOL            | CQ202<br>-4B-2 | CQ202<br>-4D-2 | CQ202<br>-4M-2 | CQ202<br>-4N-2 | UNITS                |
|--------------------------------------------------------|-------------------|----------------|----------------|----------------|----------------|----------------------|
| Peak Repetitive Off-State Voltage                      | $V_{DRM}$         | 200            | 400            | 600            | 800            | V                    |
| RMS On-State Current ( $T_C=80^\circ\text{C}$ )        | $I_T(\text{RMS})$ |                |                | 4.0            |                | A                    |
| Peak Non-Repetitive Surge Current ( $t=8.3\text{ms}$ ) | $I_{TSM}$         |                |                | 40             |                | A                    |
| Peak Non-Repetitive Surge Current ( $t=10\text{ms}$ )  | $I_{TSM}$         |                |                | 35             |                | A                    |
| $I^2t$ Value for Fusing ( $t=10\text{ms}$ )            | $I^2t$            |                |                | 6.0            |                | $\text{A}^2\text{s}$ |
| Peak Gate Power ( $t_p=10\mu\text{s}$ )                | $P_{GM}$          |                |                | 3.0            |                | W                    |
| Average Gate Power Dissipation                         | $P_{G(AV)}$       |                |                | 0.2            |                | W                    |
| Peak Gate Current ( $t_p=10\mu\text{s}$ )              | $I_{GM}$          |                |                | 1.2            |                | A                    |
| Storage Temperature                                    | $T_{stg}$         |                | -40 to +150    |                |                | $^\circ\text{C}$     |
| Junction Temperature                                   | $T_J$             |                | -40 to +125    |                |                | $^\circ\text{C}$     |
| Thermal Resistance                                     | $\theta_{JA}$     |                |                | 60             |                | $^\circ\text{C/W}$   |
| Thermal Resistance                                     | $\theta_{JC}$     |                |                | 7.5            |                | $^\circ\text{C/W}$   |

#### ELECTRICAL CHARACTERISTICS: ( $T_C=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL    | TEST CONDITIONS                                                        | MIN | TYP  | MAX | UNITS                  |
|-----------|------------------------------------------------------------------------|-----|------|-----|------------------------|
| $I_{DRM}$ | Rated $V_{DRM}$ , $R_{GK}=1.0\text{K}\Omega$                           |     |      | 10  | $\mu\text{A}$          |
| $I_{DRM}$ | Rated $V_{DRM}$ , $R_{GK}=1.0\text{K}\Omega$ , $T_C=125^\circ\text{C}$ |     |      | 200 | $\mu\text{A}$          |
| $I_{GT}$  | $V_D=12\text{V}$ , QUAD I, II, III                                     |     | 6.6  | 20  | mA                     |
| $I_{GT}$  | $V_D=12\text{V}$ , QUAD IV                                             |     | 35   | 50  | mA                     |
| $I_H$     | $R_{GK}=1.0\text{K}\Omega$                                             |     | 5.2  | 25  | mA                     |
| $V_{GT}$  | $V_D=12\text{V}$ , QUAD I, II, III                                     |     | 1.1  | 1.5 | V                      |
| $V_{GT}$  | $V_D=12\text{V}$ , QUAD IV                                             |     | 2.0  | 2.5 | V                      |
| $V_{TM}$  | $I_{TM}=6.0\text{A}$ , $t_p=380\mu\text{s}$                            |     | 1.25 | 1.6 | V                      |
| $dv/dt$   | $V_D=\frac{2}{3} V_{DRM}$ , $T_C=125^\circ\text{C}$                    | 5.0 |      |     | $\text{V}/\mu\text{s}$ |

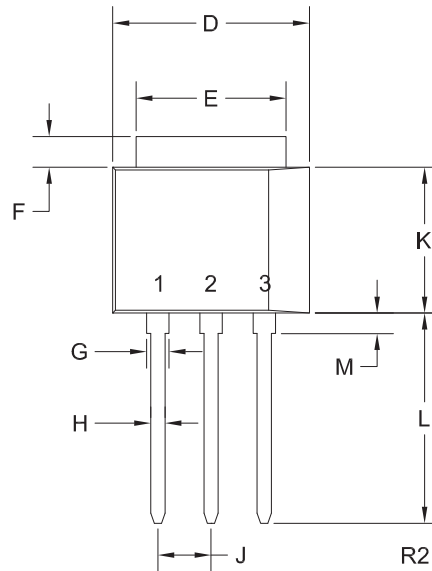
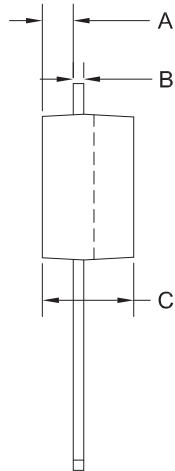
R2 (23-April 2012)

CQ202-4B-2  
CQ202-4D-2  
CQ202-4M-2  
CQ202-4N-2

4.0 AMP TRIAC  
200 THRU 800 VOLTS



# TO-202-2 CASE - MECHANICAL OUTLINE



## LEAD CODE:

- 1) Cathode
- 2) Anode
- 3) Gate
- Tab is common to pin 2

## MARKING:

FULL PART NUMBER

| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.055      | 0.071 | 1.40        | 1.80 |
| B      | 0.016      | 0.024 | 0.40        | 0.60 |
| C      | 0.173      | 0.181 | 4.40        | 4.60 |
| D      | 0.374      | 0.413 | 9.50        | 10.5 |
| E      | 0.236      | 0.355 | 6.00        | 9.00 |
| F      | -          | 0.071 | -           | 1.80 |
| G      | 0.035      | 0.055 | 0.90        | 1.40 |
| H      | 0.023      | 0.031 | 0.59        | 0.80 |
| J      | 0.094      | 0.106 | 2.39        | 2.69 |
| K      | 0.280      | 0.346 | 7.12        | 8.80 |
| L      | 0.406      | 0.531 | 10.3        | 13.5 |
| M      | 0.024      | 0.059 | 0.60        | 1.50 |

TO-202-2 (REV: R2)

R2 (23-April 2012)