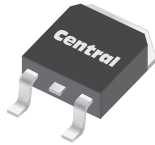


CQD-4M  
CQD-4N

SURFACE MOUNT SILICON  
TRIACS  
4.0 AMP, 600 THRU 800 VOLT



DPAK CASE



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

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQD-4M and CQD-4N are epoxy molded silicon TRIACs designed for full wave AC control applications featuring gate triggering in all four quadrants.

#### MARKING: FULL PART NUMBER

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

|                                                 | SYMBOL              | CQD-4M      | CQD-4N | UNITS                |
|-------------------------------------------------|---------------------|-------------|--------|----------------------|
| Peak Repetitive Off-State Voltage               | $V_{\text{DRM}}$    | 600         | 800    | V                    |
| RMS On-State Current ( $T_C=80^\circ\text{C}$ ) | $I_{\text{T(RMS)}}$ | 4.0         |        | A                    |
| Peak One Cycle Surge, $t=10\text{ms}$           | $I_{\text{TSM}}$    | 40          |        | A                    |
| $I^2t$ Value for Fusing, $t=10\text{ms}$        | $I^2t$              | 2.4         |        | $\text{A}^2\text{s}$ |
| Peak Gate Power, $t_p=10\mu\text{s}$            | $P_{\text{GM}}$     | 3.0         |        | W                    |
| Average Gate Power Dissipation                  | $P_{\text{G(AV)}}$  | 0.2         |        | W                    |
| Peak Gate Current, $t_p=10\mu\text{s}$          | $I_{\text{GM}}$     | 1.2         |        | A                    |
| Operating Junction Temperature                  | $T_{\text{J}}$      | -40 to +125 |        | $^\circ\text{C}$     |
| Storage Temperature                             | $T_{\text{stg}}$    | -40 to +150 |        | $^\circ\text{C}$     |

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

| SYMBOL           | TEST CONDITIONS                                                                    | MIN | TYP  | MAX  | UNITS                  |
|------------------|------------------------------------------------------------------------------------|-----|------|------|------------------------|
| $I_{\text{DRM}}$ | Rated $V_{\text{DRM}}$ , $R_{\text{GK}}=1\text{K}\Omega$                           |     |      | 10   | $\mu\text{A}$          |
| $I_{\text{DRM}}$ | Rated $V_{\text{DRM}}$ , $R_{\text{GK}}=1\text{K}\Omega$ , $T_C=125^\circ\text{C}$ |     |      | 200  | $\mu\text{A}$          |
| $I_{\text{GT}}$  | $V_{\text{D}}=12\text{V}$ , QUAD I, II, III                                        |     | 2.5  | 5.0  | mA                     |
| $I_{\text{GT}}$  | $V_{\text{D}}=12\text{V}$ , QUAD IV                                                |     | 5.4  | 9.0  | mA                     |
| $I_{\text{H}}$   | $R_{\text{GK}}=1\text{K}\Omega$                                                    |     | 1.6  | 5.0  | mA                     |
| $V_{\text{GT}}$  | $V_{\text{D}}=12\text{V}$ , QUAD I, II, III, IV                                    |     | 0.95 | 1.75 | V                      |
| $V_{\text{TM}}$  | $I_{\text{TM}}=6.0\text{A}$ , $t_p=380\mu\text{s}$                                 |     | 1.25 | 1.75 | V                      |
| $dv/dt$          | $V_{\text{D}}=2/3 V_{\text{DRM}}$ , $T_C=125^\circ\text{C}$                        | 11  |      |      | $\text{V}/\mu\text{s}$ |

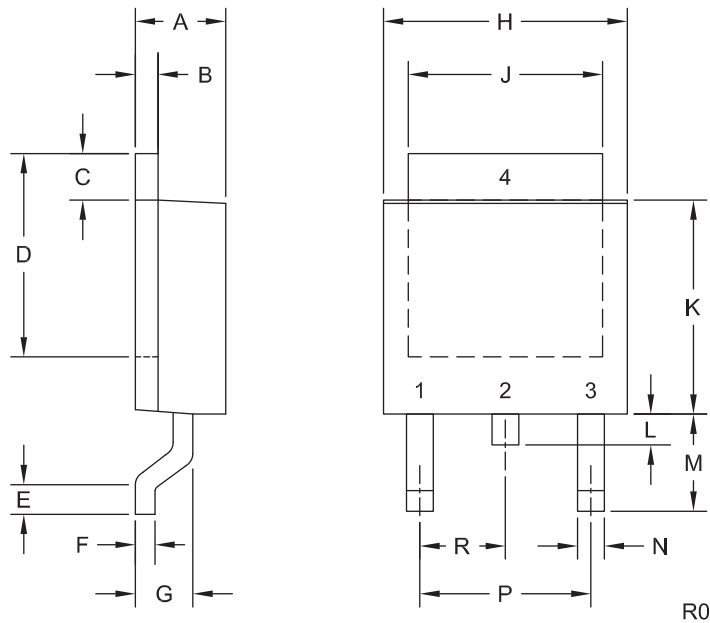
R2 (21-January 2013)

CQD-4M  
CQD-4N

SURFACE MOUNT SILICON  
TRIACS  
4.0 AMP, 600 THRU 800 VOLT



#### DPAK CASE - MECHANICAL OUTLINE



#### LEAD CODE:

- 1) MT1
- 2) MT2
- 3) Gate
- 4) MT2

#### MARKING:

FULL PART NUMBER

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.083  | 0.108 | 2.10        | 2.75 |
| B          | 0.016  | 0.032 | 0.40        | 0.81 |
| C          | 0.035  | 0.063 | 0.89        | 1.60 |
| D          | 0.203  | 0.228 | 5.15        | 5.79 |
| E          | 0.020  | -     | 0.51        | -    |
| F          | 0.018  | 0.024 | 0.45        | 0.60 |
| G          | 0.051  | 0.071 | 1.30        | 1.80 |
| H          | 0.248  | 0.268 | 6.30        | 6.81 |
| J          | 0.197  | 0.217 | 5.00        | 5.50 |
| K          | 0.209  | 0.245 | 5.30        | 6.22 |
| L          | 0.025  | 0.040 | 0.64        | 1.02 |
| M          | 0.090  | 0.115 | 2.30        | 2.91 |
| N          | 0.012  | 0.045 | 0.30        | 1.14 |
| P          | 0.180  |       | 4.60        |      |
| R          | 0.090  |       | 2.30        |      |

DPAK (REV: R0)

R2 (21-January 2013)

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

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

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