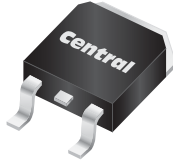


CQDD-16M  
CQDD-16N

SURFACE MOUNT  
16 AMP SILICON TRIACS  
600 THRU 800 VOLT



D<sup>2</sup>PAK CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CQDD-16M 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**

<b>MAXIMUM RATINGS:</b> ( $T_C=25^\circ\text{C}$ unless otherwise noted)	<b>SYMBOL</b>	<b>CQDD-16M</b>	<b>CQDD-16N</b>	<b>UNITS</b>
Peak Repetitive Off-State Voltage	$V_{DRM}$	600	800	V
RMS On-State Current ( $T_C=90^\circ\text{C}$ )	$I_T(\text{RMS})$		16	A
Peak One Cycle Surge, $t=8.3\text{ms}$	$I_{TSM}$		110	A
$I^2t$ Value for Fusing, $t=8.3\text{ms}$	$I^2t$		50	$\text{A}^2\text{s}$
Peak Gate Power, $t_p=10\mu\text{s}$	$P_{GM}$		40	W
Average Gate Power Dissipation	$P_{G(AV)}$		1.0	W
Peak Gate Current, $t_p=10\mu\text{s}$	$I_{GM}$		6.0	A
Peak Gate Voltage, $t_p=10\mu\text{s}$	$V_{GM}$		16	V
Critical Rate of Rise of On-State Current Repetitive, $f=60\text{Hz}$	$di/dt$		10	$\text{A}/\mu\text{s}$
Operating Junction Temperature	$T_J$	-40 to +125		$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to +150		$^\circ\text{C}$
Thermal Resistance	$\Theta_{JA}$		60	$^\circ\text{C}/\text{W}$
Thermal Resistance	$\Theta_{JC}$		2.3	$^\circ\text{C}/\text{W}$

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

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
$I_{DRM}$	Rated $V_{DRM}$			10	$\mu\text{A}$
$I_{DRM}$	Rated $V_{DRM}$ , $T_C=125^\circ\text{C}$			2.0	mA
$I_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , QUAD I, II, III		10.9	25	mA
$I_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , QUAD IV		55.2	75	mA
$I_H$	$I_T=100\text{mA}$		9.8	25	mA
$V_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , QUAD I, II, III		0.97	1.50	V
$V_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , QUAD IV		1.51	2.50	V
$V_{TM}$	$I_{TM}=22.5\text{A}$ , $t_p=380\mu\text{s}$		1.35	1.60	V
$dv/dt$	$V_D=2/3 V_{DRM}$ , $R_{GK}=\infty$ , $T_C=125^\circ\text{C}$	10			$\text{V}/\mu\text{s}$

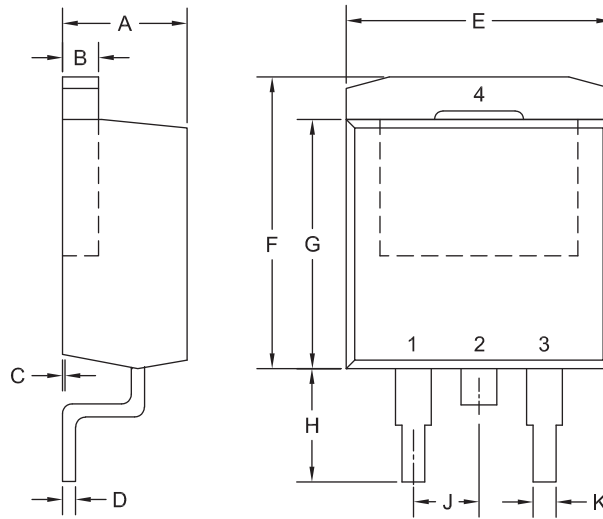
R3 (11-January 2018)

CQDD-16M  
CQDD-16N

SURFACE MOUNT  
16 AMP SILICON TRIACS  
600 THRU 800 VOLT



D<sup>2</sup>PAK CASE - MECHANICAL OUTLINE



R3

**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.163	0.189	4.14	4.80
B	0.045	0.055	1.14	1.40
C	0.000	0.010	0.00	0.25
D	0.012	0.028	0.30	0.70
E	0.386	0.415	9.80	10.55
F	0.378	0.417	9.60	10.60
G	0.335	0.358	8.50	9.10
H	0.188	0.236	4.78	6.00
J	0.093	0.108	2.35	2.75
K	0.030	0.035	0.75	0.90

D2PAK (REV: R3)

R3 (11-January 2018)

## 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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