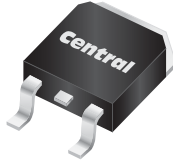


CQDD-12M
CQDD-12N

**SURFACE MOUNT
12 AMP SILICON TRIACS
600 THRU 800 VOLT**



D²PAK CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQDD-12M 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	CQDD-12M	CQDD-12N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	600	800	V
RMS On-State Current ($T_C=90^\circ\text{C}$)	$I_{\text{T(RMS)}}$		12	A
Peak One Cycle Surge, $t=8.3\text{ms}$	I_{TSM}		80	A
I^2t Value for Fusing, $t=8.3\text{ms}$	I^2t		27	A^2s
Peak Gate Power, $t_p=10\mu\text{s}$	P_{GM}		40	W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$		1.0	W
Peak Gate Current, $t_p=10\mu\text{s}$	I_{GM}		4.0	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	θ_{JA}		60	$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JC}		2.7	$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM}			10	μA
I_{DRM}	Rated V_{DRM} , $T_C=125^\circ\text{C}$			500	μA
I_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD I, II, III		9.9	20	mA
I_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD IV		24.3	50	mA
I_{H}	$I_T=100\text{mA}$		14.1	25	mA
V_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD I, II, III		1.10	1.50	V
V_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD IV		2.10	2.50	V
V_{TM}	$I_{\text{TM}}=17\text{A}$, $t_p=380\mu\text{s}$		1.33	1.50	V
dv/dt	$V_D=2/3 V_{\text{DRM}}$, $R_{\text{GK}}=\infty$, $T_C=125^\circ\text{C}$	10			$\text{V}/\mu\text{s}$

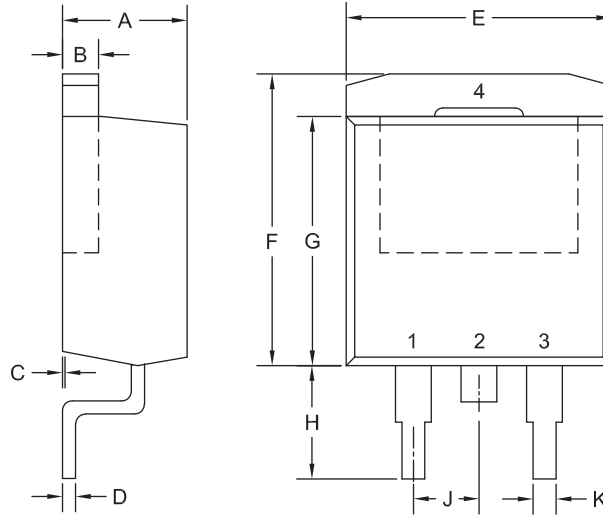
R3 (11-January 2018)

CQDD-12M
CQDD-12N

SURFACE MOUNT
12 AMP SILICON TRIACS
600 THRU 800 VOLT



D²PAK 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



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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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