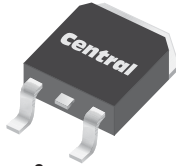


CQDD-12M
CQDD-12N

**SURFACE MOUNT
12 AMP SILICON TRIAC
600 THRU 800 VOLTS**



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 ($T_C=90^\circ\text{C}$)	$I_T(\text{RMS})$		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	$P_{G(AV)}$		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)

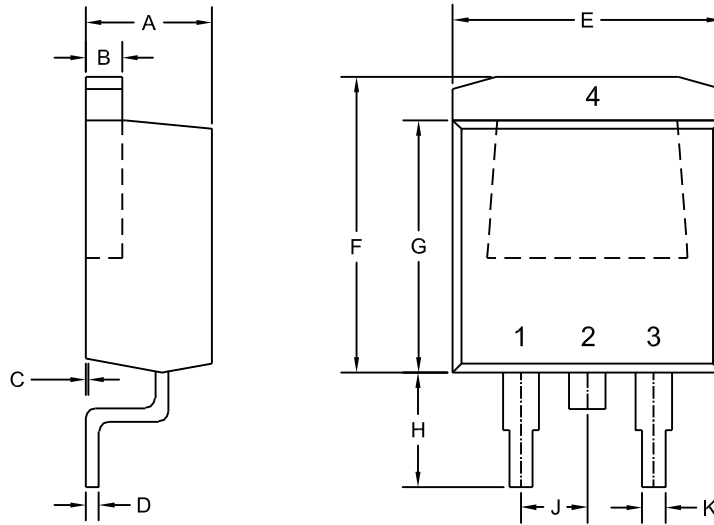
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM}			10	μA
I_{DRM}	Rated V_{DRM} , $T_C=125^\circ\text{C}$			500	μA
I_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD I, II, III		9.9	20	mA
I_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD IV		24.3	50	mA
I_H	$I_T=100\text{mA}$		14.1	25	mA
V_{GT}	$V_D=12\text{V}$,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

CQDD-12M
CQDD-12N

SURFACE MOUNT
12 AMP SILICON TRIAC
600 THRU 800 VOLTS



D²PAK CASE - MECHANICAL OUTLINE



R2

LEAD CODE:

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

MARKING:

FULL PART NUMBER

DIMENSIONS				
SYMBOL	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	0.409	9.80	10.40
F	0.378	0.417	9.60	10.60
G	0.335	0.358	8.50	9.10
H	0.197	0.236	5.00	6.00
J	0.093	0.108	2.35	2.75
K	0.030	0.035	0.75	0.90

D2PAK (REV: R2)

R2 (12-February 2010)