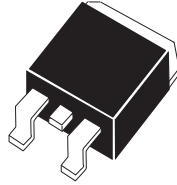


**CQDD-12M
CQDD-12N**

**12 AMP TRIAC
600 THRU 800 VOLTS**



D²PAK CASE

CentralTM

Semiconductor Corp.

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 CODE: FULL PART NUMBER

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

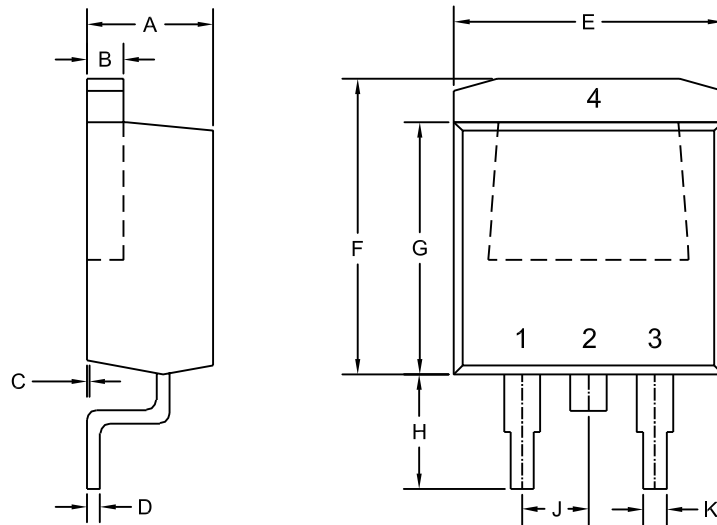
	SYMBOL	CQDD -12M	CQDD -12N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	600	800	V
RMS On-State Current ($T_C=90^{\circ}\text{C}$)	$I_{\text{T(RMS)}}$	12		A
Peak One Cycle Surge ($t=8.3\text{ms}$)	I_{TSM}	80		A
I^2t Value for Fusing ($t=8.3\text{ms}$)	I^2t	27		A^2s
Peak Gate Power ($t_p=10\mu\text{s}$)	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		$\text{A}/\mu\text{s}$
Storage Temperature	T_{stg}	-40 to +150		$^{\circ}\text{C}$
Junction Temperature	T_{J}	-40 to +125		$^{\circ}\text{C}$
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}	$V_{\text{D}}=12\text{V}$, $R_{\text{L}}=10\Omega$, QUAD I, II, III		9.9	20	mA
I_{GT}	$V_{\text{D}}=12\text{V}$, $R_{\text{L}}=10\Omega$, QUAD IV		24.3	50	mA
I_{H}	$I_{\text{T}}=100\text{mA}$		14.1	25	mA
V_{GT}	$V_{\text{D}}=12\text{V}$, $R_{\text{L}}=10\Omega$, QUAD I, II, III		1.10	1.50	V
V_{GT}	$V_{\text{D}}=12\text{V}$, $R_{\text{L}}=10\Omega$, 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	$V_{\text{D}}=2/3 V_{\text{DRM}}$, $R_{\text{GK}}=\infty$, $T_C=125^{\circ}\text{C}$	10			$\text{V}/\mu\text{s}$

R1 (24-September 2004)

D²PAK CASE - MECHANICAL OUTLINE



R2

LEAD CODE:

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

MARKING CODE:

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)

R1 (24-September 2004)