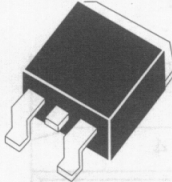


CQDD-12M  
CQDD-12N

12 AMP TRIAC  
600 THRU 800 VOLTS



D<sup>2</sup>PAK CASE

**Central**<sup>TM</sup>  
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 ( $T_C=90^\circ\text{C}$ )	$I_T(\text{RMS})$		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 <sup>2</sup> 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 ( $t_p=10\mu\text{s}$ )	$I_{GM}$		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	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	$\Theta_{JA}$		60	$^\circ\text{C/W}$
Thermal Resistance	$\Theta_{JC}$		2.7	$^\circ\text{C/W}$

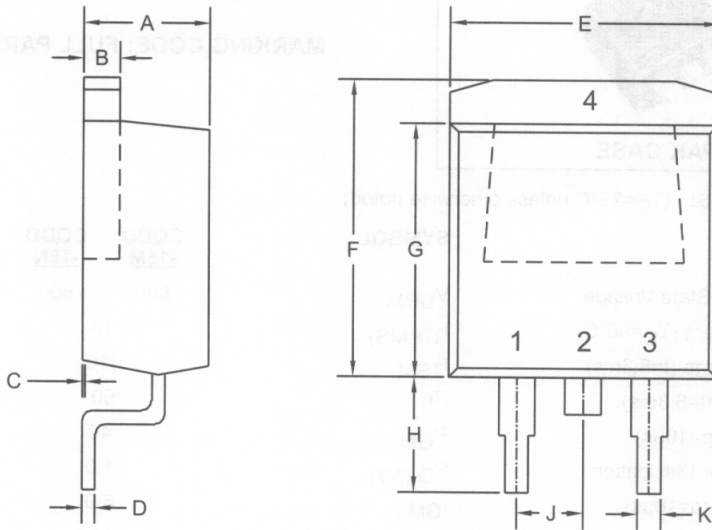
**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}$	Rated $V_{DRM}$			10	$\mu\text{A}$
$I_{DRM}$	Rated $V_{DRM}$ , $T_C=125^\circ\text{C}$			500	$\mu\text{A}$
$I_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , 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			V/ $\mu\text{s}$

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

**12 AMP TRIAC  
600 THRU 800 VOLTS**

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



R2

**DATA  
SHEETS**

**LEAD CODE:**

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

**MARKING CODE:  
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	0.409	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)