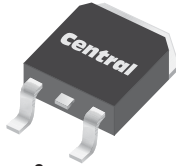


CQDD-16M  
CQDD-16N

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



**D<sup>2</sup>PAK CASE**



[www.centralemi.com](http://www.centralemi.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	$V_{\text{DRM}}$	600	800	V
RMS On-State Current ( $T_C=90^\circ\text{C}$ )	$I_{\text{T(RMS)}}$	16		A
Peak One Cycle Surge, $t=8.3\text{ms}$	$I_{\text{TSM}}$	110		A
$I^2t$ Value for Fusing, $t=8.3\text{ms}$	$I^2t$	50		A <sup>2</sup> s
Peak Gate Power, $t_p=10\mu\text{s}$	$P_{\text{GM}}$	40		W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$	1.0		W
Peak Gate Current, $t_p=10\mu\text{s}$	$I_{\text{GM}}$	6.0		A
Peak Gate Voltage, $t_p=10\mu\text{s}$	$V_{\text{GM}}$	16		V
Critical Rate of Rise of On-State Current Repetitive, $f=60\text{Hz}$	$di/dt$	10		A/ $\mu\text{s}$
Operating Junction Temperature	$T_{\text{J}}$	-40 to +125		$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-40 to +150		$^\circ\text{C}$
Thermal Resistance	$\theta_{\text{JA}}$	60		$^\circ\text{C/W}$
Thermal Resistance	$\theta_{\text{JC}}$	2.3		$^\circ\text{C/W}$

**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>
$I_{\text{DRM}}$	Rated $V_{\text{DRM}}$			10	$\mu\text{A}$
$I_{\text{DRM}}$	Rated $V_{\text{DRM}}$ , $T_C=125^\circ\text{C}$			2.0	mA
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V}$ , $R_{\text{L}}=10\Omega$ , QUAD I, II, III		10.9	25	mA
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V}$ , $R_{\text{L}}=10\Omega$ , QUAD IV		55.2	75	mA
$I_{\text{H}}$	$I_{\text{T}}=100\text{mA}$		9.8	25	mA
$V_{\text{GT}}$	$V_{\text{D}}=12\text{V}$ , $R_{\text{L}}=10\Omega$ , QUAD I, II, III		0.97	1.50	V
$V_{\text{GT}}$	$V_{\text{D}}=12\text{V}$ , $R_{\text{L}}=10\Omega$ , QUAD IV		1.51	2.50	V
$V_{\text{TM}}$	$I_{\text{TM}}=22.5\text{A}$ , $t_p=380\mu\text{s}$		1.35	1.60	V
$dv/dt$	$V_{\text{D}}=2/3 V_{\text{DRM}}$ , $R_{\text{GK}}=\infty$ , $T_C=125^\circ\text{C}$	10			V/ $\mu\text{s}$

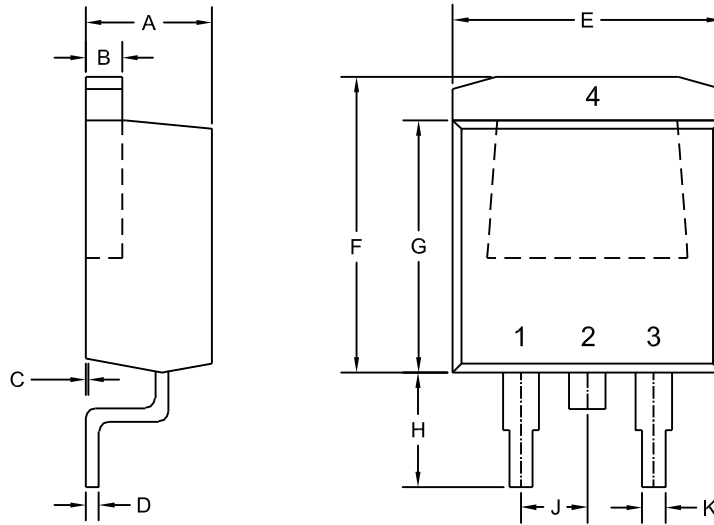
R2 (12-February 2010)

CQDD-16M  
CQDD-16N

SURFACE MOUNT  
16 AMP SILICON TRIAC  
600 THRU 800 VOLTS



D<sup>2</sup>PAK 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)