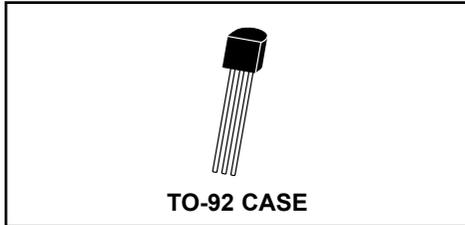


**CQ92-2M  
CQ92-2N\***

**TRIAC  
2.0 AMP, 600 THRU 800 VOLTS**



# Central<sup>TM</sup>

## Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CQ92-2M and CQ92-2N are epoxy molded silicon Triacs 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)

	<u>SYMBOL</u>	<u>CQ92-2M</u>	<u>CQ92-2N*</u>	<u>UNITS</u>
Peak Repetitive Off-State Voltage	$V_{DRM}$	600	800	V
RMS On-State Current ( $T_C=50^\circ\text{C}$ )	$I_T(\text{RMS})$	2.0		A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{TSM}$	20		A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$	2.0		$\text{A}^2\text{s}$
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{GM}$	3.0		W
Average Gate Power Dissipation	$P_G(\text{AV})$	0.2		W
Peak Gate Current ( $t_p=10\mu\text{s}$ )	$I_{GM}$	1.2		A
Peak Gate Voltage ( $t_p=10\mu\text{s}$ )	$V_{GM}$	8.0		V
Storage Temperature	$T_{stg}$	-40 to +150		$^\circ\text{C}$
Junction Temperature	$T_J$	-40 to +125		$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	180		$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{JC}$	90		$^\circ\text{C}/\text{W}$

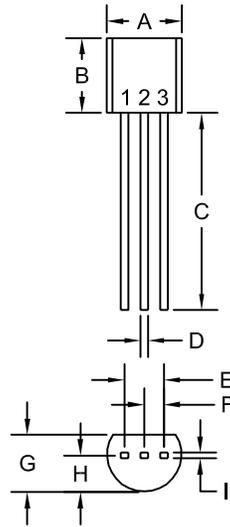
**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
$I_{DRM}$	Rated $V_{DRM}$ , $R_{GK}=1\text{K}\Omega$			5.0	$\mu\text{A}$
$I_{DRM}$	Rated $V_{DRM}$ , $R_{GK}=1\text{K}\Omega$ , $T_C=125^\circ\text{C}$			200	$\mu\text{A}$
$I_{GT}$	$V_D=12\text{V}$ , QUAD I, II, III		1.4	5.0	mA
$I_{GT}$	$V_D=12\text{V}$ , QUAD IV		3.8	8.0	mA
$I_H$	$I_T=100\text{mA}$ , $R_{GK}=1\text{K}\Omega$		1.2	5.0	mA
$V_{GT}$	$V_D=12\text{V}$ , QUAD I, II, III, IV		1.1	1.8	V
$V_{TM}$	$I_{TM}=2.0\text{A}$ , $t_p=380\mu\text{s}$		1.50	1.75	V
$V_{TM}$	$I_{TM}=3.0\text{A}$ , $t_p=380\mu\text{s}$		1.7	2.0	V
dv/dt	$V_D=2/3 V_{DRM}$ , $T_C=125^\circ\text{C}$	2.5			$\text{V}/\mu\text{s}$

\* Available on request. Please consult factory.

R0 (22-April 2004)

TO-92 CASE - MECHANICAL OUTLINE



R1

**LEAD CODE:**

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

**MARKING CODE:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

R0 (22-April 2004)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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**Worldwide Distributors:**  
[www.centalsemi.com/wwdistributors](http://www.centalsemi.com/wwdistributors)

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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centalsemi.com/terms](http://www.centalsemi.com/terms)

Summary: The CQ92 series of TRIACS in the TO-92 case is discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

<b>Central Part Number</b>	<b>Replacement</b>
CQ92-2M	N/A
CQ92-2N	N/A
CQ92B	N/A
CQ92BT	N/A
CQ92D	N/A
CQ92D APM	N/A
CQ92DT	N/A
CQ92M	N/A
CQ92MT	N/A
CQ92N	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).