

CQ92B  
CQ92D  
CQ92M  
CQ92N

TRIAC  
1.0 AMP, 200 THRU 800 VOLTS



TO-92 CASE

# Central<sup>TM</sup>

Semiconductor Corp.

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ92B Series 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)

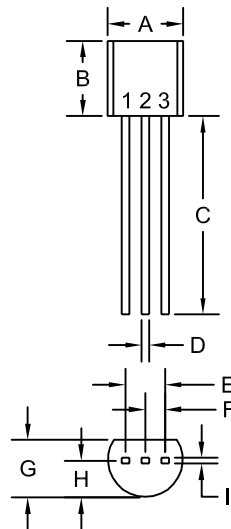
	SYMBOL	CQ92B	CQ92D	CQ92M	CQ92N	UNITS
Peak Repetitive Off-State Voltage	$V_{\text{DRM}}$	200	400	600	800	V
RMS On-State Current ( $T_C=50^{\circ}\text{C}$ )	$I_{\text{T(RMS)}}$		1.0			A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{\text{TSM}}$		20			A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$		2.0			$\text{A}^2\text{s}$
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{\text{GM}}$		3.0			W
Average Gate Power Dissipation	$P_{\text{G (AV)}}$		0.2			W
Peak Gate Current ( $t_p=10\mu\text{s}$ )	$I_{\text{GM}}$		1.2			A
Peak Gate Voltage ( $t_p=10\mu\text{s}$ )	$V_{\text{GM}}$		8.0			V
Storage Temperature	$T_{\text{stg}}$		-40 to +150			$^{\circ}\text{C}$
Junction Temperature	$T_{\text{J}}$		-40 to +125			$^{\circ}\text{C}$
Thermal Resistance	$\theta_{\text{JA}}$		180			$^{\circ}\text{C/W}$
Thermal Resistance	$\theta_{\text{JC}}$		90			$^{\circ}\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{\text{DRM}}$	Rated $V_{\text{DRM}}$ , $R_{\text{GK}}=1\text{K}\Omega$		5.0	$\mu\text{A}$
$I_{\text{DRM}}$	Rated $V_{\text{DRM}}$ , $R_{\text{GK}}=1\text{K}\Omega$ , $T_C=125^{\circ}\text{C}$		200	$\mu\text{A}$
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V}$ , QUAD I, II, III, IV		5.0	mA
$I_{\text{H}}$	$I_{\text{T}}=100\text{mA}$ , $R_{\text{GK}}=1\text{K}\Omega$		5.0	mA
$V_{\text{GT}}$	$V_{\text{D}}=12\text{V}$ , QUAD I, II, III, IV		2.0	V
$V_{\text{TM}}$	$I_{\text{TM}}=1.2\text{A}$ , $t_p=380\mu\text{s}$		1.26	V
dv/dt	$V_{\text{D}}=2/3 V_{\text{DRM}}$ , $T_C=125^{\circ}\text{C}$	30		V/ $\mu\text{s}$

R1 (03-June 2004)

TO-92 CASE - MECHANICAL OUTLINE



R1

**LEAD CODE:**

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

**MARKING CODE:**

**FULL PART NUMBER**

DIMENSIONS				
SYMBOL	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)

R1 (03-June 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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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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



<http://www.centrasemi.com>

## Product End of Life Notification

<b>PDN ID:</b>	PDN01053
<b>Notification Date:</b>	8/24/16
<b>Last Buy Date:</b>	2/24/17
<b>Last Shipment Date</b>	8/24/17

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).

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.