

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

CQ89B  
CQ89D  
CQ89M  
CQ89N

SURFACE MOUNT  
2.0 AMP TRIAC  
200 THRU 800 VOLTS

SOT-89 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR CQ89B series types are epoxy molded silicon triacs designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

## MAXIMUM RATINGS ( $T_C = 25^\circ\text{C}$ )

	<u>SYMBOL</u>	<u>CQ89B</u>	<u>CQ89D</u>	<u>CQ89M</u>	<u>CQ89N</u>	<u>UNITS</u>
Peak Repetitive Off-State Voltage	$V_{DRM}$	200	400	600	800	V
RMS On-State Current ( $T_C = 80^\circ\text{C}$ )	$I_T(\text{RMS})$		2.0			A
Peak One Cycle Surge (10ms)	$I_{TSM}$		10			A
Peak Gate Current	$I_{GM}$		1.0			A
Average Gate Power Dissipation	$P_{G(AV)}$		0.1			W
Storage Temperature	$T_{stg}$		-45 to +150			$^\circ\text{C}$
Junction Temperature	$T_J$		-45 to +125			$^\circ\text{C}$
Thermal Resistance	$\theta_{J-C}$		10			$^\circ\text{C/W}$

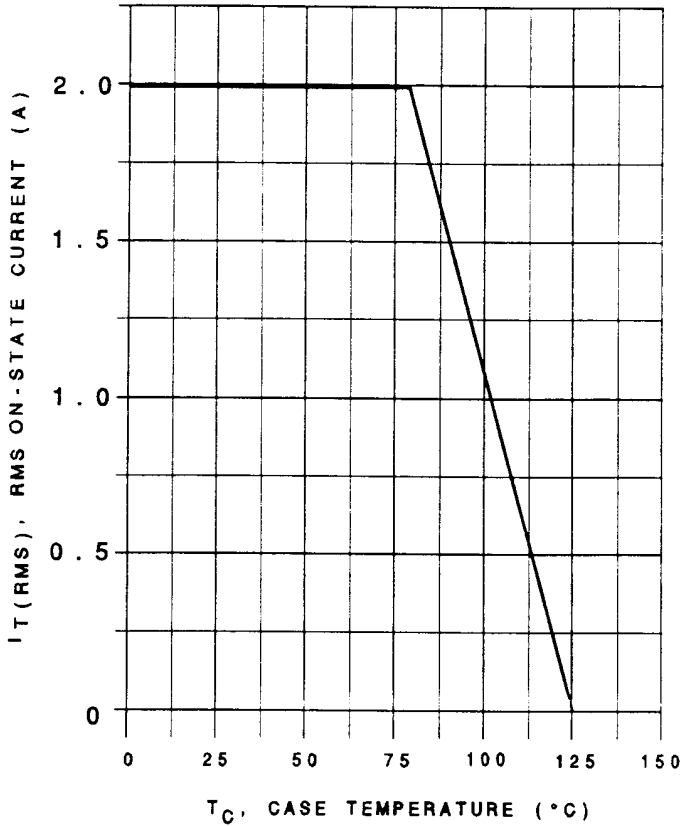
## ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
$I_{DRM}$	$V_D = \text{Rated } V_{DRM}$			5.00	$\mu\text{A}$
$I_{DRM}$	$V_D = \text{Rated } V_{DRM}, T_C = 125^\circ\text{C}$			200	$\mu\text{A}$
$I_{GT}$	$V_D = 12\text{V}, \text{QUAD I, II, III, IV}$			25	mA
$I_H$	$V_D = 12\text{V}$			25	mA
$V_{GT}$	$V_D = 12\text{V}$			2.00	V
$V_{TM}$	$I_T = 3.0\text{A}$			1.75	V
dv/dt	$V_D = \frac{2}{3}V_{DRM}, T_C = 125^\circ\text{C}$	100			V/ $\mu\text{s}$

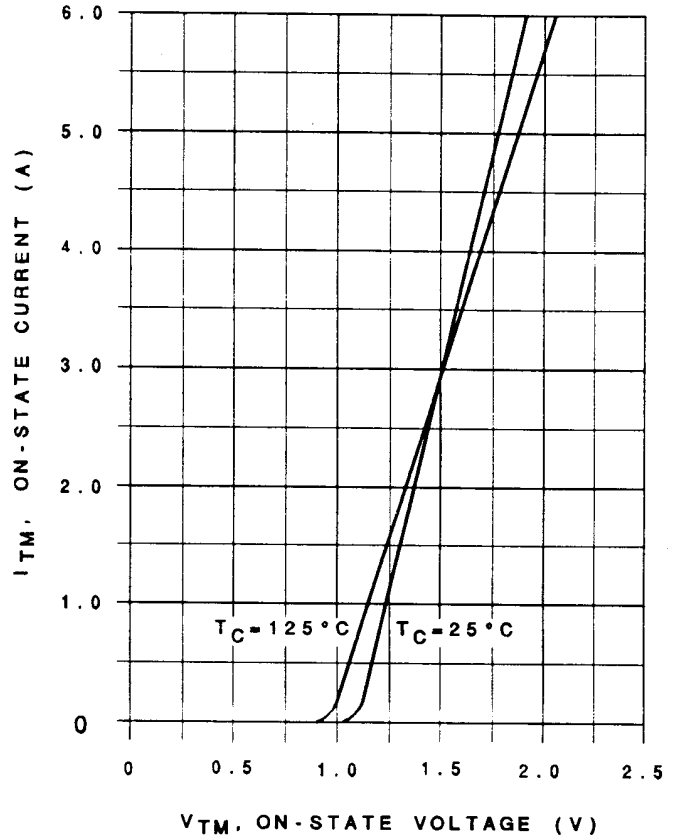
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# CQ89B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE



MAXIMUM ON-STATE CHARACTERISTICS



## MECHANICAL OUTLINE

