

PRELIMINARY

CQ89D  
CQ89M  
CQ89N

1.0 AMP TRIAC  
400 THRU 800 VOLTS



SOT-89 CASE

# Central<sup>TM</sup>

Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CQ89D series types 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:** ( $T_C=25^\circ\text{C}$ )

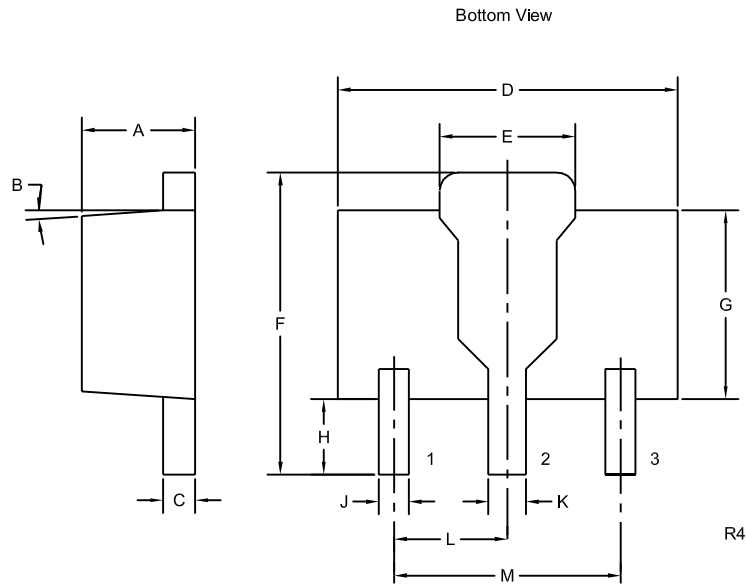
	SYMBOL	CQ89D	CQ89M	CQ89N	UNITS
Peak Repetitive Off-State Voltage	$V_{DRM}$	400	600	800	V
RMS On-State Current ( $T_C=80^\circ\text{C}$ )	$I_T$ (RMS)		1.0		A
Peak One Cycle Surge ( $t_p=10$ ms)	$I_{TSM}$		10		A
Peak Gate Current	$I_{GM}$		1.0		A
Average Gate Power Dissipation	$P_G$ (AV)		0.1		W
Storage Temperature	$T_{stg}$		-40 to +150		$^\circ\text{C}$
Junction Temperature	$T_J$		-40 to +125		$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$		10		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}$	$V_D=$ Rated $V_{DRM}$			10	$\mu\text{A}$
$I_{DRM}$	$V_D=$ Rated $V_{DRM}$ , $T_C=125^\circ\text{C}$			200	$\mu\text{A}$
$I_{GT}$	$V_D=12\text{V}$ , QUAD I, II, III, IV			10	mA
$I_H$	$V_D=12\text{V}$			10	mA
$V_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , QUAD I, II, III			2.0	V
$V_{GT}$	$V_D=12\text{V}$ , $R_L=10\Omega$ , QUAD IV			2.5	V
$V_{TM}$	$I_T=1.0\text{A}$			2.0	V
dv/dt	$V_D=2/3 V_{DRM}$ , $T_C=125^\circ\text{C}$	5.0			V/ $\mu\text{s}$

R4 (10-June 2004)

SOT-89 CASE - MECHANICAL OUTLINE



**LEAD CODE:**

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

**MARKING CODE:**

**FULL PART NUMBER**

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

R4 (10-June 2004)