

CQ89-2M  
CQ89-2N

2.0 AMP TRIAC  
600 THRU 800 VOLTS



SOT-89 CASE

# Central<sup>TM</sup>

Semiconductor Corp.

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ89-2M series type is an Epoxy Molded Silicon Triac 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)

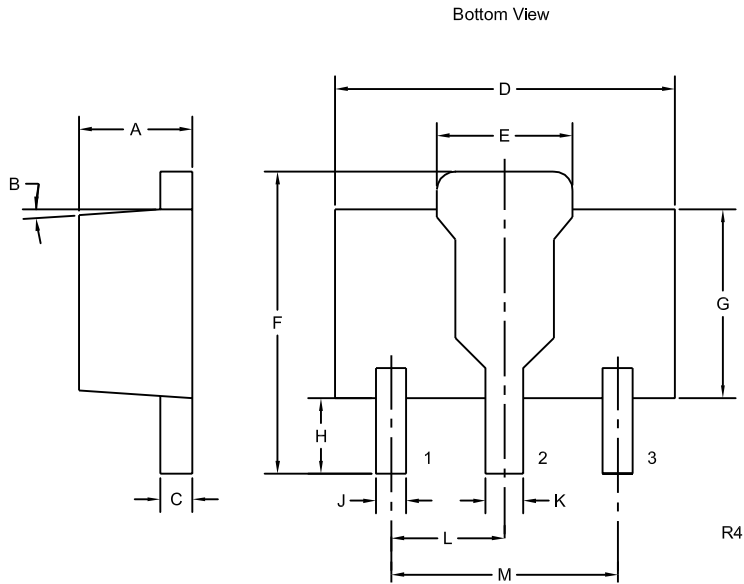
	SYMBOL	CQ89 -2M	CQ89 -2N	UNITS
Peak Repetitive Off-State Voltage	$V_{DRM}$	600	800	V
RMS On-State Current ( $T_C=50^\circ\text{C}$ )	$I_T(\text{RMS})$		2.0	A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{TSM}$		20	A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$		2.0	A <sup>2</sup> s
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{GM}$		3.0	W
Average Gate Power Dissipation	$P_{G(AV)}$		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	$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JC}$		90	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}$	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		1.35	5.00	mA
$I_{GT}$	$V_D=12\text{V}$ , QUAD IV		3.75	8.00	mA
$I_H$	$R_{GK}=1\text{K}\Omega$		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			V/ $\mu\text{s}$

R0 (10-May 2004)

SOT-89 CASE - MECHANICAL OUTLINE



**LEAD CODE:**

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

**MARKING CODE:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	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)