

**CS89M  
CS89N**

**0.8 AMP SCR  
600 THRU 800 VOLTS**



**SOT-89 CASE**

# Central<sup>TM</sup>

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CS89M series type is an Epoxy Molded Silicon Controlled Rectifier designed for sensing circuit applications and control systems.

**MARKING CODE: FULL PART NUMBER**

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

	<b>SYMBOL</b>	<b>CS89M</b>	<b>CS89N</b>	<b>UNITS</b>
Peak Repetitive Off-State Voltage	$V_{DRM}, V_{RRM}$	600	800	V
RMS On-State Current ( $T_C=60^\circ\text{C}$ )	$I_T(\text{RMS})$		0.8	A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{TSM}$		10	A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$		0.24	$\text{A}^2\text{s}$
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{GM}$		2.0	W
Average Gate Power Dissipation	$P_{G(AV)}$		0.1	W
Peak Gate Current ( $t_p=10\mu\text{s}$ )	$I_{GM}$		1.0	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	$\theta_{JA}$		104	$^\circ\text{C/W}$

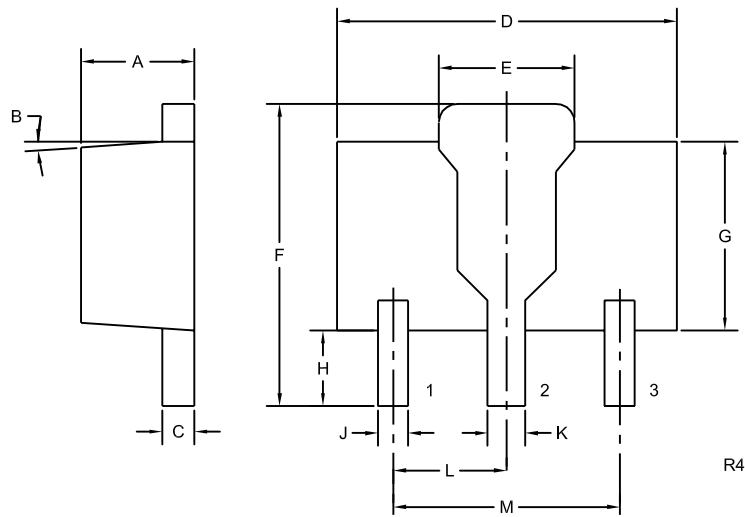
**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1\text{K}\Omega$			1.0	$\mu\text{A}$
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1\text{K}\Omega, T_C=125^\circ\text{C}$			100	$\mu\text{A}$
$I_{GT}$	$V_D=12\text{V}$		20	200	$\mu\text{A}$
$I_H$	$R_{GK}=1\text{K}\Omega$		0.25	5.0	mA
$V_{GT}$	$V_D=12\text{V}$		0.61	0.8	V
$V_{TM}$	$I_{TM}=1.0\text{A}, t_p=380\mu\text{s}$		1.2	1.7	V
dv/dt	$V_D=2/3 V_{DRM}, R_{GK}=1\text{K}\Omega, T_C=125^\circ\text{C}$	25			$\text{V}/\mu\text{s}$

R0 (10-May 2004)

SOT-89 CASE - MECHANICAL OUTLINE

Bottom View



**LEAD CODE:**

- 1) GATE
- 2) ANODE
- 3) CATHODE

**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)