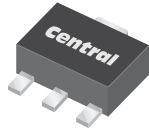


CS89M  
CS89N

SURFACE MOUNT  
0.8 AMP SILICON SCR  
600 THRU 800 VOLTS



SOT-89 CASE



[www.centralemi.com](http://www.centralemi.com)

#### DESCRIPTION:

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

#### MARKING: FULL PART NUMBER

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

	SYMBOL	CS89M	CS89N	UNITS
Peak Repetitive Off-State Voltage	$V_{\text{DRM}}, V_{\text{RRM}}$	600	800	V
RMS On-State Current ( $T_C=60^\circ\text{C}$ )	$I_{\text{T(RMS)}}$	0.8		A
Peak One Cycle Surge, $t=10\text{ms}$	$I_{\text{TSM}}$	10		A
$I^2t$ Value for Fusing, $t=10\text{ms}$	$I^2t$	0.24		$\text{A}^2\text{s}$
Peak Gate Power, $t_p=10\mu\text{s}$	$P_{\text{GM}}$	2.0		W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$	0.1		W
Peak Gate Current, $t_p=10\mu\text{s}$	$I_{\text{GM}}$	1.0		A
Peak Gate Voltage, $t_p=10\mu\text{s}$	$V_{\text{GM}}$	8.0		V
Operating Junction Temperature	$T_{\text{J}}$	-40 to +125		$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-40 to +150		$^\circ\text{C}$
Thermal Resistance	$\Theta_{\text{JA}}$	104		$^\circ\text{C/W}$

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

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

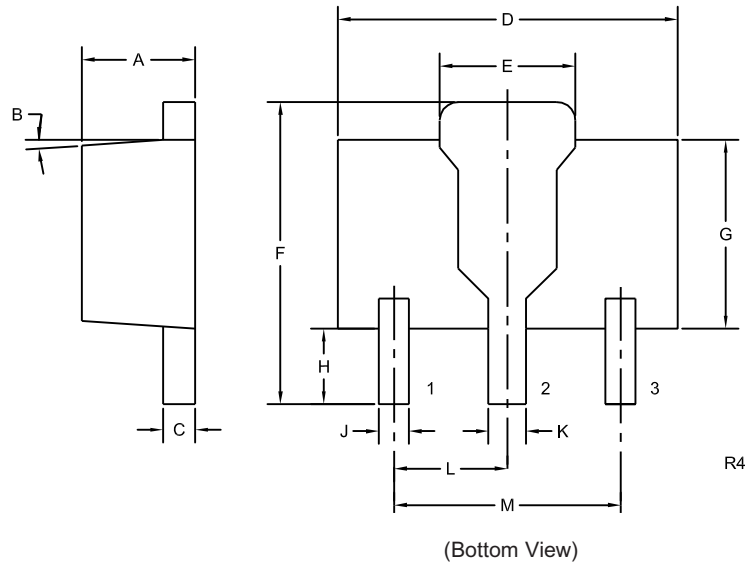
R1 (12-February 2010)

CS89M  
CS89N

SURFACE MOUNT  
0.8 AMP SILICON SCR  
600 THRU 800 VOLTS



SOT-89 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Gate
- 2) Anode
- 3) Cathode

MARKING:

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)

R1 (12-February 2010)

## 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

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**Worldwide Distributors:**  
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