

CS223-2M  
CS223-2N

**SURFACE MOUNT  
SILICON CONTROLLED RECTIFIERS  
2 AMPS, 600 THRU 800 VOLTS**



**SOT-223 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CS223-2M and CS223-2N are epoxy molded SCRs designed for sensing circuit applications and control systems.

**MARKING: FULL PART NUMBER**

<b>MAXIMUM RATINGS:</b> ( $T_C=25^\circ\text{C}$ unless otherwise noted)		<b>SYMBOL</b>	<b>CS223-2M</b>	<b>CS223-2N</b>	<b>UNITS</b>
Peak Repetitive Off-State Voltage		$V_{DRM}, V_{RRM}$	600	800	V
RMS On-State Current ( $T_C=60^\circ\text{C}$ )		$I_T(\text{RMS})$	2.0		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
Operating Junction Temperature		$T_J$	-50 to +125		$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-50 to +150		$^\circ\text{C}$
Thermal Resistance		$\theta_{JA}$	62.5		$^\circ\text{C/W}$

<b>ELECTRICAL CHARACTERISTICS:</b> ( $T_C=25^\circ\text{C}$ unless otherwise noted)		<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
<b>SYMBOL</b>	<b>TEST CONDITIONS</b>				
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1\text{K}\Omega$			10	$\mu\text{A}$
$I_{DRM}, I_{RRM}$	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	$\mu\text{A}$
$I_H$	$R_{GK}=1\text{K}\Omega$			2.0	mA
$V_{GT}$	$V_D=12\text{V}$			0.8	V
$V_{TM}$	$I_{TM}=4.0\text{A}, t_p=380\mu\text{s}$		1.4	1.7	V
dv/dt	$V_D=2/3 V_{DRM}, R_{GK}=1\text{K}\Omega, T_C=125^\circ\text{C}$	10			$\text{V}/\mu\text{s}$

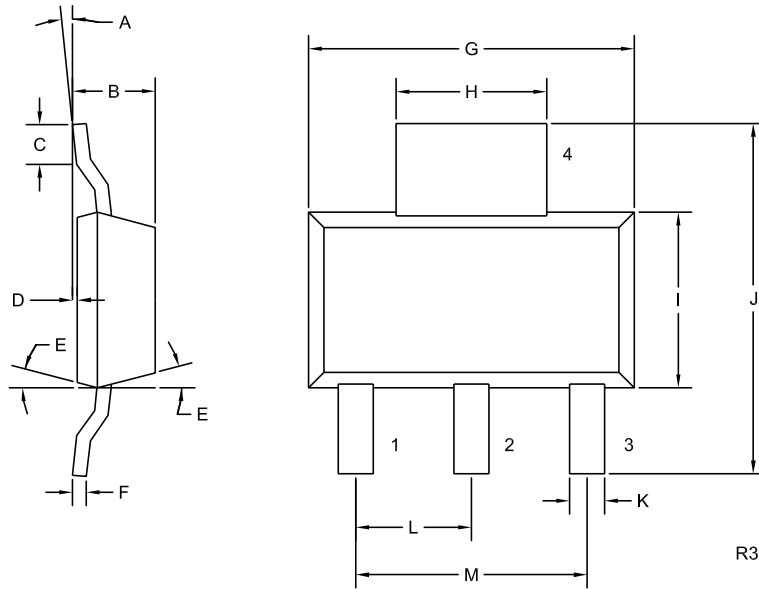
R2 (21-January 2013)

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**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:  
FULL PART NUMBER**

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	—	0.45	—
D	0.000	0.004	0.00	0.10
E	15°		15°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.70
J	0.264	0.287	6.70	7.30
K	0.024	0.033	0.60	0.85
L	0.091		2.30	
M	0.181		4.60	

SOT-223 (REV: R3)

R2 (21-January 2013)