

CQ223-4M
CQ223-4N

**SURFACE MOUNT
4 AMP SILICON TRIAC
600 THRU 800 VOLTS**



SOT-223 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ223-4M series type is an Epoxy Molded Silicon Triac designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)	SYMBOL	CQ223-4M	CQ223-4N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	600	800	V
RMS On-State Current ($T_C=80^\circ\text{C}$)	$I_{T(RMS)}$	4.0		A
Peak Non-Repetitive Surge Current, $t=8.3\text{ms}$	I_{TSM}	40		A
Peak Non-Repetitive Surge Current, $t=10\text{ms}$	I_{TSM}	35		A
I^2t Value for Fusing, $t=10\text{ms}$	I^2t	6.0		A^2s
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
Operating Junction Temperature	T_J	-40 to +125		$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JA}	62.5		$^\circ\text{C/W}$

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

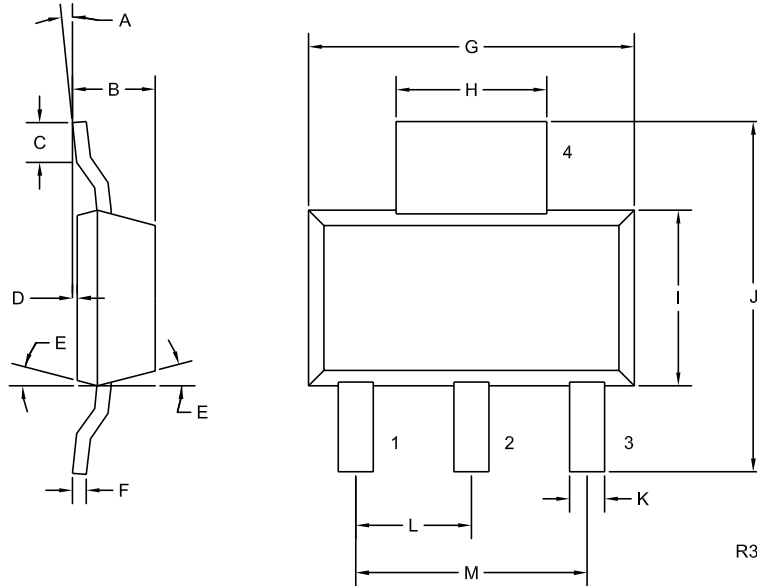
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM} , $R_{GK}=1\text{K}\Omega$			10	μA
I_{DRM}	Rated V_{DRM} , $R_{GK}=1\text{K}\Omega$, $T_C=125^\circ\text{C}$			200	μA
I_{GT}	$V_D=12\text{V}$, QUAD I, II, III		2.5	5.0	mA
I_{GT}	$V_D=12\text{V}$, QUAD IV		5.4	9.0	mA
I_H	$R_{GK}=1\text{K}\Omega$		1.6	5.0	mA
V_{GT}	$V_D=12\text{V}$, QUAD I, II, III, IV		0.95	1.75	V
V_{TM}	$I_{TM}=6.0\text{A}$, $t_p=380\mu\text{s}$		1.25	1.75	V
dv/dt	$V_D=2/3 V_{DRM}$, $T_C=125^\circ\text{C}$	11			$\text{V}/\mu\text{s}$

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SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) MT1
- 2) MT2
- 3) Gate
- 4) MT2

**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 (12-February 2010)