

CQ223-2M
CQ223-2N

SURFACE MOUNT SILICON
TRIACS
2.0 AMP, 600 THRU 800 VOLT



SOT-223 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ223-2M and CQ223-2N are epoxy molded silicon TRIACs 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	CQ223-2M	CQ223-2N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	600	800	V
RMS On-State Current ($T_C=80^\circ\text{C}$)	$I_{\text{T(RMS)}}$		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		0.5	A^2s
Peak Gate Power, $t_p=10\mu\text{s}$	P_{GM}		3.0	W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$		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} , $R_{\text{GK}}=1\text{K}\Omega$			5.0	μA
I_{DRM}	Rated V_{DRM} , $R_{\text{GK}}=1\text{K}\Omega$, $T_C=125^\circ\text{C}$			200	μA
I_{GT}	$V_{\text{D}}=12\text{V}$, QUAD I, II, III		1.35	5.00	mA
I_{GT}	$V_{\text{D}}=12\text{V}$, QUAD IV		3.75	8.00	mA
I_{H}	$R_{\text{GK}}=1\text{K}\Omega$		1.2	5.0	mA
V_{GT}	$V_{\text{D}}=12\text{V}$, QUAD I, II, III, IV		1.1	1.8	V
V_{TM}	$I_{\text{TM}}=2.0\text{A}$, $t_p=380\mu\text{s}$		1.50	1.75	V
V_{TM}	$I_{\text{TM}}=3.0\text{A}$, $t_p=380\mu\text{s}$		1.7	2.0	V
dv/dt	$V_{\text{D}}=2/3 V_{\text{DRM}}$, $T_C=125^\circ\text{C}$	2.5			V/ μs

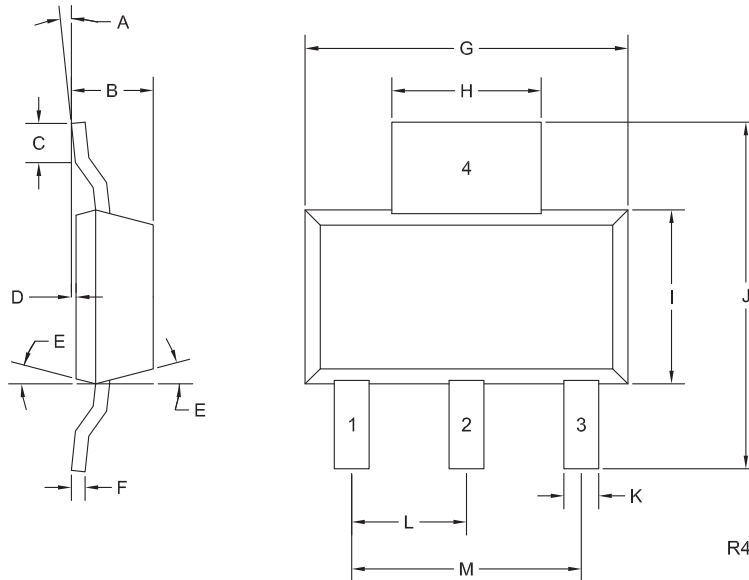
R2 (4-August 2017)

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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	10°		10°	
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: R4)

R2 (4-August 2017)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd 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

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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