

CZT3120

**SURFACE MOUNT SILICON
NPN SWITCHING
POWER TRANSISTOR**

**POWER
223™**



SOT-223 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT3120 NPN switching power transistor, manufactured by the epitaxial planar process, combines both power and high speed switching characteristics in a SOT-223 Surface Mount Package. Typical applications include drivers, DC-DC converters, and general fast switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{CB0}	120
V_{CEO}	70
V_{EBO}	7.0
I_C	3.0
P_D	2.0
T_J, T_{stg}	-65 to +150
Θ_{JA}	62.5

UNITS

V
V
V
A
W
$^\circ\text{C}$
$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=80\text{V}$			1.0	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			1.0	μA
BV_{CBO}	$I_C=50\mu\text{A}$	120	160		V
BV_{CEO}	$I_C=10\text{mA}$	70	90		V
BV_{EBO}	$I_E=50\mu\text{A}$	7.0	15		V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		250	500	mV
$V_{BE(ON)}$	$I_C=2.0\text{A}, V_{CE}=1.0\text{V}$		0.95	1.1	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	100	170		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	100	165	300	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=3.0\text{A}$	40	75		
f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$	8.0			MHz

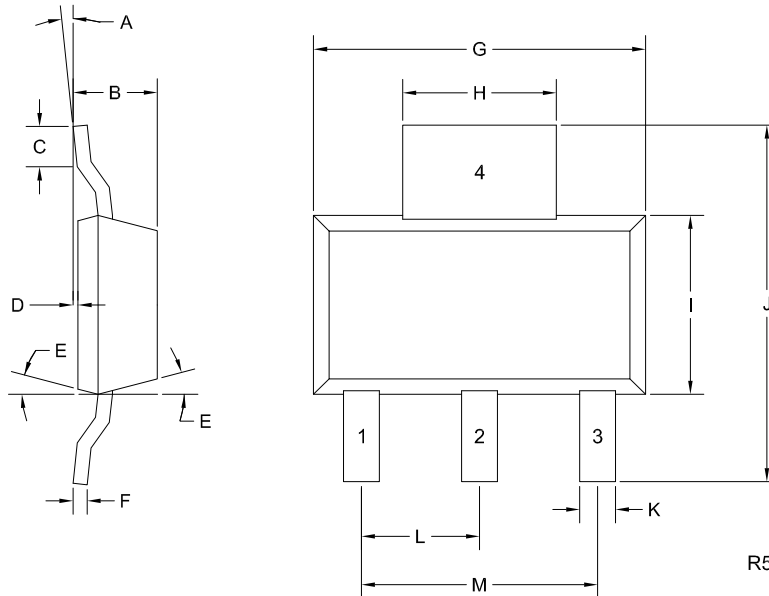
R5 (9-May 2019)

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SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Base
- 2) Collector
- 3) Emitter
- 4) Collector

MARKING:

FULL PART NUMBER

SYMBOL	DIMENSIONS			
	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	0.270	6.30	6.85
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: R5)

R5 (9-May 2019)

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).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

Worldwide Distributors:
www.centalsemi.com/wwdistributors

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