

CZT3019

**SURFACE MOUNT  
NPN SILICON TRANSISTOR**



**SOT-223 CASE**

**Central**  
Semiconductor Corp.

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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current general purpose amplifier 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  
Peak Collector Current  
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

$V_{CB0}$  140  
 $V_{CEO}$  80  
 $V_{EBO}$  7.0  
 $I_C$  1.0  
 $I_{CM}$  1.5  
 $P_D$  2.0  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  62.5

**UNITS**

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

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

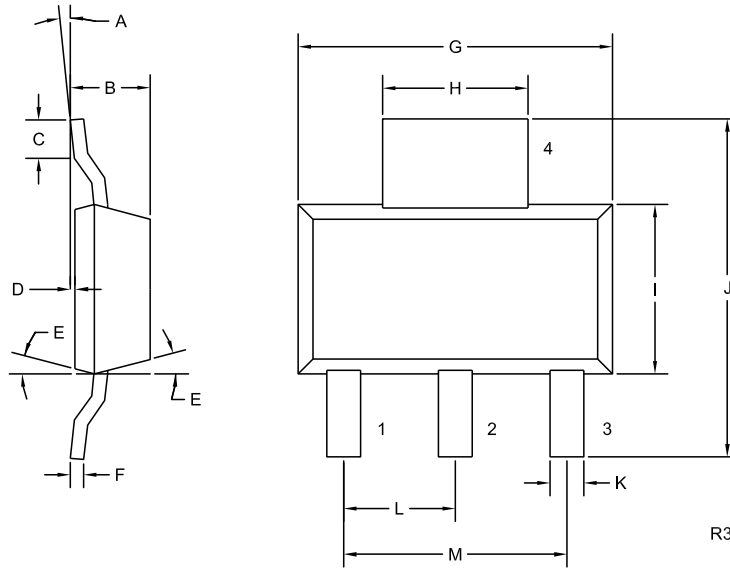
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=90\text{V}$		10	nA
$I_{EBO}$	$V_{EB}=5.0\text{V}$		10	nA
$BV_{CBO}$	$I_C=100\mu\text{A}$	140		V
$BV_{CEO}$	$I_C=30\text{mA}$	80		V
$BV_{EBO}$	$I_E=100\mu\text{A}$	7.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.2	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.1	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	50		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	90		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	50		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	15		
$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=20\text{MHz}$	100	400	MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		12	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		60	pF
NF	$V_{CE}=10\text{V}, I_C=100\mu\text{A},$ $R_S=1.0\text{k}\Omega, f=1.0\text{kHz}$		4.0	dB

R6 (9-November 2010)

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**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:**  
**FULL PART NUMBER**

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)

R6 (9-November 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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### CONTACT US

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