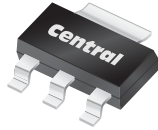


CZT3090LE

**ENHANCED SPECIFICATION  
SURFACE MOUNT SILICON  
LOW  $V_{CE(SAT)}$   
NPN POWER TRANSISTOR**



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SOT-223 CASE

**APPLICATIONS:**

- Power Management / DC-DC Converters
- Portable and Battery Powered Products
- LAN Equipment / Motor Controllers

**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

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
♦ $I_{CBO}$	$V_{CB}=50\text{V}$			50	nA
♦ $I_{EBO}$	$V_{EB}=5.0\text{V}$			50	nA
♦ $BV_{CBO}$	$I_C=100\mu\text{A}$	60			V
♦ $BV_{CEO}$	$I_C=10\text{mA}$	50			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0			V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=1.0\text{mA}$		37	50	mV
♦ $V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=20\text{mA}$		66	100	mV
♦ $V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		77	150	mV
♦ $V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=60\text{mA}$		155	250	mV
♦ $h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	300			
♦ $h_{FE}$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	300			
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=3.0\text{A}$	150	174		
♦ $C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			25	pF
$f_T$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	100			MHz

♦ Enhanced Specification

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT3090LE is an Enhanced Specification low  $V_{CE(SAT)}$  NPN silicon power transistor packaged in an industry standard SOT-223 case. High Collector Current, coupled with a Low Saturation Voltage, make this an excellent choice for industrial and consumer applications where electrical and thermal operational efficiency are top priorities.

**MARKING: FULL PART NUMBER**

**FEATURES:**

- Low  $V_{CE(SAT)}$  NPN Transistor
- High Current ( $I_C=3.0\text{A MAX}$ )
- $V_{CE(SAT)}=0.155\text{V TYP @ } I_C=3.0\text{A}$
- SOT-223 Surface Mount Package
- Complementary PNP device: CZT7090LE

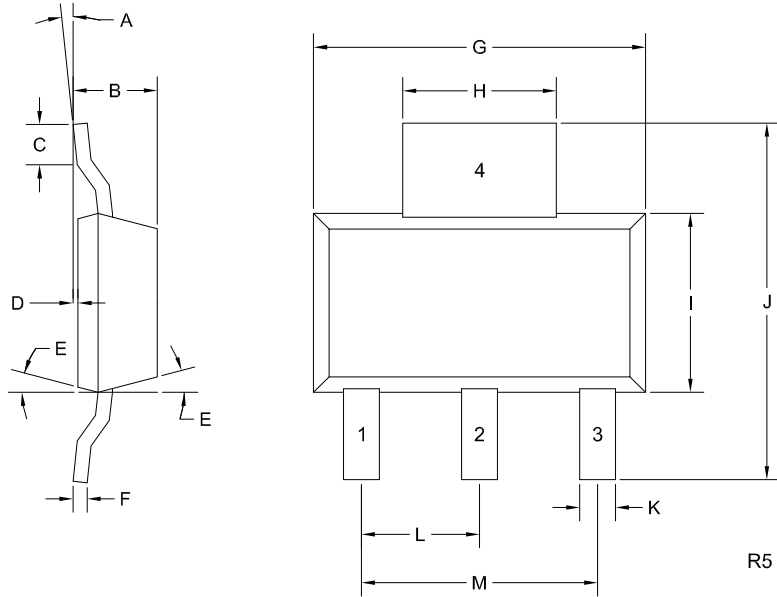
SYMBOL		UNITS
$V_{CBO}$	60	V
$V_{CEO}$	50	V
$V_{EBO}$	6.0	V
$I_C$	3.0	A
$I_{CM}$	5.0	A
$P_D$	2.0	W
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	62.5	$^\circ\text{C/W}$

CZT3090LE

**ENHANCED SPECIFICATION  
SURFACE MOUNT SILICON  
LOW  $V_{CE(SAT)}$   
NPN POWER TRANSISTOR**



**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	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)

R3 (9-May 2019)

## 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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### 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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### CONTACT US

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