

CZT7090LE

**ENHANCED SPECIFICATION
SURFACE MOUNT
LOW V_{CE(SAT)} PNP
SILICON 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°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°C)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
◆ I _{CBO}	V _{CB} =50V			50	nA
I _{CBO}	V _{CB} =50V, T _A =100°C			10	μA
◆ I _{EBO}	V _{EB} =5.0V			50	nA
◆ BV _{CB0}	I _C =100μA	60			V
◆ BV _{CEO}	I _C =10mA	50			V
◆ BV _{EB0}	I _E =100μA	6.0			V
◆ V _{CE(SAT)}	I _C =500mA, I _B =5.0mA		76	175	mV
◆ V _{CE(SAT)}	I _C =1.0A, I _B =10mA		124	250	mV
◆ V _{CE(SAT)}	I _C =2.0A, I _B =50mA		132	300	mV
V _{BE(SAT)}	I _C =2.0A, I _B =100mA		0.888	1.0	V
h _{FE}	V _{CE} =2.0V, I _C =10mA	300	363	800	
h _{FE}	V _{CE} =2.0V, I _C =500mA	250	314		
◆ h _{FE}	V _{CE} =2.0V, I _C =1.0A	250	281		
h _{FE}	V _{CE} =2.0V, I _C =2.0A	150	228		
h _{FE}	V _{CE} =2.0V, I _C =3.0A	100	177		
C _{ob}	V _{CB} =10V, I _E =0, f=1.0MHz			35	pF
f _T	V _{CE} =5.0V, I _C =50mA, f=50MHz	100			MHz

◆ Enhanced specification

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT7090LE is an Enhanced Specification Low V_{CE(SAT)} PNP 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)} PNP Transistor
- High Current (I_C=3.0A MAX)
- V_{CE(SAT)}=0.132V TYP @ I_C=2.0A
- SOT-223 Surface Mount Package
- Complementary NPN device: CZT3090LE

SYMBOL

SYMBOL	UNITS
V _{CBO}	V
V _{CEO}	V
V _{EBO}	V
I _C	A
I _{CM}	A
P _D	W
T _J , T _{stg}	°C
θ _{JA}	°C/W

MIN	TYP	MAX	UNITS
		50	nA
		10	μA
		50	nA
60			V
50			V
6.0			V
	76	175	mV
	124	250	mV
	132	300	mV
	0.888	1.0	V
300	363	800	
250	314		
250	281		
150	228		
100	177		
		35	pF
100			MHz

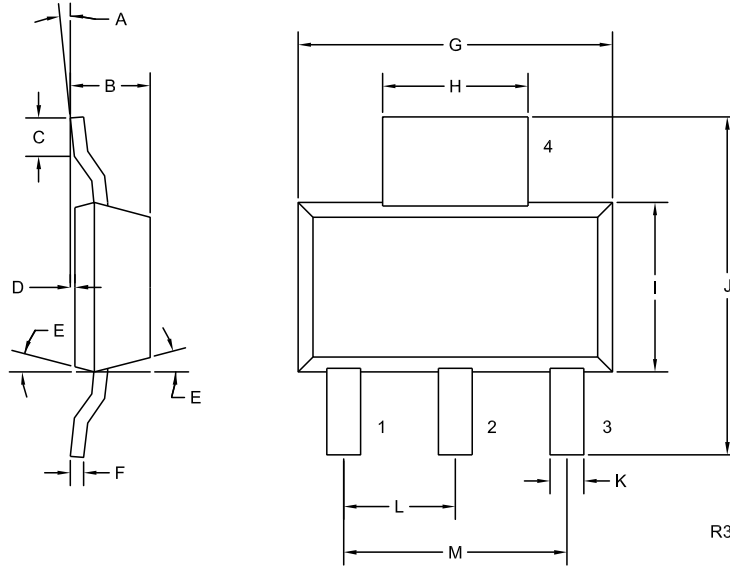
R1 (1-March 2010)

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SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING:

FULL PART NUMBER

SYMBOL	DIMENSIONS		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	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)

R1 (1-March 2010)

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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

DESIGNER SUPPORT/SERVICES

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

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- 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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