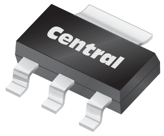
CZT3090LE

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



SOT-223 CASE

Central Semiconductor Corp.
www.centralsemi.com

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

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

	MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
◆	**Collector-Base Voltage**	V_{CBO}	**60**	**V**
◆	**Collector-Emitter Voltage**	V_{CEO}	**50**	**V**
	Emitter-Base Voltage	V_{EBO}	6.0	V
	Continuous Collector Current	I_C	3.0	A
	Peak Collector Current	I_{CM}	5.0	A
	Power Dissipation	P_D	2.0	W
	Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
	Thermal Resistance	Θ_{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C)

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

◆ Enhanced Specification

R1 (1-March 2010)

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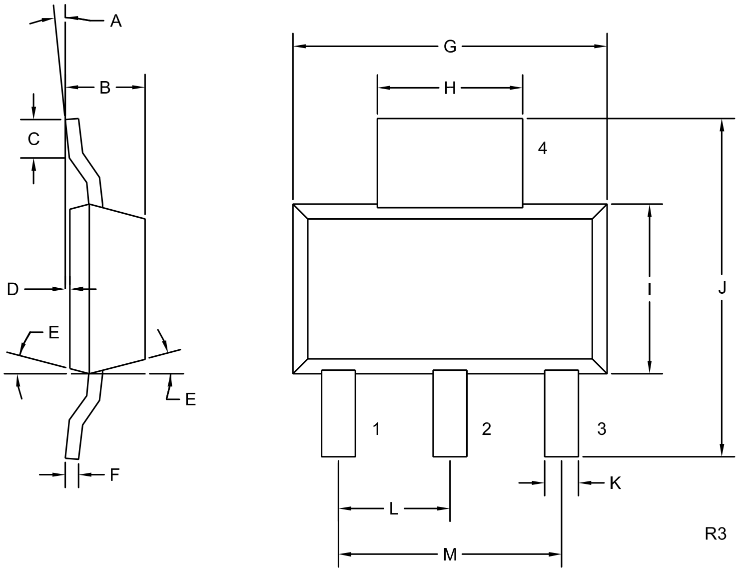
SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:
1) Base
2) Collector
3) Emitter
4) Collector

MARKING:
FULL PART NUMBER

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)