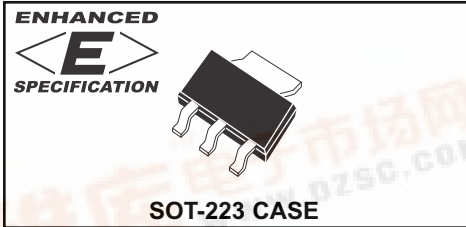




**CZT5551E**  
**ENHANCED SPECIFICATION**  
**SURFACE MOUNT**  
**NPN SILICON TRANSISTOR**



# Central™

## Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR **CZT5551E** is an NPN Silicon Transistor, packaged in an SOT-223 case, designed for general purpose amplifier applications requiring high breakdown voltage.

**MARKING CODE: FULL PART NUMBER**

**FEATURES:**

- High Collector Breakdown Voltage 250V
- Low Leakage Current 50nA Max
- Low Saturation Voltage 100mV Max @ 50mA
- Complementary Device CZT5401E
- SOT-223 Surface Mount Package

**APPLICATIONS:**

- General purpose switching and amplification
- Telephone applications

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

	SYMBOL		UNITS
◆ Collector-Base Voltage	V <sub>CB0</sub>	250	V
◆ Collector-Emitter Voltage	V <sub>CEO</sub>	220	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	V
Collector Current	I <sub>C</sub>	600	mA
Power Dissipation	P <sub>D</sub>	2.0	W
Operating and Storage			
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
Thermal Resistance	θ <sub>JA</sub>	62.5	°C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =120V		50	nA
I <sub>CBO</sub>	V <sub>CB</sub> =120V, T <sub>A</sub> =100°C		50	μA
I <sub>EBO</sub>	V <sub>EB</sub> =4.0V		50	nA
◆ BV <sub>CB0</sub>	I <sub>C</sub> =100μA	250		V
◆ BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	220		V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	6.0		V
◆ V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		75	mV
◆ V <sub>CE(SAT)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		100	mV
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		1.00	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		1.00	V

◆ Enhanced Specification

R0 (10-May 2006)



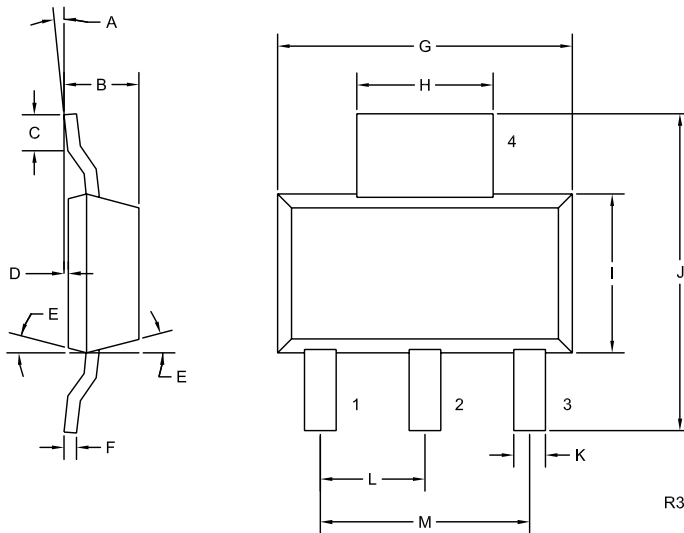
**ENHANCED SPECIFICATION  
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**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
◆ $h_{FE}$	$V_{CE}=5.0\text{V}$ , $I_C=1.0\text{mA}$	120		
◆ $h_{FE}$	$V_{CE}=5.0\text{V}$ , $I_C=10\text{mA}$	120	300	
◆ $h_{FE}$	$V_{CE}=5.0\text{V}$ , $I_C=50\text{mA}$	75		
◆ $h_{FE}$	$V_{CE}=10\text{V}$ , $I_C=150\text{mA}$	25		
$f_T$	$V_{CE}=10\text{V}$ , $I_C=10\text{mA}$ , $f=100\text{MHz}$	100	300	MHz
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$		6.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}$ , $I_C=0$ , $f=1.0\text{MHz}$		20	pF
$h_{fe}$	$V_{CE}=10\text{V}$ , $I_C=1.0\text{mA}$ , $f=1.0\text{kHz}$	50	200	
NF	$V_{CE}=5.0\text{V}$ , $I_C=200\mu\text{A}$ , $R_S=10\Omega$ $f=10\text{Hz}$ to $15.7\text{kHz}$		8.0	dB

◆ Enhanced Specification

**SOT-223 CASE - MECHANICAL OUTLINE**



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)

**LEAD CODE:**

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

**MARKING CODE:**

**FULL PART NUMBER**