

CZT5551E

**ENHANCED SPECIFICATION
SURFACE MOUNT
NPN SILICON TRANSISTOR**



SOT-223 CASE

APPLICATIONS:

- General purpose switching and amplification
- Telephone applications

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

♦ Collector-Base Voltage
♦ Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance



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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: 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

SYMBOL		UNITS
V_{CBO}	250	V
V_{CEO}	220	V
V_{EBO}	6.0	V
I_C	600	mA
P_D	2.0	W
T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Θ_{JA}	62.5	$^{\circ}\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=120\text{V}$		50	nA
I_{CBO}	$V_{CB}=120\text{V}, T_A=100^{\circ}\text{C}$		50	μA
I_{EBO}	$V_{EB}=4.0\text{V}$		50	nA
♦ BV_{CBO}	$I_C=100\mu\text{A}$	250		V
♦ BV_{CEO}	$I_C=1.0\text{mA}$	220		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
♦ $V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		75	mV
♦ $V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		100	mV
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.00	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.00	V

♦ Enhanced specification

R1 (1-March 2010)

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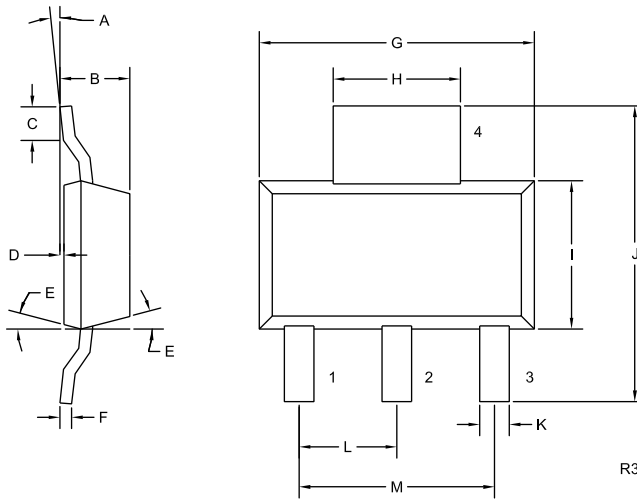


ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

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 15.7kHz		8.0	dB

♦ Enhanced specification

SOT-223 CASE - MECHANICAL OUTLINE



SYMBOL	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)

LEAD CODE:

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

MARKING:

FULL PART NUMBER

R1 (1-March 2010)