

CZT5401E

**ENHANCED SPECIFICATION  
SURFACE MOUNT  
PNP SILICON TRANSISTOR**



www.centrasemi.com

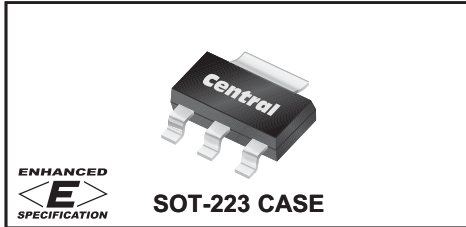
**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT5401E is a PNP 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 150mV MAX @ 50mA
- Complementary Device: CZT5551E
- SOT-223 Surface Mount Package



**APPLICATIONS:**

- General purpose switching and amplification
- Telephone applications

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

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

**SYMBOL**

V <sub>CBO</sub>	250
V <sub>CEO</sub>	220
V <sub>EBO</sub>	7.0
I <sub>C</sub>	600
P <sub>D</sub>	2.0
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150
θ <sub>JA</sub>	62.5

**UNITS**

V
V
V
mA
W
°C
°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> =3.0V		50	nA
◆ BV <sub>CBO</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	7.0		V
◆ V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		100	mV
◆ V <sub>CE(SAT)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		150	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

R1 (1-March 2010)

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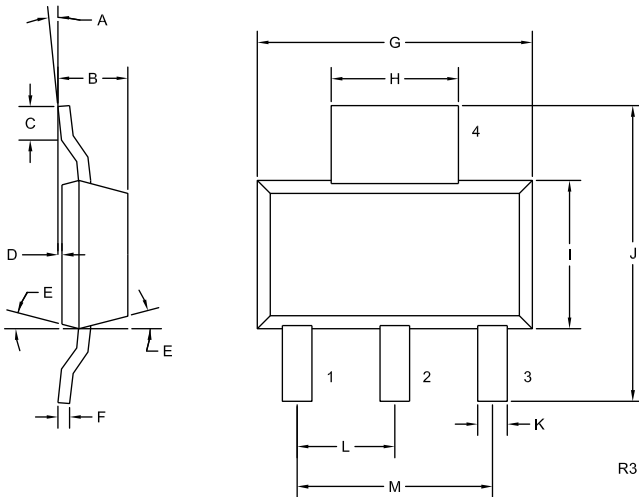


**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
◆ $h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	100		
◆ $h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	100	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
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	40	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	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)