

CXT5401E

**ENHANCED SPECIFICATION
SURFACE MOUNT
PNP SILICON TRANSISTOR**



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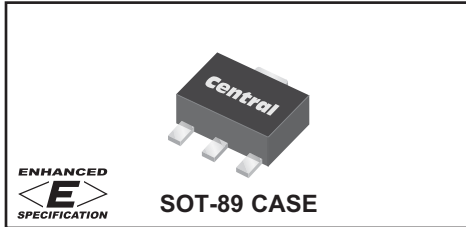
DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT5401E is a PNP Silicon Transistor, packaged in an SOT-89 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: CXT5551E
- SOT-89 Surface Mount Package



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

SYMBOL		UNITS
V_{CBO}	250	V
V_{CEO}	220	V
V_{EBO}	7.0	V
I_C	600	mA
P_D	1.2	W
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	104	$^\circ\text{C/W}$

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}	$V_{EB}=3.0\text{V}$		50	nA
◆ BV_{CBO}	$I_C=100\mu\text{A}$	250		V
◆ BV_{CEO}	$I_C=1.0\text{mA}$	220		V
◆ BV_{EBO}	$I_E=10\mu\text{A}$	7.0		V
◆ $V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		100	mV
◆ $V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		150	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

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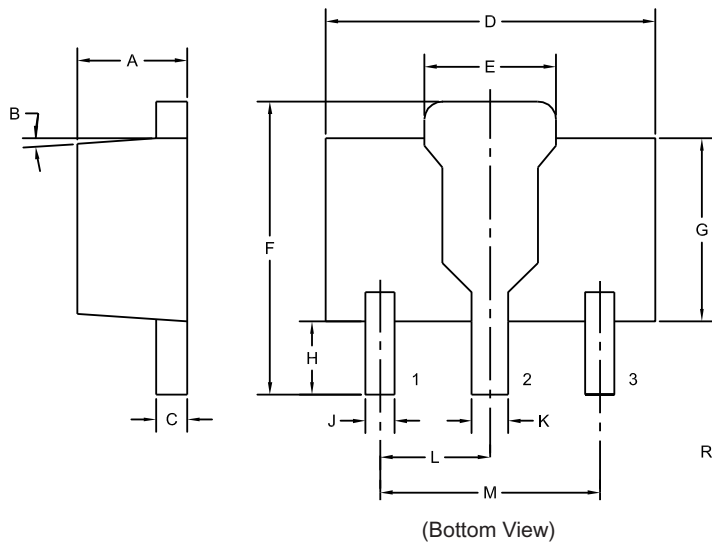


ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

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-89 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

LEAD CODE:

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

MARKING:

FULL PART NUMBER

R1 (23-February 2010)