

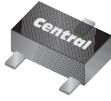
CMUT5401E

**ENHANCED SPECIFICATION
SURFACE MOUNT
PNP SILICON TRANSISTOR**



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ULTRAmulti™



SOT-523 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUT5401E is a PNP Silicon Transistor, packaged in an SOT-523 case, designed for general purpose amplifier applications requiring high breakdown voltage and small space saving packaging.

MARKING CODE: 4C5

FEATURES:

- High Collector Breakdown Voltage 250V
- Low Leakage Current 50nA Max
- Low Saturation Voltage 150mV Max @ 50mA
- Complementary Device CMUT5551E
- SOT-523 Surface Mount Package

APPLICATIONS:

- General purpose switching and amplification
- Telephone applications

MAXIMUM RATINGS: (T_A=25°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	250	mW
T _J , T _{stg}	-65 to +150	°C
θ _{JA}	500	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =120V		50	nA
I _{CBO}	V _{CB} =120V, T _A =100°C		50	μA
I _{EBO}	V _{EB} =3.0V		50	nA
◆ BV_{CBO}	I_C=100μA	250		V
◆ BV_{CEO}	I_C=1.0mA	220		V
◆ BV_{EBO}	I_E=10μA	7.0		V
◆ V_{CE(SAT)}	I_C=10mA, I_B=1.0mA		100	mV
◆ V_{CE(SAT)}	I_C=50mA, I_B=5.0mA		150	mV
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA		1.00	V
V _{BE(SAT)}	I _C =50mA, I _B =5.0mA		1.00	V

◆ Enhanced Specification

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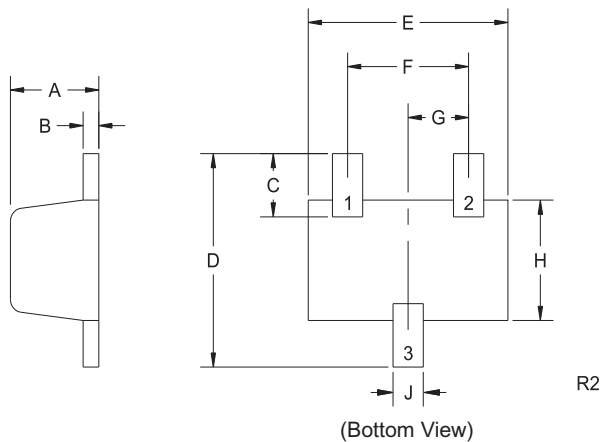


ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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 15.7kHz		8.0	dB

◆ Enhanced Specification

SOT-523 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.023	0.031	0.58	0.78
B	0.002	0.008	0.04	0.20
C	0.013	0.021	0.34	0.54
D	0.059	0.067	1.50	1.70
E	0.059	0.067	1.50	1.70
F	0.035	0.043	0.90	1.10
G	0.020		0.50	
H	0.031	0.039	0.78	0.98
J	0.010	0.014	0.25	0.35

SOT-523 (REV: R2)

LEAD CODE:

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

MARKING CODE: 4C5

R1 (9-February 2010)