

**CMPT5551**  
**SURFACE MOUNT**  
**NPN SILICON TRANSISTOR**



**SOT-23 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT5551 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

**MARKING CODE: 1FF**

**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**

$V_{CB0}$	180
$V_{CEO}$	160
$V_{EBO}$	6.0
$I_C$	600
$P_D$	350
$T_J, T_{stg}$	-65 to +150
$\theta_{JA}$	357

**UNITS**

V
V
V
mA
mW
$^\circ\text{C}$
$^\circ\text{C/W}$

**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	$\mu\text{A}$
$BV_{CBO}$	$I_C=100\mu\text{A}$	180		V
$BV_{CEO}$	$I_C=1.0\text{mA}$	160		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.15	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.20	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.00	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.00	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	80		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	80	250	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	30		
$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	300	MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		6.0	pF
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	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

R5 (1-February 2010)

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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODE: 1FF**

<b>DIMENSIONS</b>				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R5 (1-February 2010)