



DONGGUAN NANJING ELECTRONICS LTD.,

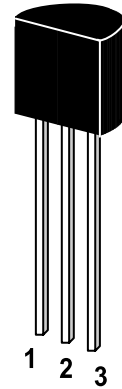
NPN Silicon Epitaxial Planar Transistors

2N5550 / 2N5551

for general purpose, high voltage amplifier applications.

As complementary types the PNP transistors ST 2N5400 and ST 2N5401 are recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	ST 2N5550 V_{CEO}	140	V
	ST 2N5551 V_{CEO}	160	V
Collector Base Voltage	ST 2N5550 V_{CBO}	160	V
	ST 2N5551 V_{CBO}	180	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation	P_{tot}	625 ¹⁾	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	- 55 to + 150	$^\circ\text{C}$

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

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Characteristics at $T_{amb} = 25\text{ °C}$

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 50\text{ mA}$	ST 2N5550	h_{FE}	60	-	-
	ST 2N5551	h_{FE}	80	-	-
	ST 2N5550	h_{FE}	60	250	-
	ST 2N5551	h_{FE}	80	250	-
	ST 2N5550	h_{FE}	20	-	-
	ST 2N5551	h_{FE}	30	-	-
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	ST 2N5550	$V_{(BR)CEO}$	140	-	V
	ST 2N5551	$V_{(BR)CEO}$	160	-	V
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	ST 2N5550	$V_{(BR)CBO}$	160	-	V
	ST 2N5551	$V_{(BR)CBO}$	180	-	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$		$V_{(BR)EBO}$	6	-	V
Collector Cutoff Current at $V_{CB} = 100\text{ V}$ at $V_{CB} = 120\text{ V}$	ST 2N5550	I_{CBO}	-	100	nA
	ST 2N5551	I_{CBO}	-	50	nA
Emitter Cutoff Current at $V_{EB} = 4\text{ V}$		I_{EBO}	-	50	nA
Collector Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	ST 2N5550	$V_{CE\text{ sat}}$	-	0.15	V
	ST 2N5551	$V_{CE\text{ sat}}$	-	0.25	V
	ST 2N5551	$V_{CE\text{ sat}}$	-	0.2	V
Base Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	ST 2N5550	$V_{BE\text{ sat}}$	-	1	V
	ST 2N5550	$V_{BE\text{ sat}}$	-	1.2	V
	ST 2N5551	$V_{BE\text{ sat}}$	-	1	V
Gain Bandwidth Product at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$		f_T	100	300	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$		C_{CBO}	-	6	pF
Noise Figure at $V_{CE} = 5\text{ V}$, $I_C = 200\text{ }\mu\text{A}$, $R_G = 2\text{ K}\Omega$, $f = 30\text{ Hz} \dots 15\text{ KHz}$	ST 2N5550	NF	-	10	dB
	ST 2N5551	NF	-	8	dB
Thermal Resistance Junction to Ambient		R_{thA}	-	200 ¹⁾	K/W

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

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Fig. 1 $P_c - T_a$

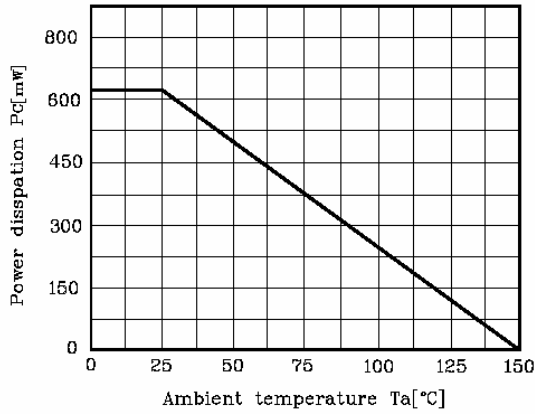


Fig. 2 $I_c - V_{BE}$

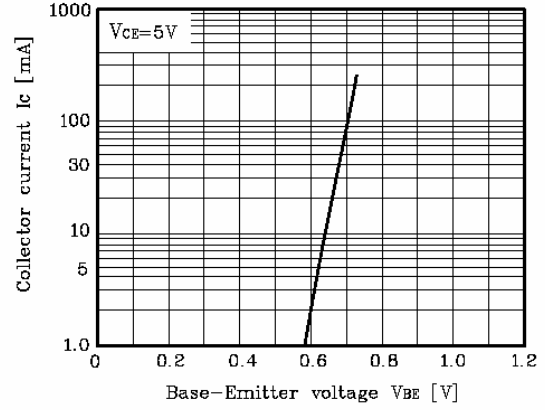


Fig. 3 $f_T - I_c$

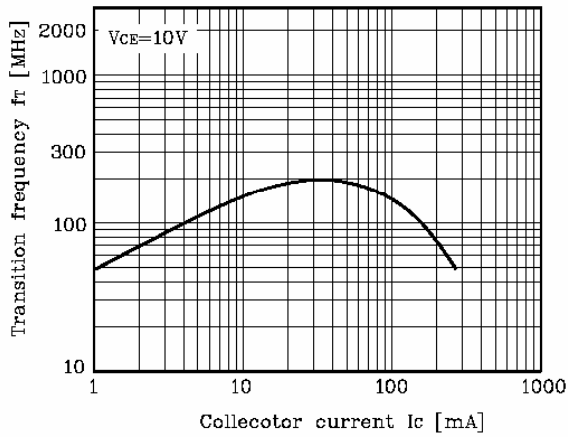


Fig. 4 $V_{CE(sat)}, V_{BE(sat)} - I_c$

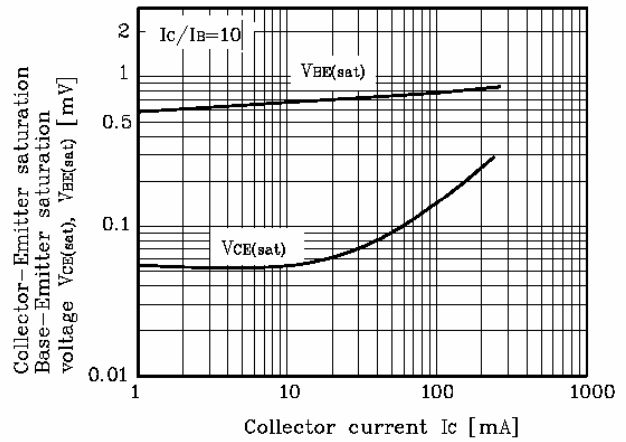


Fig. 5 $C_{ob} - V_{CB}$

