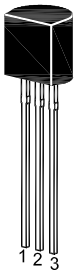
ST 9014

NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups, A, B, C and D, according to its DC current gain. As complementary type the PNP transistor 9015 is recommended.

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



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

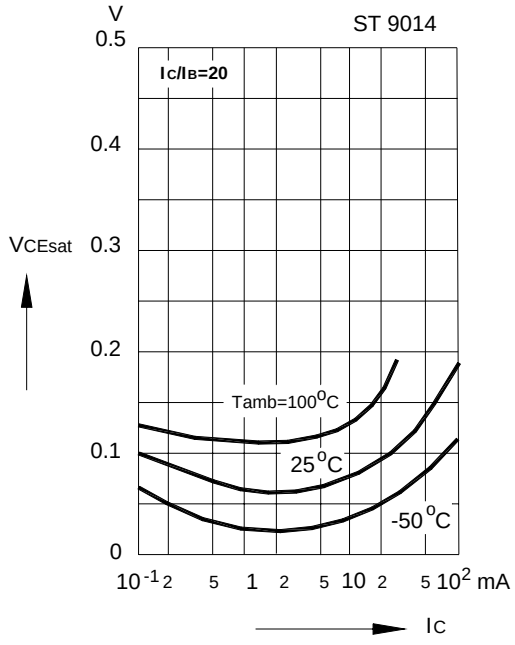
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	45	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	450	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

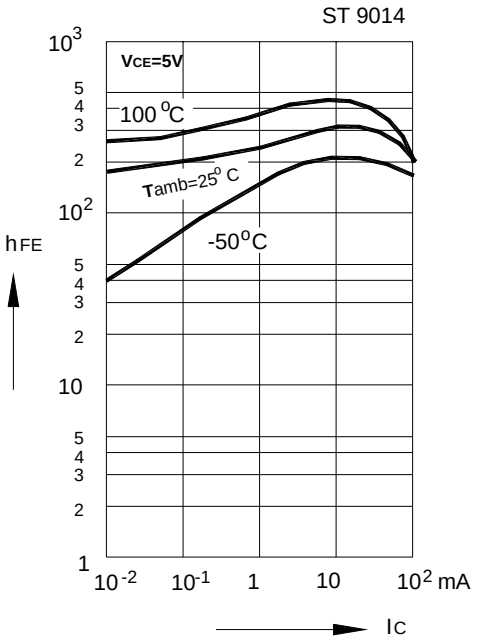
Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 1 mA	Current Gain Group	A	h_{FE}	60	-	150	-
		B	h_{FE}	100	-	300	-
		C	h_{FE}	200	-	600	-
		D	h_{FE}	400	-	1000	-
Collector Base Cutoff Current at V_{CB} = 50 V			I_{CBO}	-	-	50	nA
Emitter Base Cutoff Current at V_{EB} = 5 V			I_{EBO}	-	-	50	nA
Collector Base Breakdown Voltage at I_C = 100 µA			$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA			$V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage at I_E = 100 µA			$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 100 mA, I_B = 10 mA			$V_{CE(sat)}$	-	-	0.25	V
Gain Bandwidth Product at V_{CE} = 5 V, I_C = 10 mA			f_T	-	300	-	MHz
Output Capacitance at V_{CB} = 10 V, f = 1 MHz			C_{ob}	-	-	6	pF

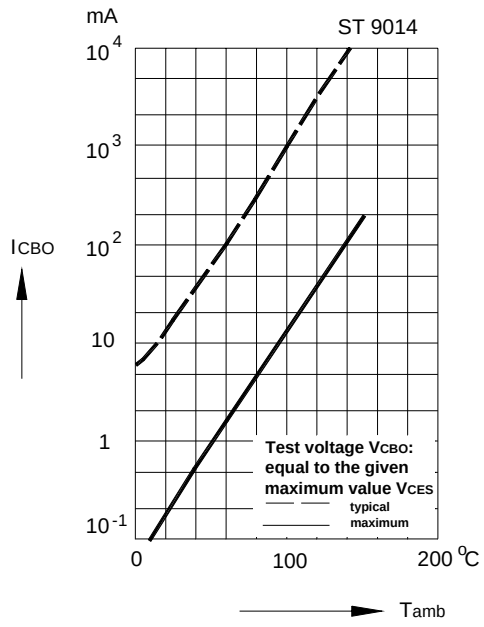
Collector saturation voltage versus collector current



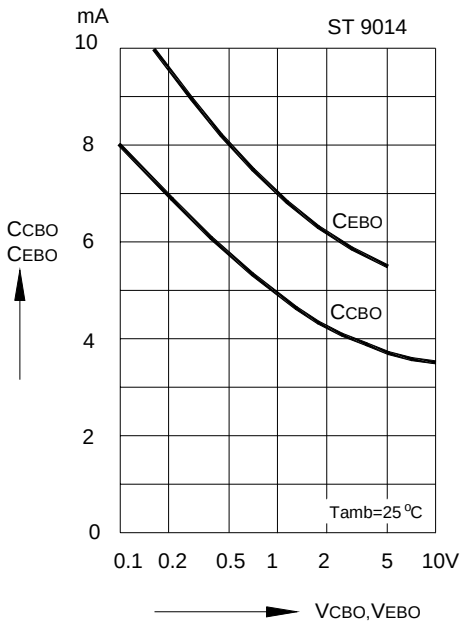
DC current gain versus collector current



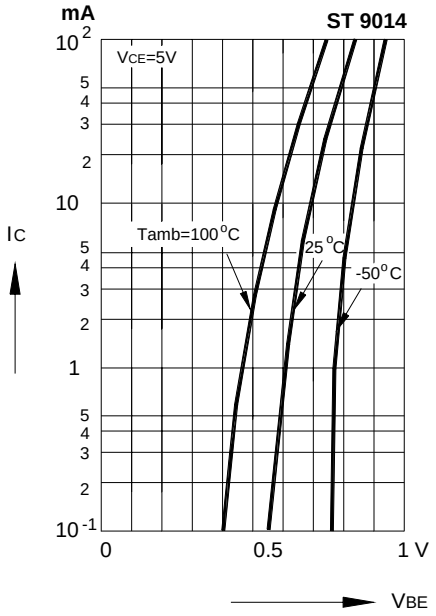
Collector cutoff current versus ambient temperature



Collector base capacitance, Emitter base capacitance verses reverse bias voltage



Collector current versus base emitter voltage



Gain bandwidth product versus collector current