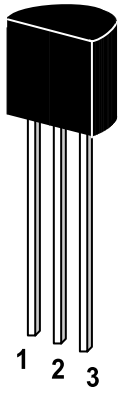
ST 9014

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 ST 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
Weight approx. 0.19g

Absolute Maximum Ratings (T_a = 25℃)

	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	^{O}C
Storage Temperature Range	T_S	-55 to +150	^{O}C

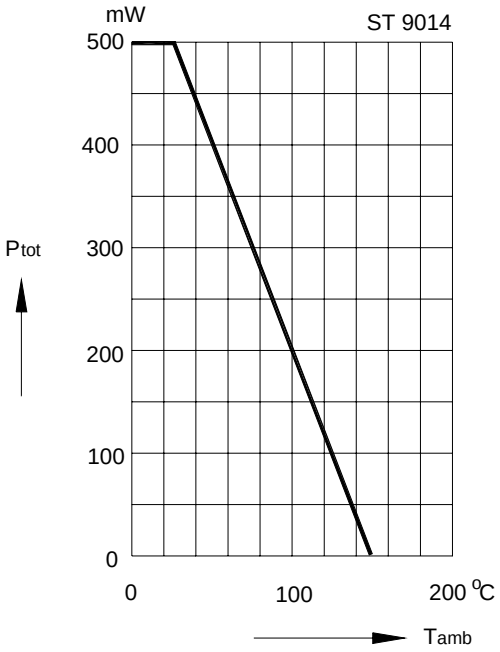
ST 9014

Characteristics at T_{amb}=25 ^{O}C

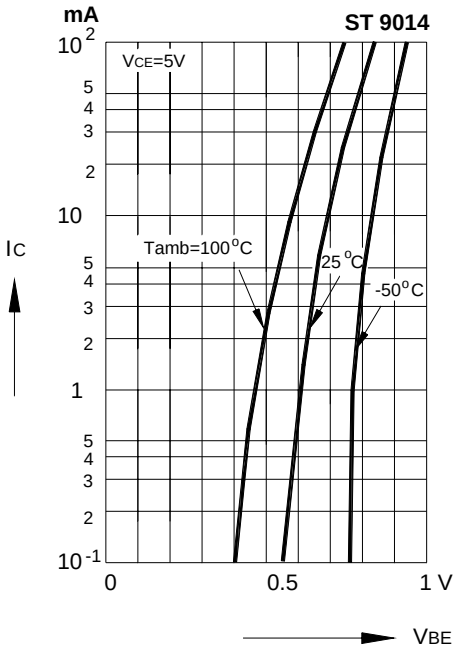
		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE}=5V, I_C=1mA						
Current Gain Group	A	h_{FE}	60	-	150	-
	B	h_{FE}	100	-	300	-
	C	h_{FE}	200	-	600	-
	D	h_{FE}	400	-	1000	-
Collector Base Breakdown Voltage						
at I_C=100μA		$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage						
at I_C=1mA		$V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage						
at I_E=100μA		$V_{(BR)EBO}$	5	-	-	V
Collector Cutoff Current						
at V_{CB}=50V		I_{CBO}	-	-	50	nA
Emitter Cutoff Current						
at V_{EB}=5V		I_{EBO}	-	-	50	nA
Collector Saturation Voltage						
at I_C=100mA,I_B=5mA		$V_{CE(sat)}$	-	200	600	mV
Base Saturation Voltage						
at I_C=100mA,I_B=5mA		$V_{BE(sat)}$	-	900	-	mV
Gain Bandwidth Product						
at V_{CE}=5V,I_C=10mA		f_T	-	300	-	MHz
Output Capacitance						
at V_{CB}=10V,f=1MHz		C_{OB}	-	3.5	6	Pf
Noise Figure						
at V_{CE}=5V,I_C=200μA						
f=1KHz,R_G=2KΩ		NF	-	2	10	dB

Admissible power dissipation versus temperature

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

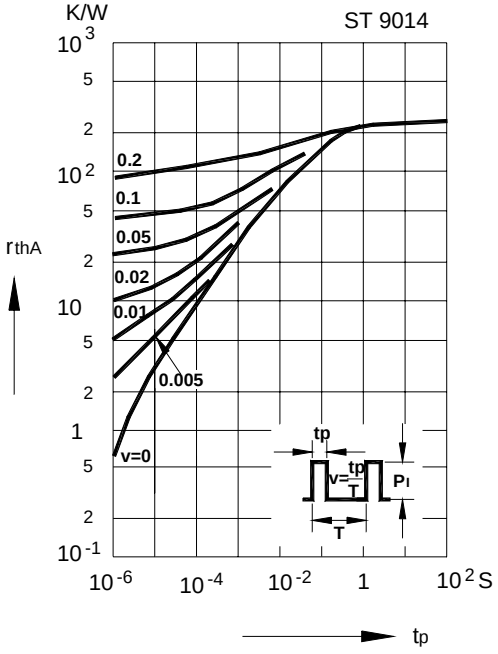


Collector current versus base emitter voltage

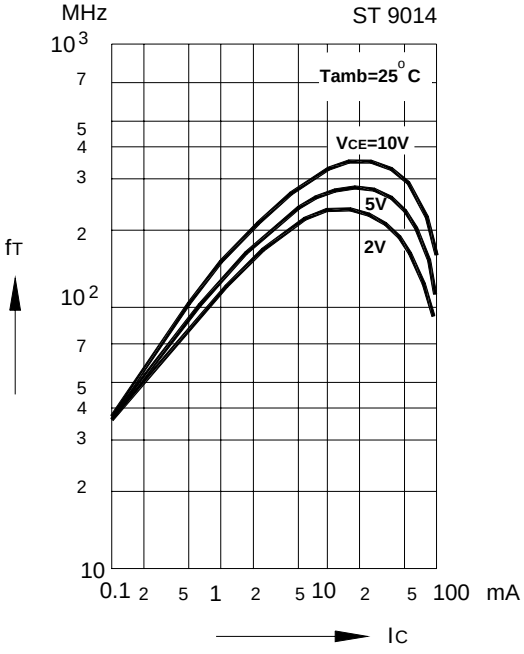


Pulse thermal resistance versus pulse duration

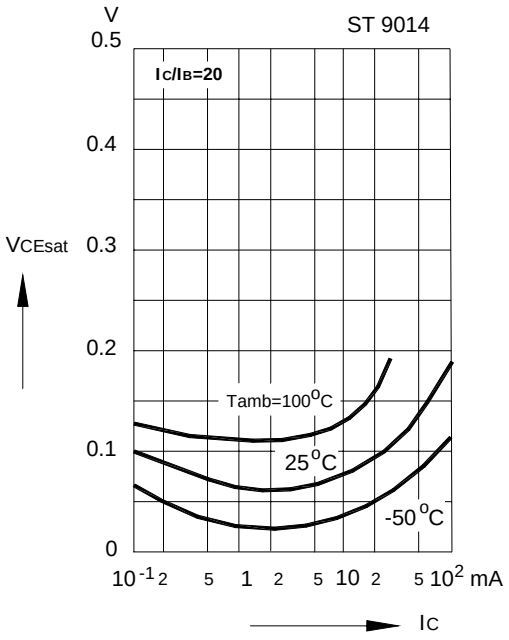
Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



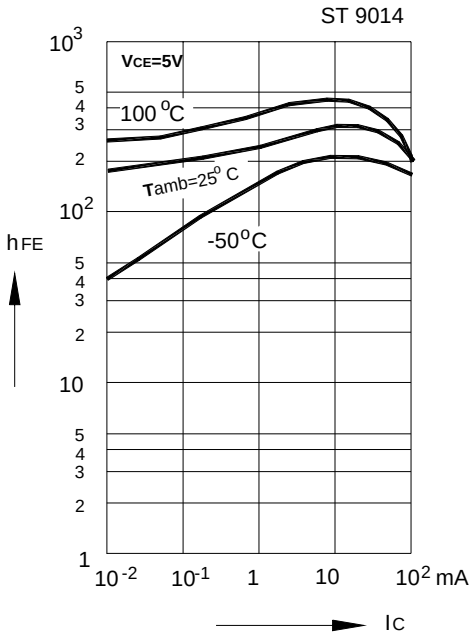
Gain bandwidth product versus collector current



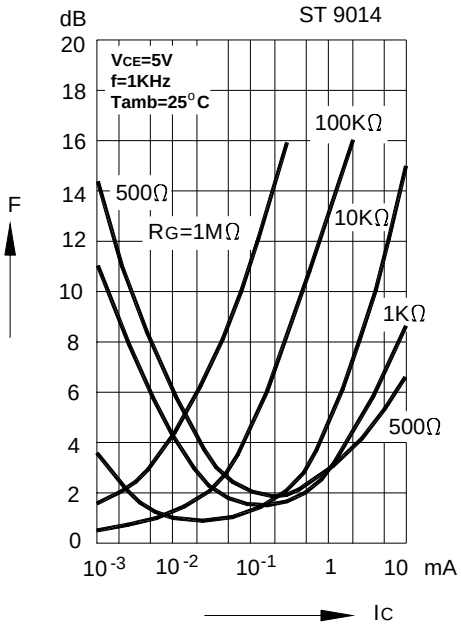
Collector saturation voltage versus collector current



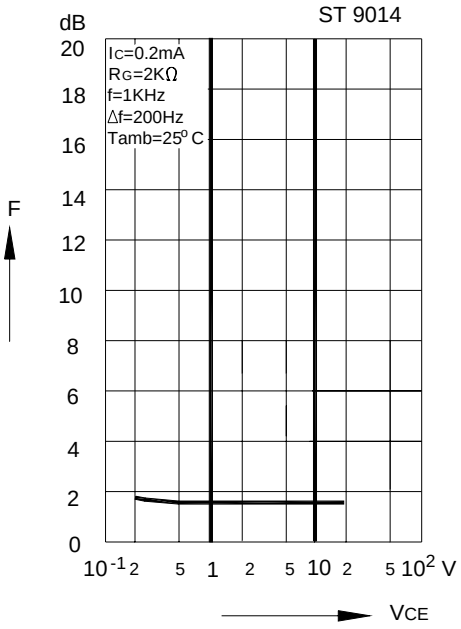
DC current gain versus collector current



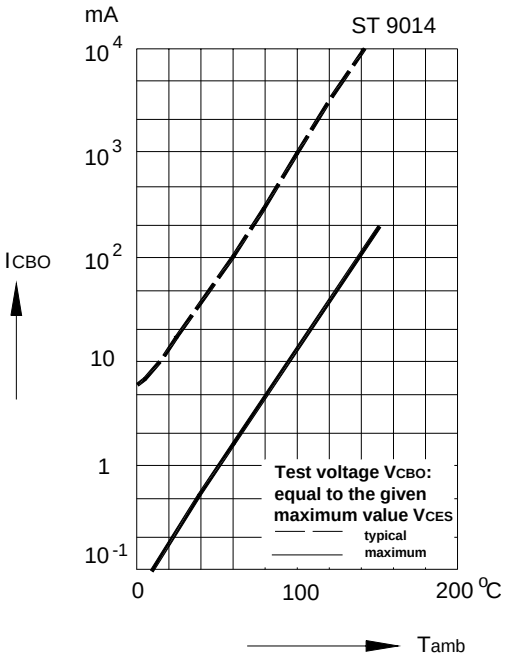
Noise figure versus collector current



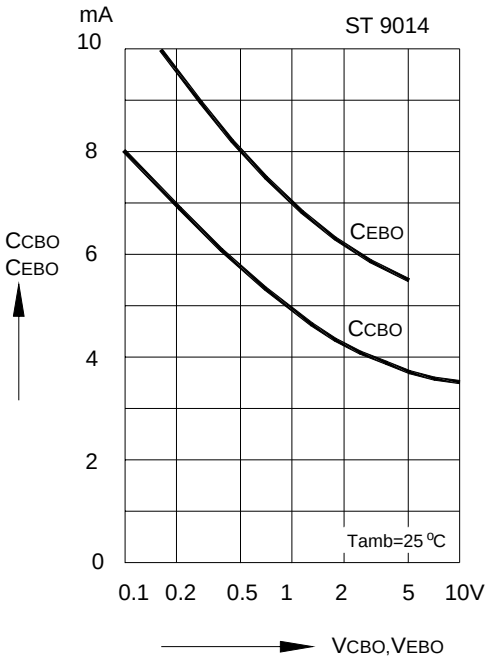
Common emitter collector characteristics



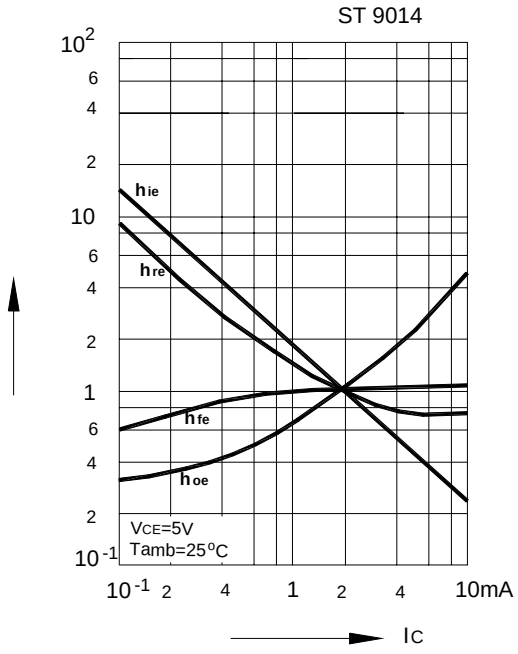
Collector cutoff current versus ambient temperature



Collector base capacitance, Emitter base capacitance verses reverse bias voltage



Relative h-parameters versus collector current



Noise figure versus collector current