

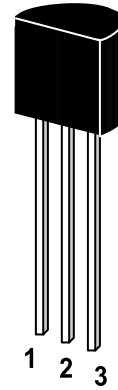
ST 9014

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.



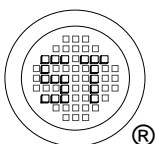
1. Emitter 2. Base 3. Collector

TO-92 Plastic Package

Weight approx. 0.19g

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

	Symbol	Value	Unit
Collector Base Voltage	V_{CB0}	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	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^\circ\text{C}$



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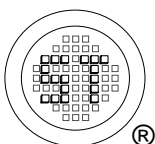
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ST 9014

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

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



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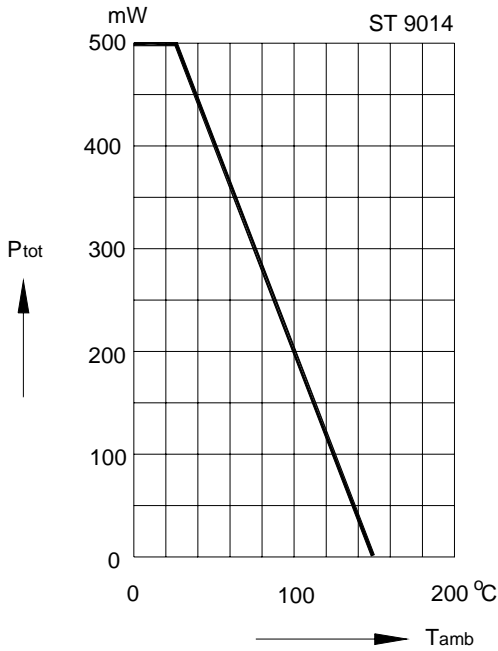


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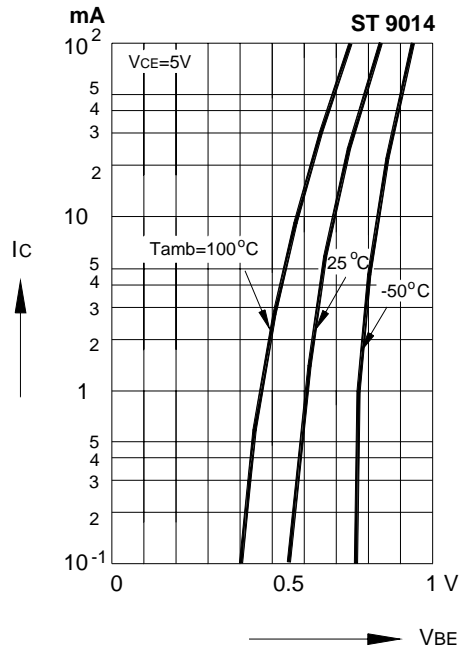
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Admissible power dissipation versus temperature

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

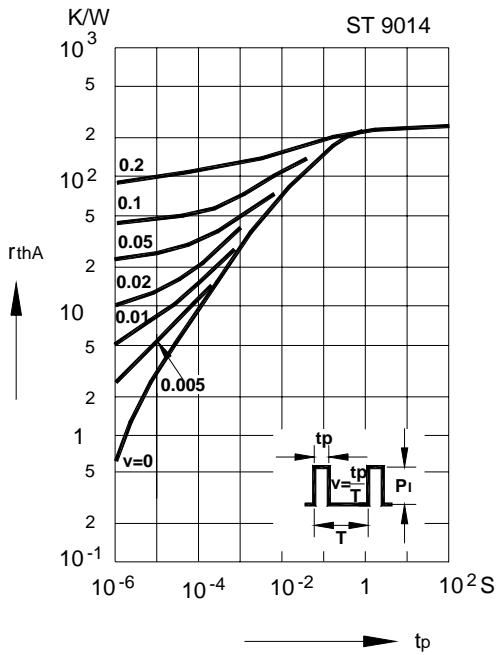


Collector current versus base emitter voltage

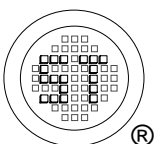
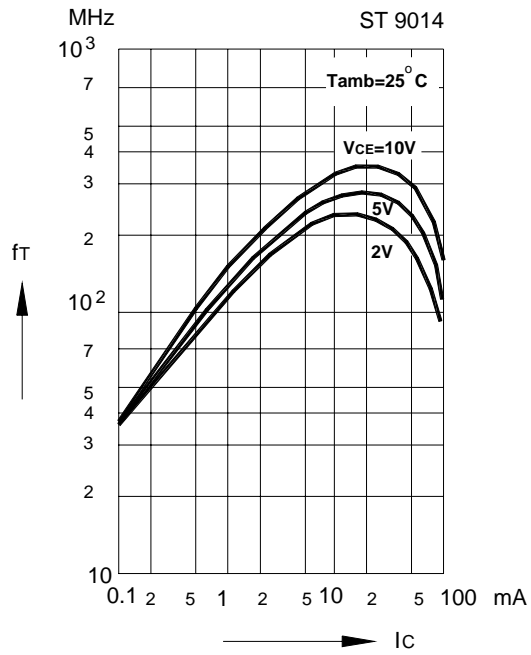


Pulse thermal resistance versus pulse duration

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



Gain bandwidth product versus collector current



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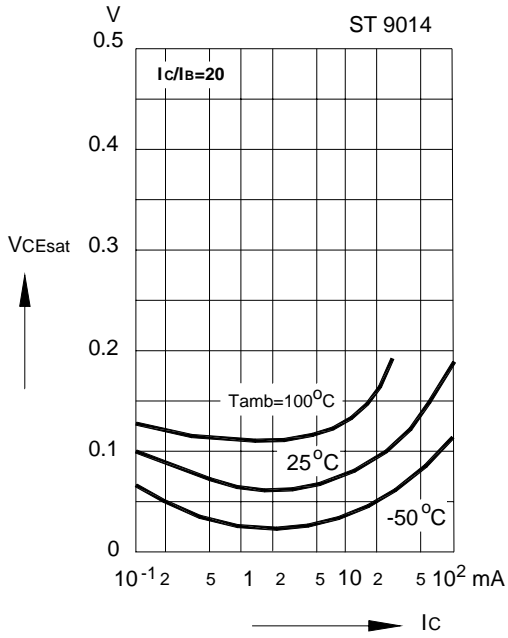


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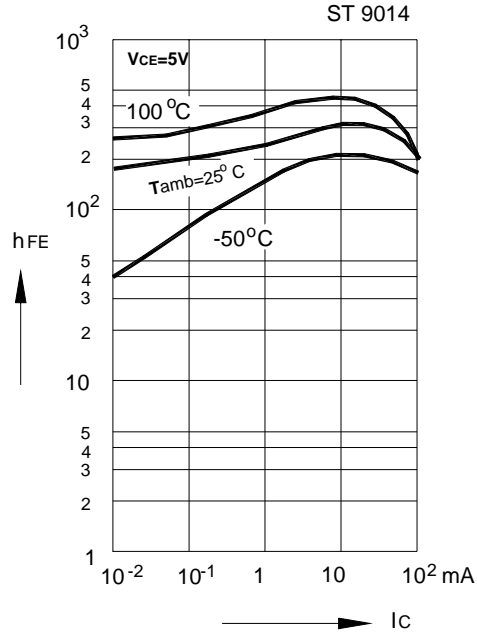


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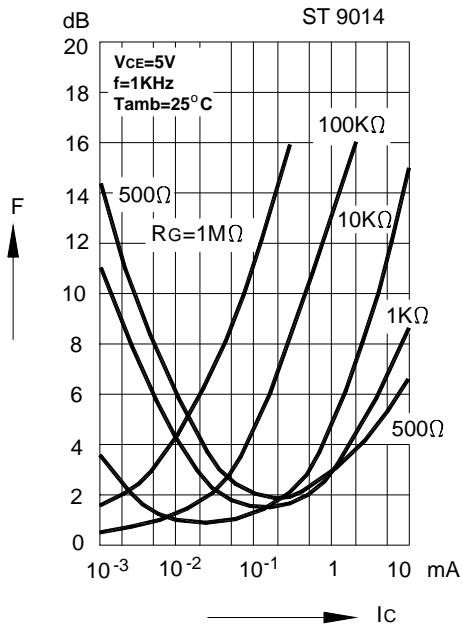
Collector saturation voltage versus collector current



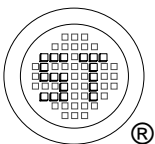
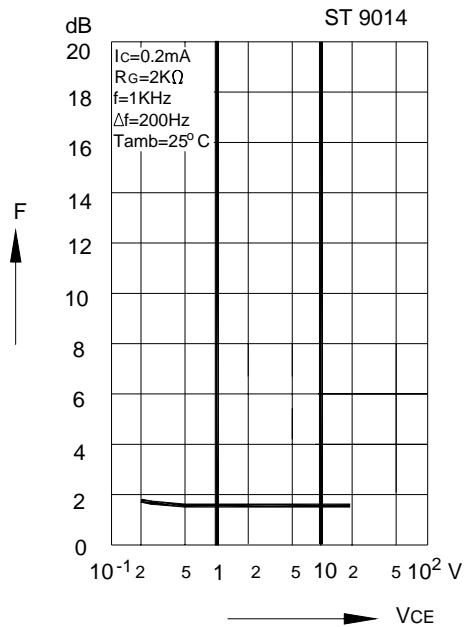
DC current gain versus collector current



Noise figure versus collector current



Common emitter collector characteristics



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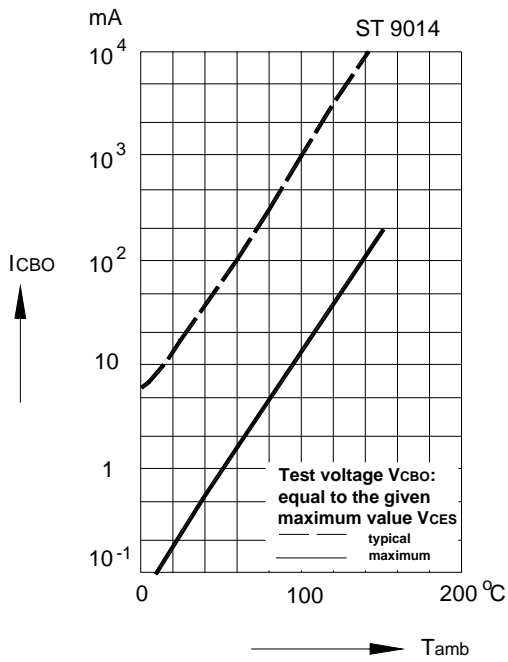


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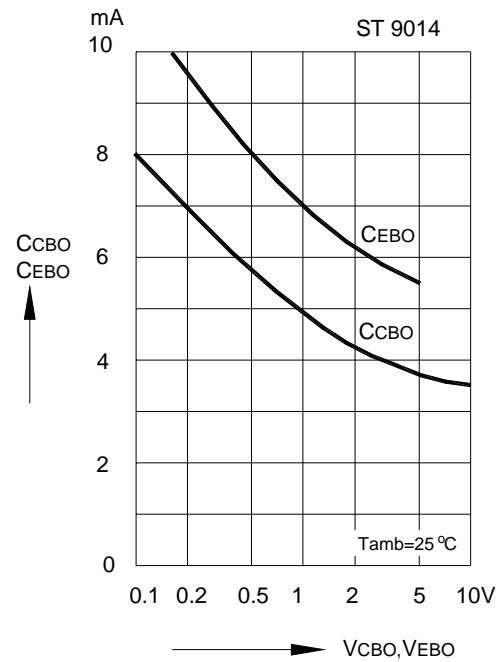


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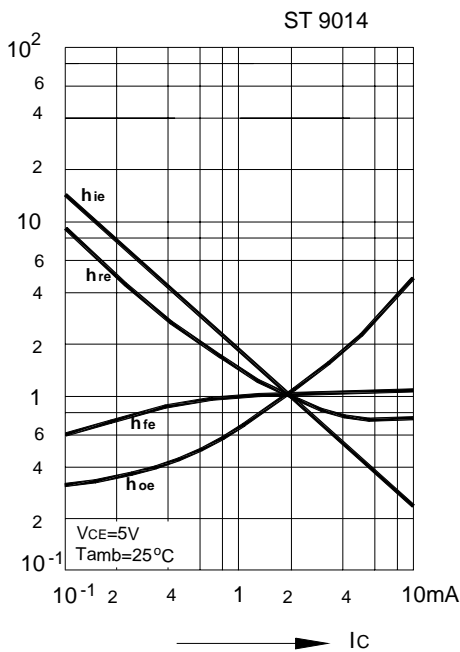
Collector cutoff current versus ambient temperature



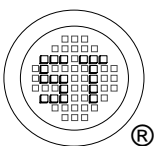
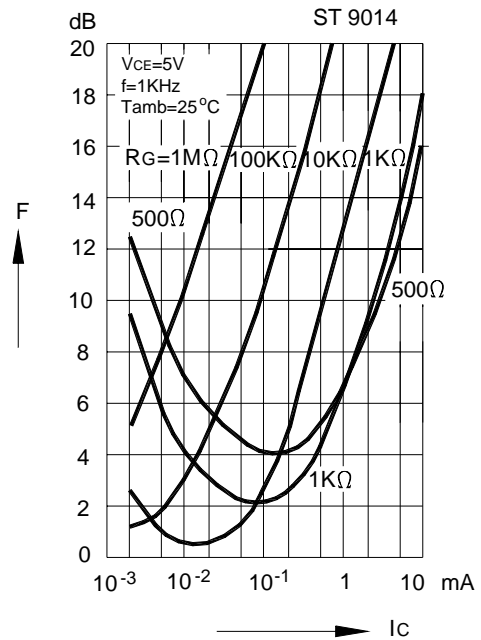
Collector base capacitance, Emitter base capacitance versus reverse bias voltage



Relative h-parameters versus collector current



Noise figure versus collector current



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