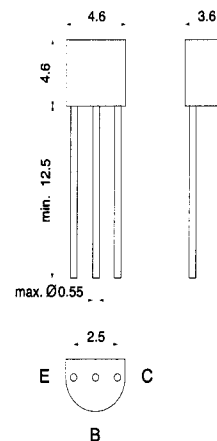


NPN Silicon Exptaxial Planar Transistor
for switching and AF amplifier applications.

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

On special request, these transistors can be manufactured in different pin configurations. Please refer to the "TO-92 TRANSISTOR PACKAGE OUTLINE" on page 80 for the available pin options.



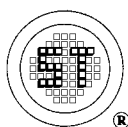
TO-92 Plastic Package
Weight approx. 0.18 g
Dimensions in mm

Absolute Maximum Ratings

	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	30	V
Collector Emitter Voltage	V_{CES}	30	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Peak Base Current	I_{BM}	200	mA
Peak Emitter Current	$-I_{EM}$	200	mA
Power Dissipation at $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot}	500 ¹⁾	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_s	-65 to +150	$^{\circ}\text{C}$

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

G S P FORM A AVAILABLE



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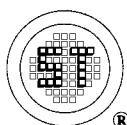


Characteristics at $T_{amb} = 25^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$					
Current Gain Group A	h_{FE}	60	-	150	-
B	h_{FE}	100	-	300	-
C	h_{FE}	200	-	600	-
D	h_{FE}	400	-	1000	-
Collector Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$	V_{CEsat}	-	80	200	mV
at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	V_{CEsat}	-	200	600	mV
Base Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$	V_{BEsat}	-	700	-	mV
at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	V_{BEsat}	-	900	-	mV
Base Emitter Voltage at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	V_{BE}	580	660	700	mV
at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$	V_{BE}	-	-	750	mV
Collector Cutoff Current at $V_{CE} = 30\text{ V}$	I_{CES}	-	0.2	15	nA
at $V_{CE} = 30\text{ V}$, $T_j = 125^{\circ}\text{C}$	I_{CES}	-	-	4	μA
at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	15	nA
at $V_{CB} = 30\text{ V}$, $T_j = 150^{\circ}\text{C}$	I_{CBO}	-	-	5	μA
Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	300	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{CBO}	-	3.5	6	pF
Emitter Base Capacitance at $V_{EB} = 0.5\text{ V}$, $f = 1\text{ MHz}$	C_{EBO}	-	9	-	pF
Noise Figure at $V_{CE} = 5\text{ V}$, $I_C = 200\text{ }\mu\text{A}$, $R_G = 2\text{ k}\Omega$ $f = 1\text{ kHz}$, $\Delta f = 200\text{ Hz}$	F	-	2	10	dB
Thermal Resistance Junction to Ambient	R_{thA}	-	-	250 ¹⁾	K/W

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

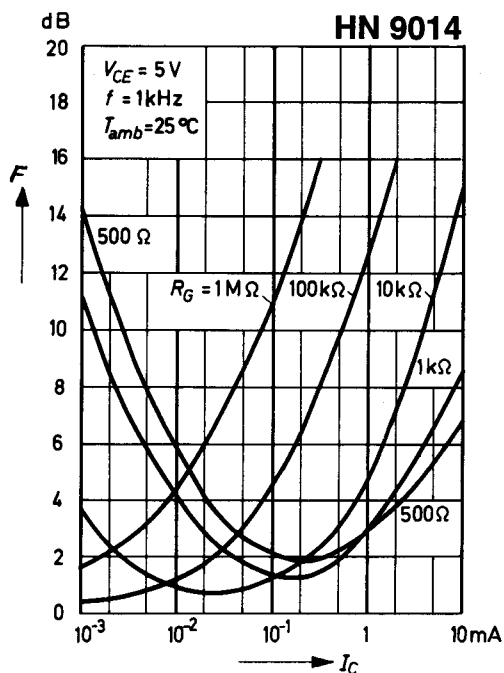
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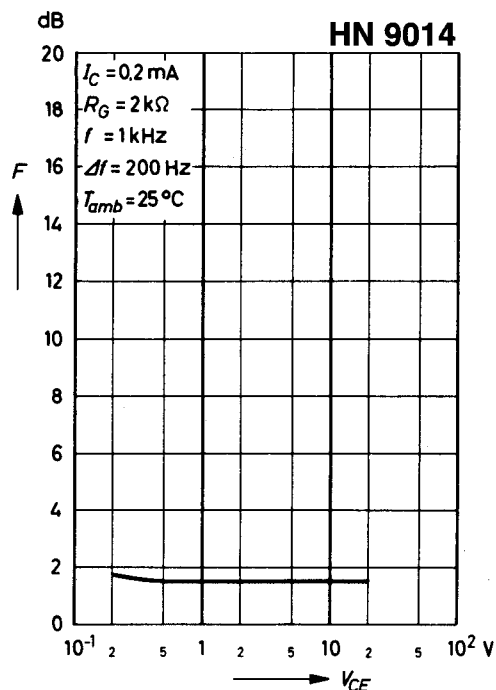
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**Noise figure
versus collector current**

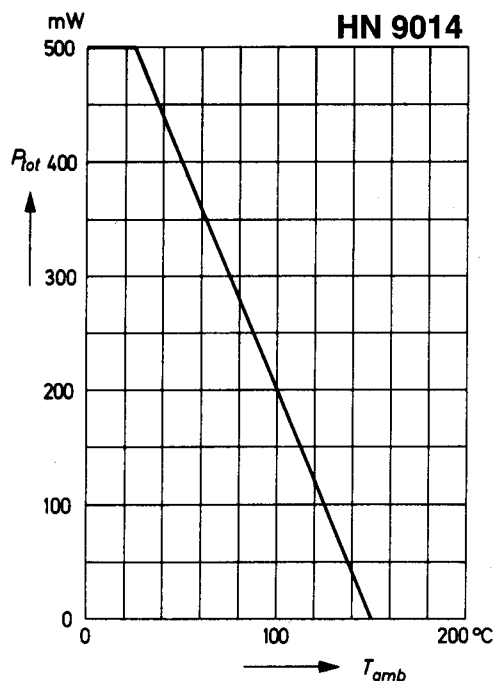


**Noise figure
versus collector emitter voltage**



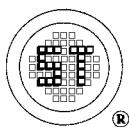
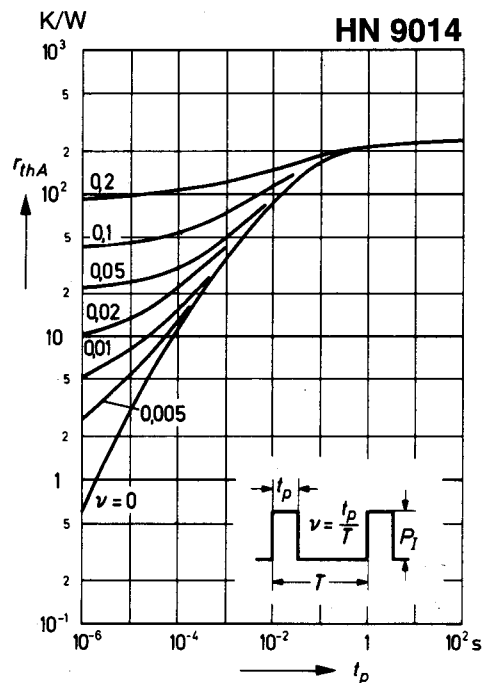
**Admissible power dissipation
versus temperature**

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

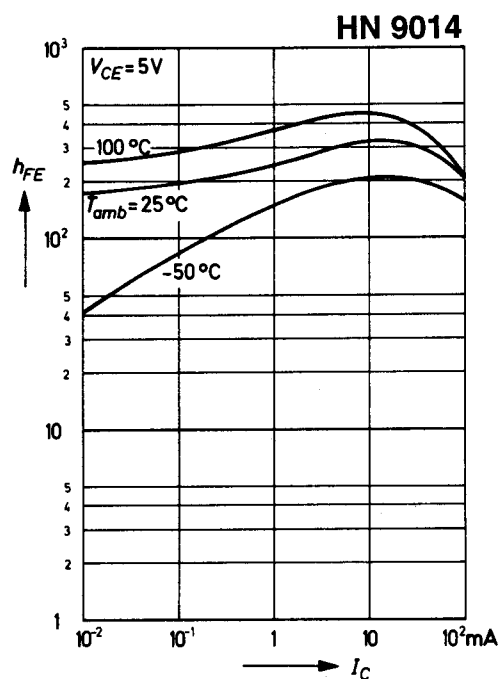


**Pulse thermal resistance
versus pulse duration**

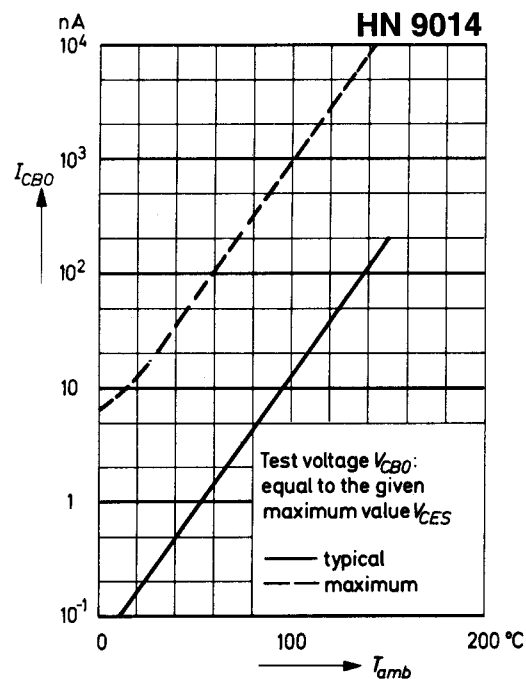
Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



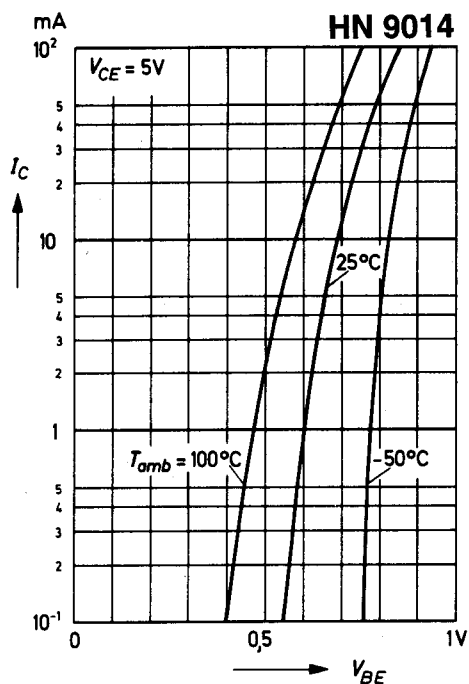
**DC current gain
versus collector current**



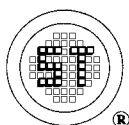
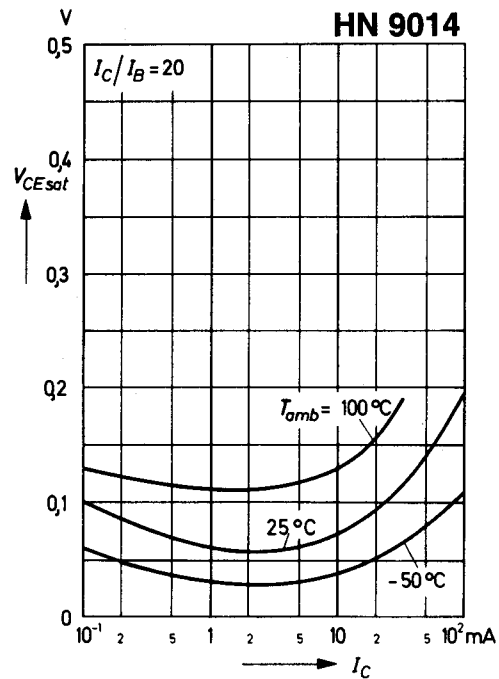
**Collector cutoff current
versus ambient temperature**



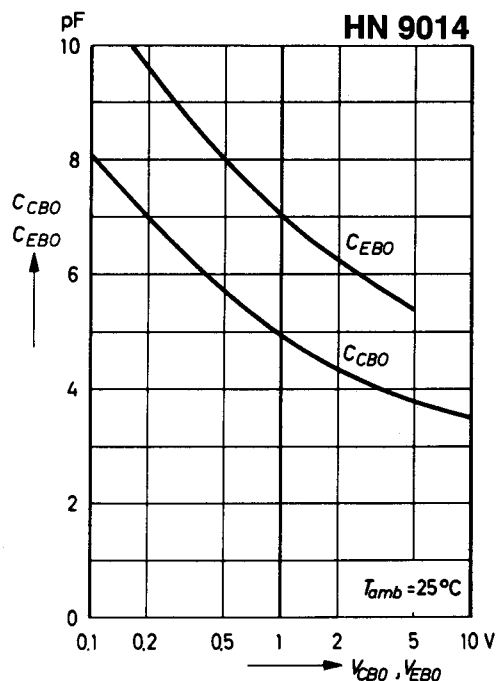
**Collector current versus
base emitter voltage**



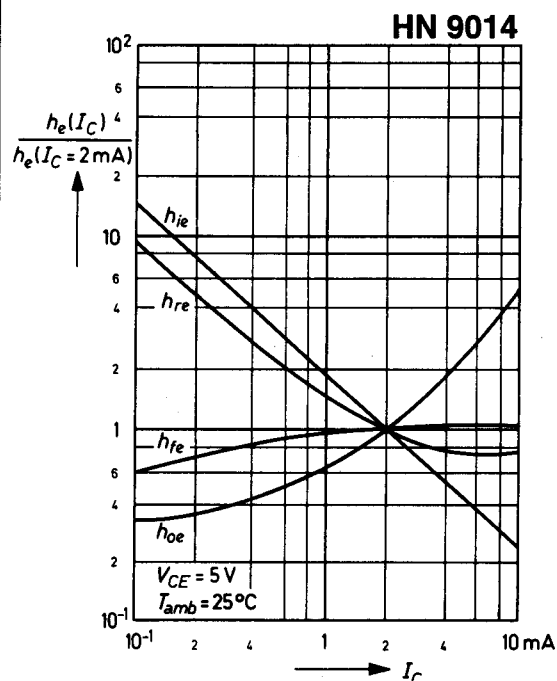
**Collector saturation voltage
versus collector current**



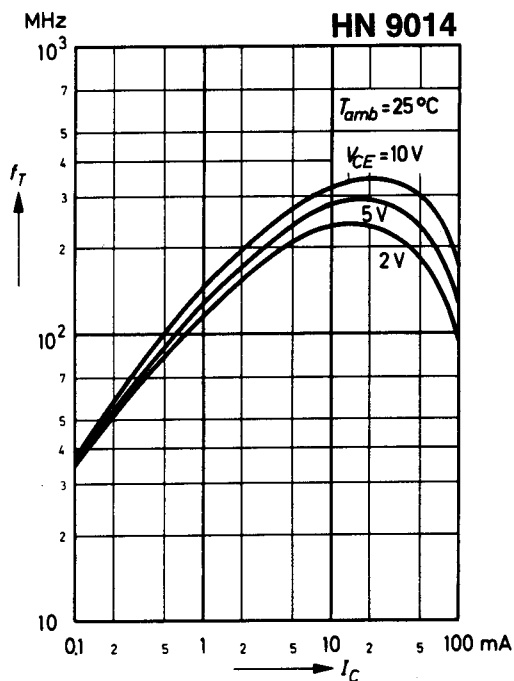
Collector base capacitance,
Emitter base capacitance
versus reverse bias voltage



Relative h-parameters
versus collector current



Gain bandwidth product
versus collector current



Noise figure
versus collector current

