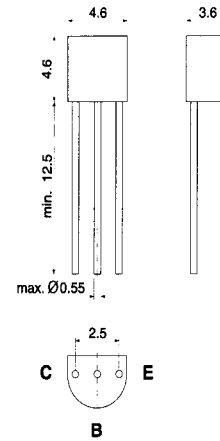


PNP Silicon Expitaxial Planar Transistor
for switching and AF amplifier applications.

These transistors are subdivided into three groups A, B and C according to their current gain. the type BC556 is available in groups A and B, however, the types BC557 and BC558 can be supplied in all three groups. The BC559 is a low-noise type available in all three groups. As complementary types, the NPN transistors BC546...BC549 are 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.



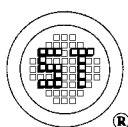
TO-92 Plastic Package
Weight approx. 0.18 g
Dimensions in mm

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

	Symbol	Value	Unit
Collector-Base Voltage	HN / BC556 $-V_{CBO}$	80	V
	HN / BC557 $-V_{CBO}$	50	V
	HN / BC558, HN / BC559 $-V_{CBO}$	30	V
Collector-Emitter Voltage	HN / BC556 $-V_{CES}$	80	V
	HN / BC557 $-V_{CES}$	50	V
	HN / BC558, HN / BC559 $-V_{CES}$	30	V
Collector-Emitter Voltage	HN / BC556 $-V_{CEO}$	65	V
	HN / BC557 $-V_{CEO}$	45	V
	HN / BC558, HN / BC559 $-V_{CEO}$	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 $T_{amb} = 25^\circ\text{C}$	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



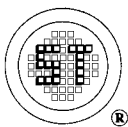
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Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

		Symbol	Min.	Typ.	Max.	Unit
h-Parameters at $-V_{CE} = 5V, -I_C = 2\text{ mA}, f = 1\text{ kHz}$						
Current Gain	Current Gain Group A	h_{ie}	-	220	-	-
	B	h_{ie}	-	330	-	-
	C	h_{ie}	-	600	-	-
Input Impedance	Current Gain Group A	h_{ie}	1.6	2.7	4.5	$k\Omega$
	B	h_{ie}	3.2	4.5	8.5	$k\Omega$
	C	h_{ie}	6	8.7	15	$k\Omega$
Output Admittance	Current Gain Group A	h_{oe}	-	18	30	μS
	B	h_{oe}	-	30	60	μS
	C	h_{oe}	-	60	110	μS
Reverse Voltage Transfer Ratio						
	Current Gain Group A	h_{re}	-	$1.5 \cdot 10^{-4}$	-	-
	B	h_{re}	-	$2 \cdot 10^{-4}$	-	-
	C	h_{re}	-	$3 \cdot 10^{-4}$	-	-
DC Current Gain. at $-V_{CE} = 5V, -I_C = 10\text{ }\mu A$						
	Current Gain Group A	h_{FE}	-	90	-	-
	B	h_{FE}	-	150	-	-
	C	h_{FE}	-	270	-	-
at $-V_{CE} = 5V, -I_C = 2\text{ mA}$						
	Current Gain Group A	h_{FE}	110	180	220	-
	B	h_{FE}	200	290	450	-
	C	h_{FE}	420	500	800	-
at $-V_{CE} = 5V, -I_C = 100\text{ mA}$						
	Current Gain Group A	h_{FE}	-	120	-	-
	B	h_{FE}	-	200	-	-
	C	h_{FE}	-	400	-	-
Thermal Resistance Junction to Ambient Air		R_{thA}	-	-	250 ¹⁾	K/W
Collector Saturation Voltage						
at $-I_C = 10\text{ mA}, -I_B = 0.5\text{ mA}$		$-V_{CEsat}$	-	80	300	mV
at $-I_C = 100\text{ mA}, -I_B = 5\text{ mA}$		$-V_{CEsat}$	-	250	650	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 $-V_{CE} = 5\text{ V}, -I_C = 2\text{ mA}$		$-V_{BE}$	600	660	750	mV
at $-V_{CE} = 5\text{ V}, -I_C = 10\text{ mA}$		$-V_{BE}$	-	-	800	mV
Collector Emitter Cutoff Current						
at $-V_{CE} = 80\text{ V}$						

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

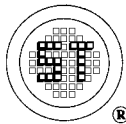
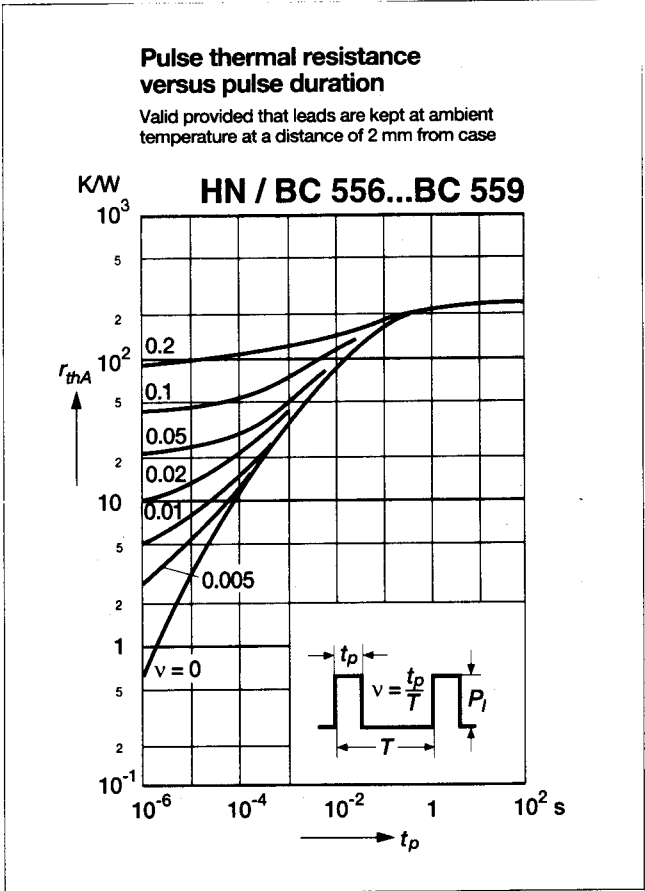
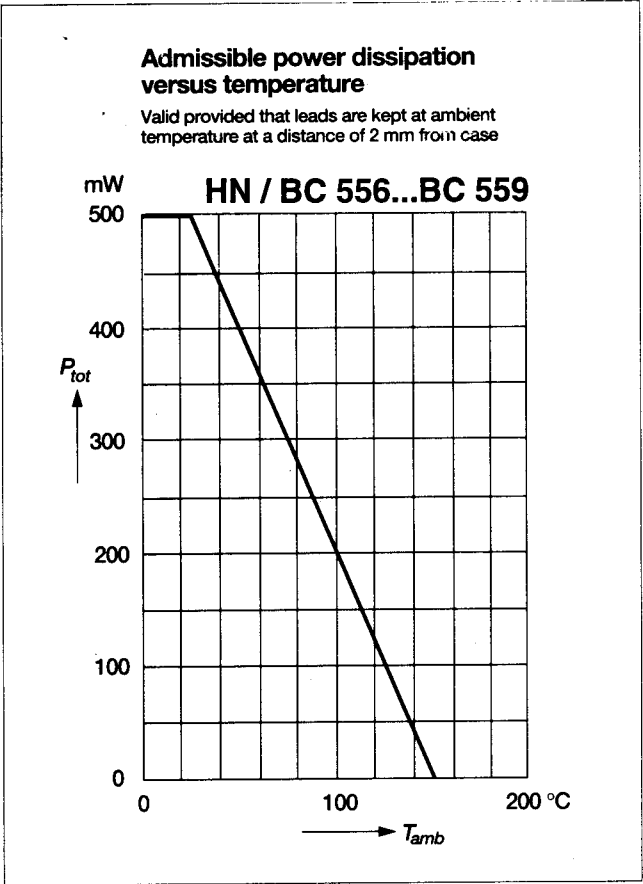

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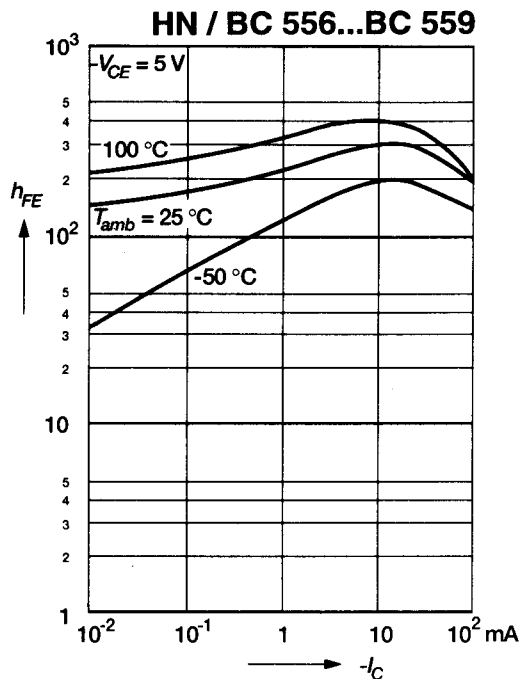


Characteristics, continuation

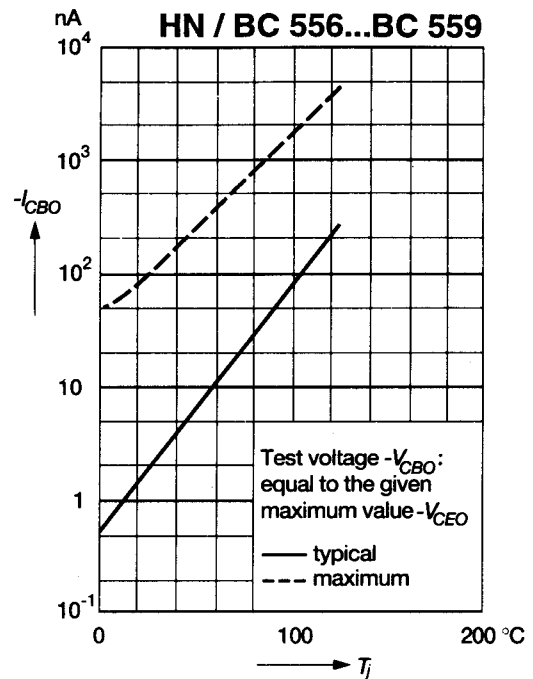
	Symbol	Min.	Typ.	Max.	Unit
Gain-Bandwidth Product at $-V_{CE} = 5V, -I_C = 10\text{ mA}, f = 100\text{MHz}$	f_T	-	150	-	MHz
Collector-Base Capacitance at $-V_{CB} = 10\text{ V}, f = 1\text{MHz}$	C_{CBO}	-	-	6	pF
Noise Figure at $-V_{CE} = 5\text{ V}, -I_C = 200\text{ }\mu\text{A}, R_G = 2\text{ k}\Omega,$ $f = 1\text{kHz}, \Delta f = 200\text{ Hz}$ HN / BC556, BC557, BC558 HN / BC559	F	-	2	10	dB
	F		1	4	dB



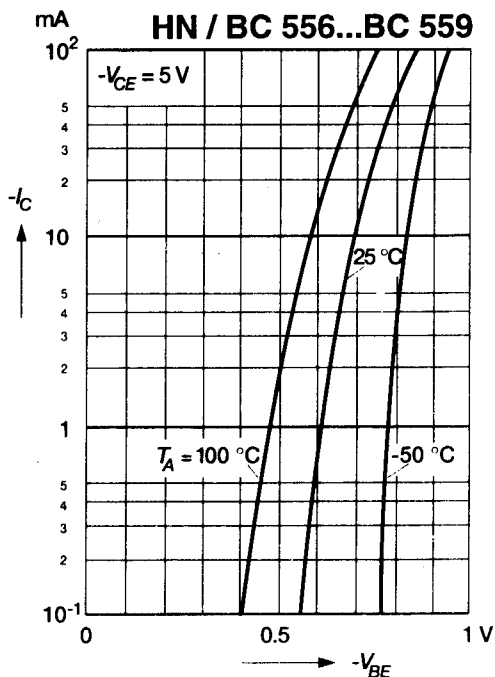
DC current gain
versus collector current



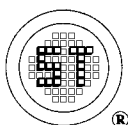
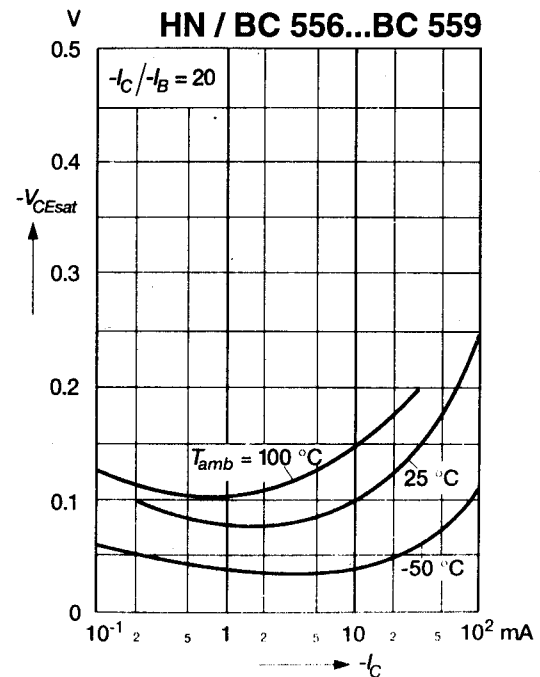
Collector-base cutoff current
versus junction temperature



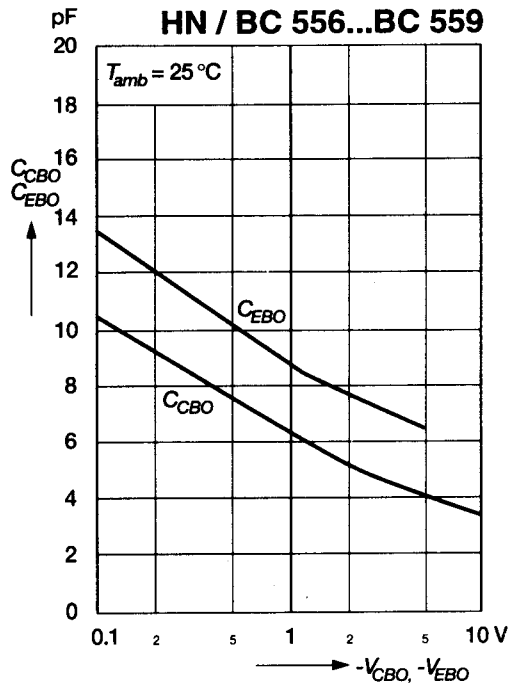
Collector current
versus base-emitter voltage



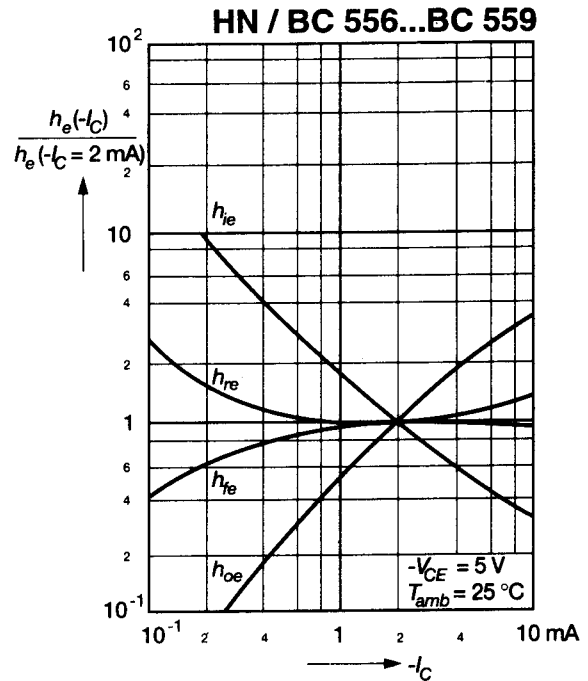
Collector saturation voltage
versus collector current



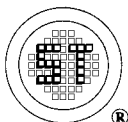
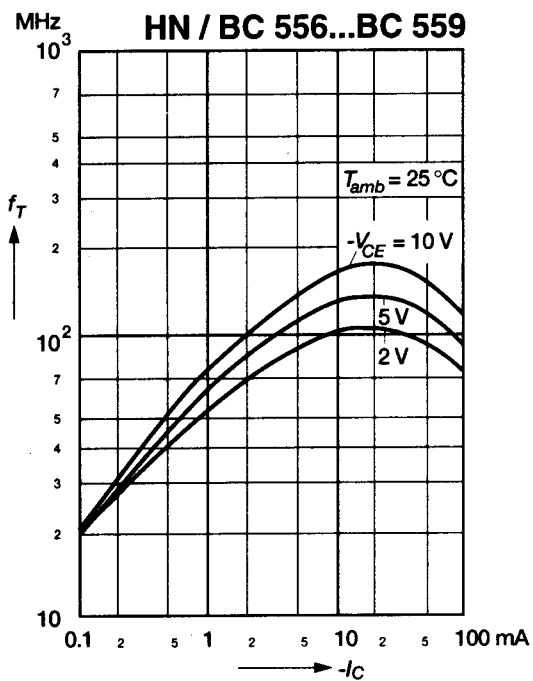
Collector-base capacitance,
Emitter-base capacitance
versus reverse bias voltage



Relative h-parameters
versus collector current



Gain-bandwidth product
versus collector current



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