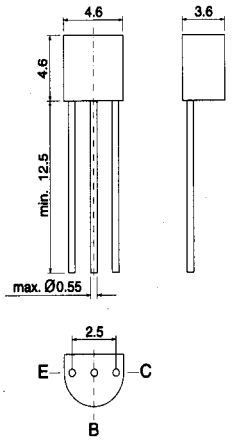
HN / 2N 4400/4401
NPN EPITAXIAL SILICON TRANSISTOR

General purpose transistor

Collector Emitter Voltage: V_{CEO} = 40V
Collector Dissipation: P_C (max) = 625mW

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°C)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 to + 150	°C

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Characteristics at T_{amb} =25 °C

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain.						
at V_{CE} = 1V, I_C = 0.1 mA						
	HN / 2N 4401	h_{FE}	20	-		-
at V_{CE} = 1V, I_C = 1 mA						
	HN / 2N 4400	h_{FE}	20	-		-
	HN / 2N 4401	h_{FE}	40	-		-
at V_{CE} = 1V, I_C = 10 mA						
	HN / 2N 4400	h_{FE}	40	-		-
	HN / 2N 4401	h_{FE}	80	-		-
at V_{CE} = 1V, I_C = 150 mA						
	HN / 2N 4400	h_{FE}	50	-	150	-
	HN / 2N 4401	h_{FE}	100	-	300	-
at V_{CE} = 2V, I_C = 500 mA						
	HN / 2N 4400	h_{FE}	20	-		-
	HN / 2N 4401	h_{FE}	40	-		-
Collector Cutoff Current at V_{CE} = 35 V, at V_{EB} = 0.4V		I_{CEX}	-	-	100	nA
Collector Emitter Breakdown Voltage at I_C = 1 mA, I_B = 0		$V_{(BR)CEO}$	40	-	-	V
Collector Base Breakdown Voltage at I_C = 100 µA, I_E = 0		$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Saturation Voltage at I_C = 150 mA, I_B = 15 mA at I_C = 50 mA, I_B = 50 mA		V_{CEsat}	-	- -	0.4 0.75	V V
Collector Saturation Voltage at I_C = 150 mA, I_B = 15 mA at I_C = 500 mA, I_B = 50 mA		V_{BEsat}	0.75 -	-	0.95 1.2	V
Emitter Base Breakdown Voltage at I_E = 100 µA, I_C = 0		$V_{BR(EBO)}$	6	-	-	V
Gain Bandwidth Product at V_{CE} = 10V, I_C = 20 mA, f = 100MHz						
	HN / 2N 4400		200	-	-	MHz
	HN / 2N 4401	f_T	250	-	-	MHz
Collector Base Capacitance at V_{CB} = 5 V, f = 100MHz, I_E = 0		$C_{(CBO)}$	-	-	6.5	pF
Turn On Time at V_{CC} = 30 V, V_{BE} = 2V, I_C = 150 mA, I_B1 = 15 mA		t_{on}	-	-	35	ns
Turn Off Time at V_{CC} = 30 V, I_C = 150 mA, I_B1 = I_B2 = 15mA		t_{off}	-	-	255	ns

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

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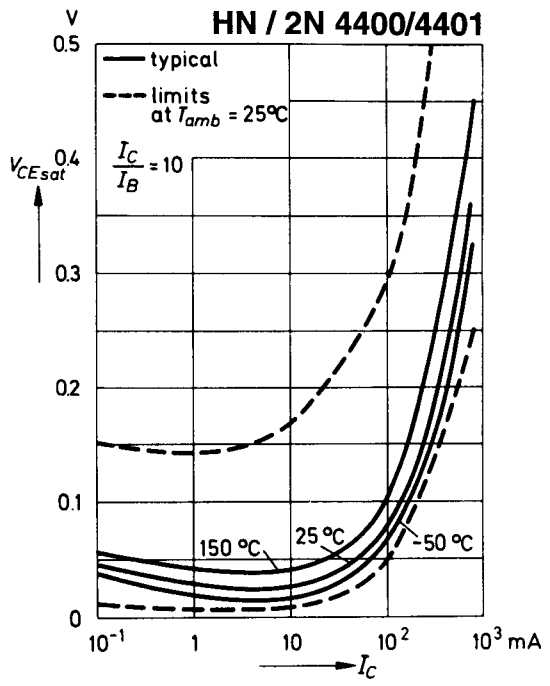
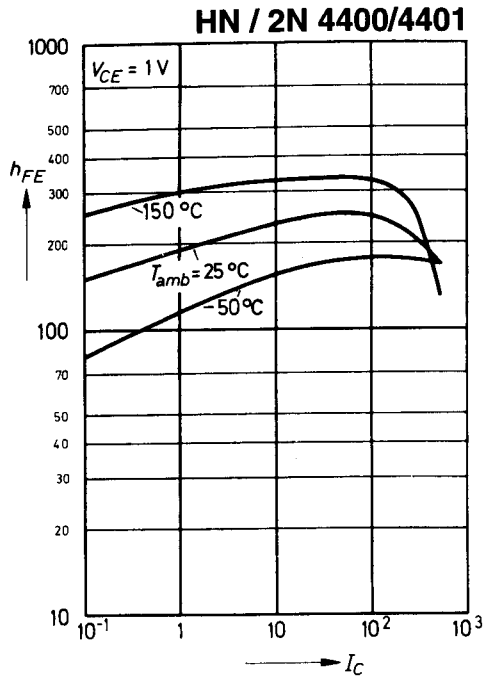
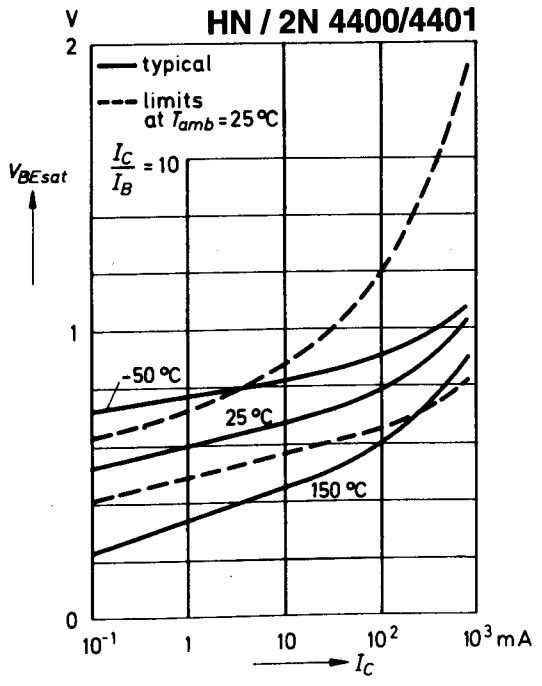
Collector saturation voltage versus collector current



DC current gain versus collector current



Base saturation voltage versus collector current



Common emitter collector characteristics