

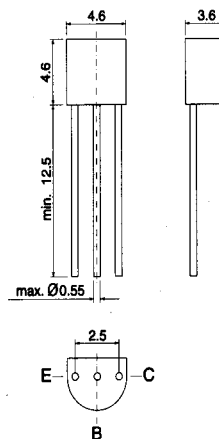
HN / 2N 4400/4401 NPN EPITAXIAL SILICON TRANSISTOR

General purpose transistor

Collector Emitter Voltage: $V_{CEO} = 40V$

Collector Dissipation: $P_C(\text{max}) = 625mW$

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.

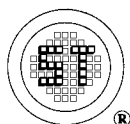


TO-92 Plastic Package
Weight approx. 0.18 g
Dimensions in mm

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

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	$^\circ C$
Storage Temperature Range	T_S	-55 to + 150	$^\circ C$

G S P FORM A AVAILABLE



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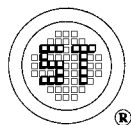
HN / 2N 4400/4401

NPN EPITAXIAL SILICON TRANSISTOR

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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain. at $V_{CE} = 1\text{V}$, $I_C = 0.1\text{ mA}$	HN / 2N 4401 h_{FE}	20	-		-
at $V_{CE} = 1\text{V}$, $I_C = 1\text{ mA}$	HN / 2N 4400 h_{FE}	20	-		-
	HN / 2N 4401 h_{FE}	40	-		-
at $V_{CE} = 1\text{V}$, $I_C = 10\text{ mA}$	HN / 2N 4400 h_{FE}	40	-		-
	HN / 2N 4401 h_{FE}	80	-		-
at $V_{CE} = 1\text{V}$, $I_C = 150\text{ mA}$	HN / 2N 4400 h_{FE}	50	-	150	-
	HN / 2N 4401 h_{FE}	100	-	300	-
at $V_{CE} = 2\text{V}$, $I_C = 500\text{ mA}$	HN / 2N 4400 h_{FE}	20	-		-
	HN / 2N 4401 h_{FE}	40	-		-
Collector Cutoff Current at $V_{CE} = 35\text{ V}$, at $V_{EB} = 0.4\text{V}$	I_{CEX}	-	-	100	nA
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$, $I_B = 0$	$V_{(BR)CEO}$	40	-	-	V
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$, $I_E = 0$	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Saturation Voltage at $I_C = 150\text{ mA}$, $I_B = 15\text{ mA}$ at $I_C = 50\text{ mA}$, $I_B = 50\text{ mA}$	V_{CEsat}	-	-	0.4 0.75	V V
Collector Saturation Voltage at $I_C = 150\text{ mA}$, $I_B = 15\text{ mA}$ at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	V_{BEsat}	0.75 -	-	0.95 1.2	V V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$, $I_C = 0$	$V_{BR(EBO)}$	6	-	-	V
Gain Bandwidth Product at $V_{CE} = 10\text{V}$, $I_C = 20\text{ mA}$, $f = 100\text{MHz}$	HN / 2N 4400 HN / 2N 4401 f_T	200 250	- -	- -	MHz MHz
Collector Base Capacitance at $V_{CB} = 5\text{ V}$, $f = 100\text{MHz}$, $I_E = 0$	$C_{(CBO)}$	-	-	6.5	pF
Turn On Time at $V_{CC} = 30\text{ V}$, $V_{BE} = 2\text{V}$, $I_C = 150\text{ mA}$, $I_{B1} = 15\text{ mA}$	t_{on}	-	-	35	ns
Turn Off Time at $V_{CC} = 30\text{ V}$, $I_C = 150\text{ mA}$, $I_{B1} = I_{B2} = 15\text{mA}$	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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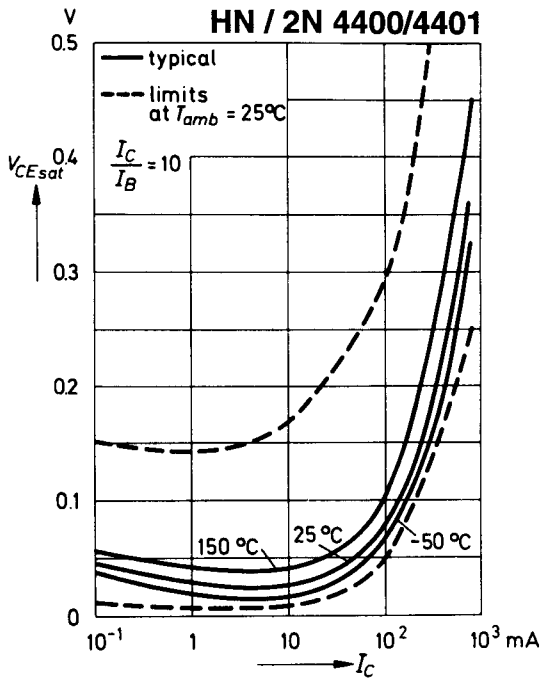


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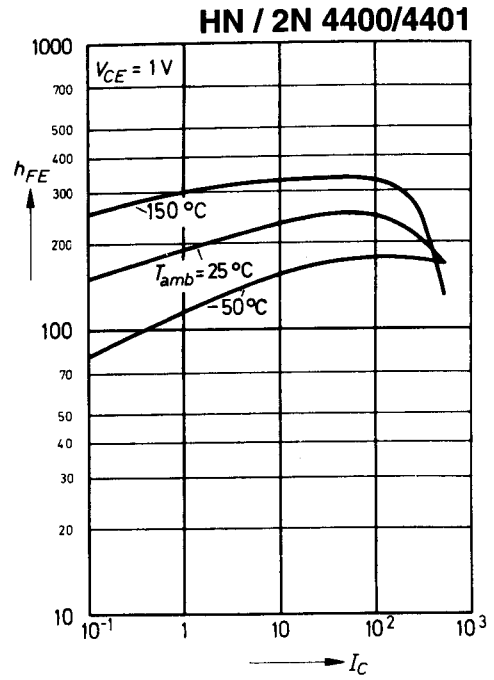


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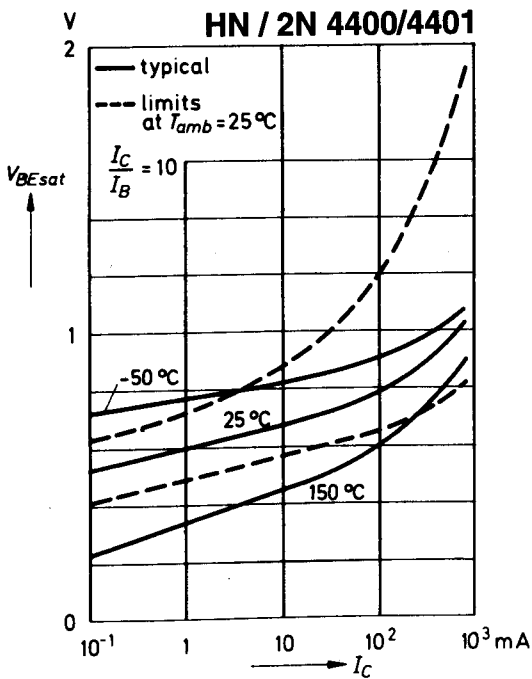
Collector saturation voltage
versus collector current



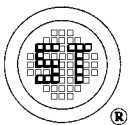
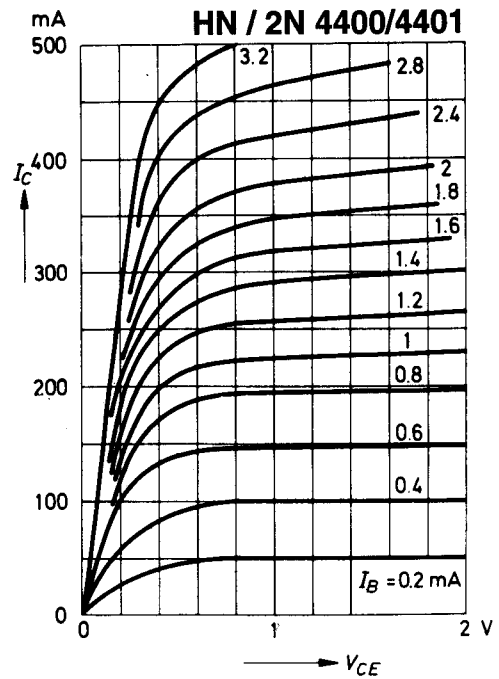
DC current gain
versus collector current



Base saturation voltage
versus collector current



Common emitter
collector characteristics



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