

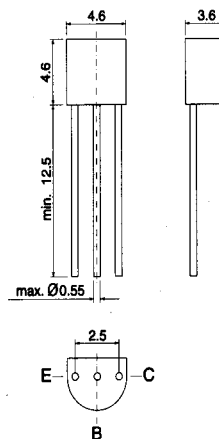
HN / 2N 4400/4401 NPN EPITAXIAL SILICON TRANSISTOR

General purpose transistor

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

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

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.

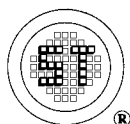


TO-92 Plastic Package
Weight approx. 0.18 g
Dimensions in mm

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

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

G S P FORM A AVAILABLE



SEMTECH ELECTRONICS LTD.
(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)



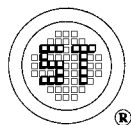
HN / 2N 4400/4401

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.					

G S P FORM A AVAILABLE

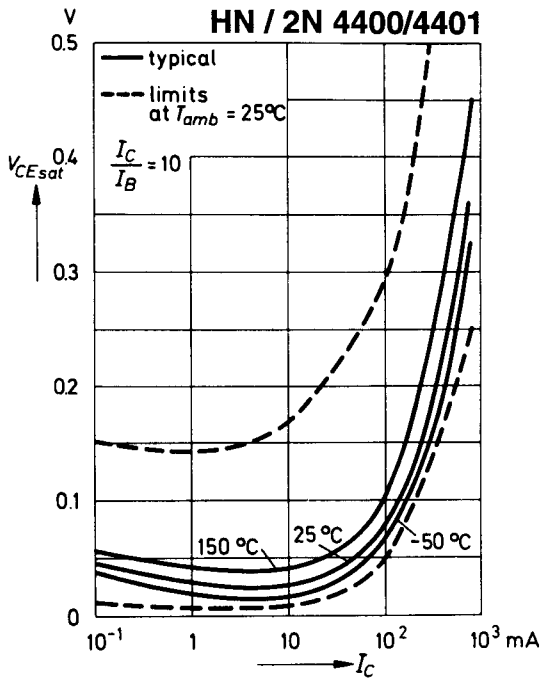


SEMTECH ELECTRONICS LTD.
(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)

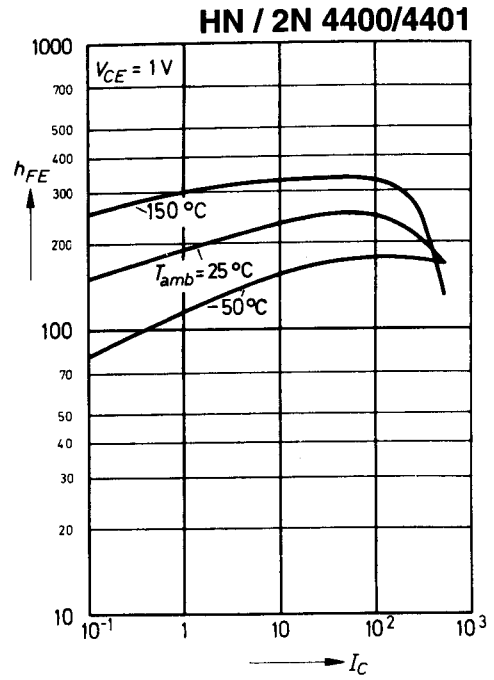


HN / 2N 4400/4401 NPN EPITAXIAL SILICON TRANSISTOR

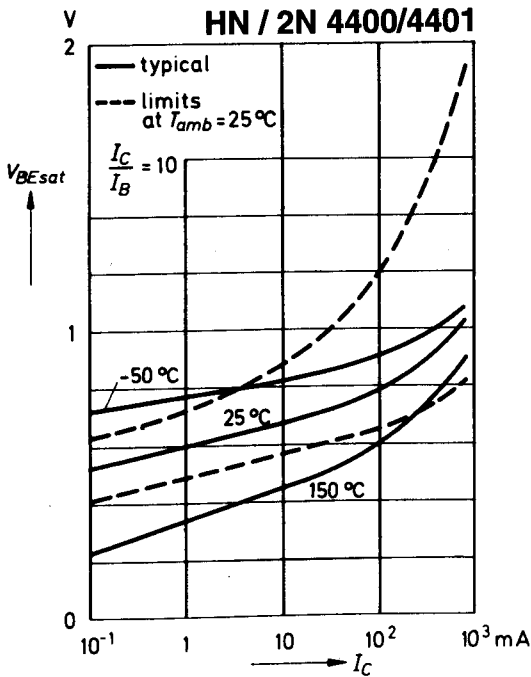
Collector saturation voltage
versus collector current



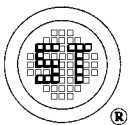
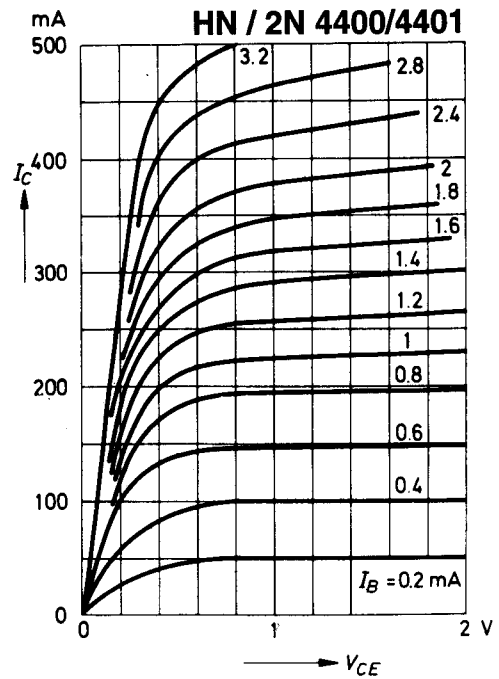
DC current gain
versus collector current



Base saturation voltage
versus collector current



Common emitter
collector characteristics



SEMTECH ELECTRONICS LTD.

(wholly owned subsidiary of HONEY TECHNOLOGY LTD.)

