

HN / 2N 4402/4403

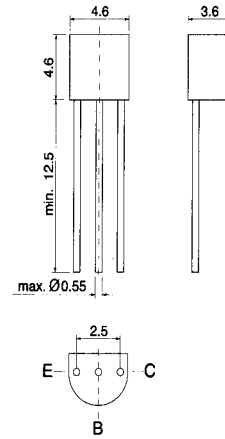
PNP EPITAXIAL SILICON TRANSISTOR

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.

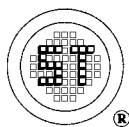


TO-92 Plastic Package
Weight approx. 0.18 g
Dimensions in mm

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_c	-600	mA
Collector Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_s	-55 to + 150	$^\circ C$

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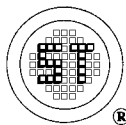
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Characteristics at $T_{amb} = 25^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain. at $-V_{CE} = 1\text{V}$, $-I_C = 0.1\text{ mA}$	HN / 2N 4403 h_{FE}	30	-	-	-
at $-V_{CE} = 1\text{V}$, $-I_C = 1\text{ mA}$	HN / 2N 4402 h_{FE}	30	-	-	-
	HN / 2N 4403 h_{FE}	60	-	-	-
at $-V_{CE} = 1\text{V}$, $-I_C = 10\text{ mA}$	HN / 2N 4402 h_{FE}	50	-	-	-
	HN / 2N 4403 h_{FE}	100	-	-	-
at $-V_{CE} = 1\text{V}$, $-I_C = 150\text{ mA}$	HN / 2N 4402 h_{FE}	50	-	150	-
	HN / 2N 4403 h_{FE}	100	-	300	-
at $-V_{CE} = 2\text{V}$, $-I_C = 500\text{ mA}$	HN / 2N 4402 h_{FE}	20	-	-	-
	HN / 2N 4403 h_{FE}	20	-	-	-
Collector Cutoff Current at $-V_{CE} = 35\text{ V}$, at $-V_{EB} = 0.4\text{V}$	$-I_{CEX}$	-	-	100	nA
Base Cutoff Current at $-V_{CE} = 35\text{ V}$, at $-V_{EB} = 0.4\text{V}$	$-I_{BEV}$	-	-	100	nA
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	40	-	-	V
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	-	V
Collector Saturation Voltage at $-I_C = 150\text{ mA}$, $-I_B = 15\text{ mA}$	$-V_{CEsat}$	-	-	0.4	V
Base Saturation Voltage at $-I_C = 150\text{ mA}$, $-I_B = 15\text{ mA}$	$-V_{BEsat}$	0.75	-	0.95	V
Emitter Base Breakdown Voltage at $-I_E = 100\text{ }\mu\text{A}$	$-V_{BR(EBO)}$	5	-	-	V
Gain Bandwidth Product at $-V_{CE} = 10\text{V}$, $-I_C = 20\text{ mA}$, $f = 100\text{MHz}$	HN / 2N 4402 HN / 2N 4403 f_T	150 200	- -	- -	MHz MHz
Collector Base Capacitance at $-V_{CB} = 10\text{ V}$, $f = 140\text{MHz}$, $-I_E = 0$	$C_{(CBO)}$	-	-	8.5	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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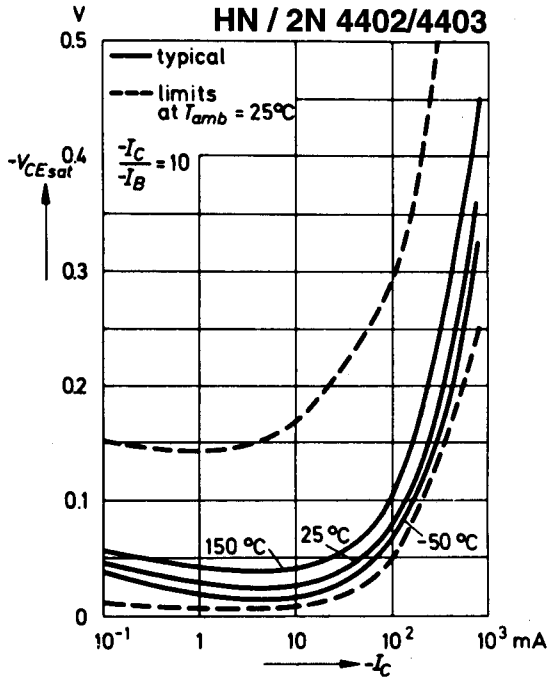
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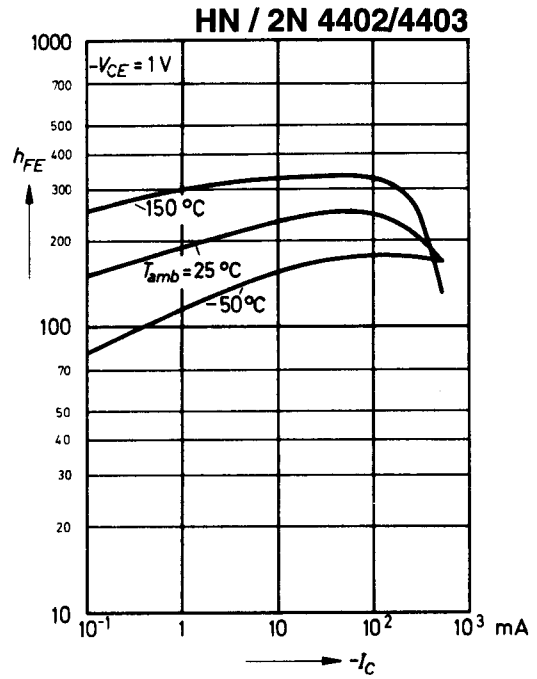


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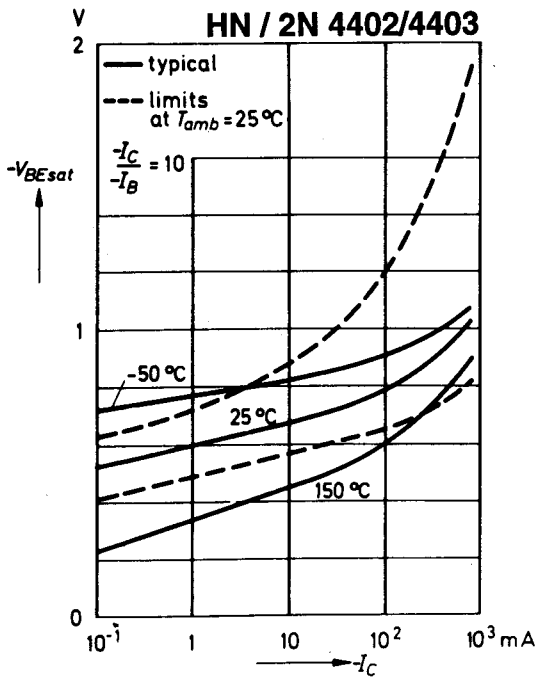
Collector saturation voltage
versus collector current



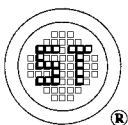
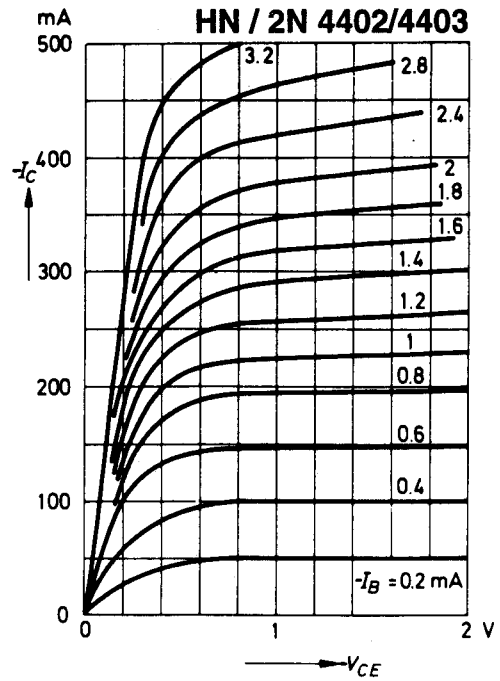
DC current gain
versus collector current



Base saturation voltage
versus collector current



Common emitter collector
characteristics



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