

PNP Silicon Epitaxial Planar Transistor

for switching and amplifier applications.

As complementary types the NPN transistors 2N3903 and 2N3904 are recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

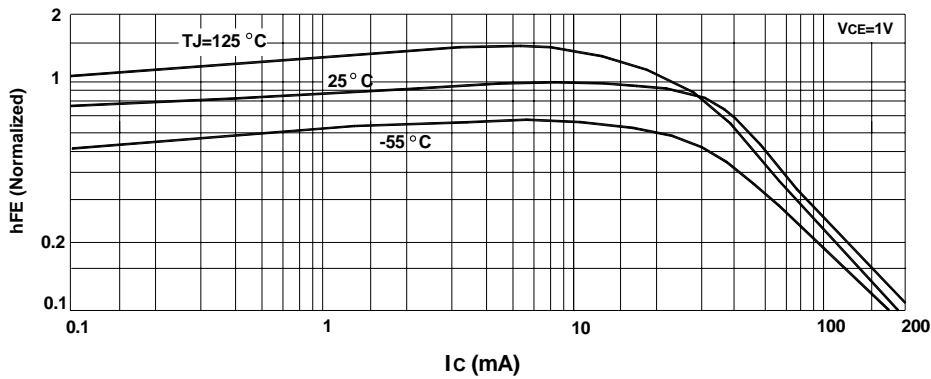
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40	V
Collector Emitter Voltage	$-V_{CEO}$	40	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	200	mA
Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

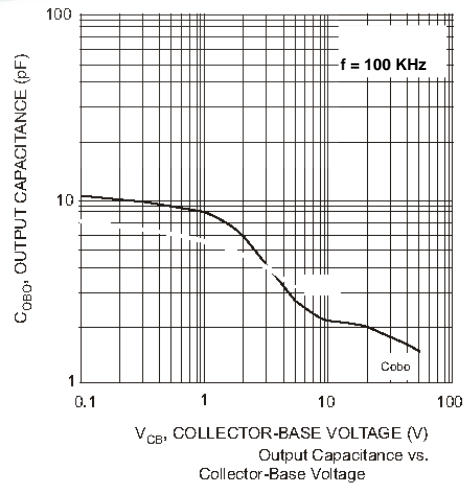
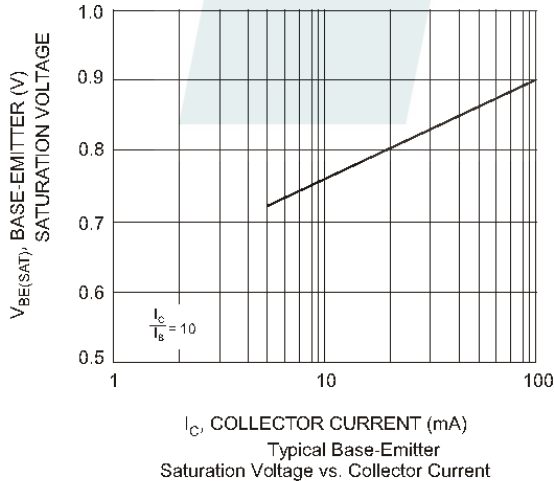
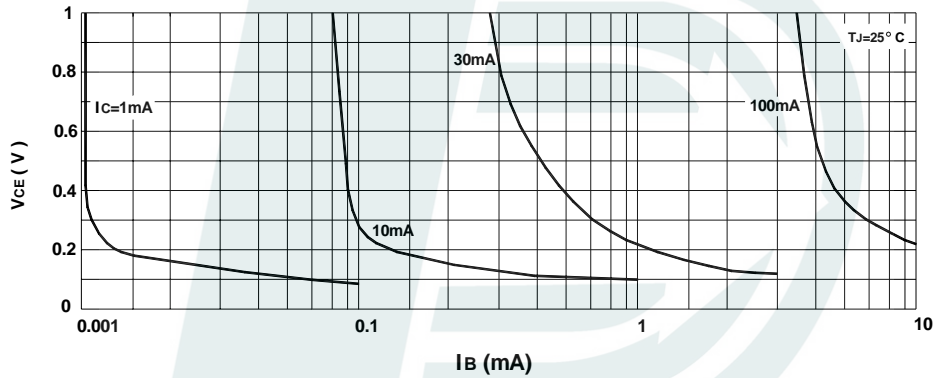
Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 1\text{ V}$, $-I_C = 0.1\text{ mA}$ at $-V_{CE} = 1\text{ V}$, $-I_C = 1\text{ mA}$ at $-V_{CE} = 1\text{ V}$, $-I_C = 10\text{ mA}$ at $-V_{CE} = 1\text{ V}$, $-I_C = 50\text{ mA}$ at $-V_{CE} = 1\text{ V}$, $-I_C = 100\text{ mA}$	2N3905	h_{FE}	30	-
	2N3906	h_{FE}	60	-
	2N3905	h_{FE}	40	-
	2N3906	h_{FE}	80	-
	2N3905	h_{FE}	50	150
	2N3906	h_{FE}	100	300
	2N3905	h_{FE}	30	-
	2N3906	h_{FE}	60	-
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	50	nA
Emitter Base Cutoff Current at $-V_{EB} = 6\text{ V}$	$-I_{EBO}$	-	50	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	V
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	40	-	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 1\text{ mA}$ at $-I_C = 50\text{ mA}$, $-I_B = 5\text{ mA}$	$-V_{CE(sat)}$	-	0.25	V
	$-V_{CE(sat)}$	-	0.4	
Base Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 1\text{ mA}$ at $-I_C = 50\text{ mA}$, $-I_B = 5\text{ mA}$	$-V_{BE(sat)}$	-	0.85	V
	$-V_{BE(sat)}$	-	0.95	
Gain Bandwidth Product at $-V_{CE} = 20\text{ V}$, $-I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	2N3905	f_T	200	-
	2N3906		250	-
Collector Base Capacitance at $-V_{CB} = 5\text{ V}$, $f = 100\text{ KHZ}$	C_{ob}	-	4.5	pF
Delay Time at $-V_{CC} = 3\text{ V}$, $-V_{BE} = 0.5\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = 1\text{ mA}$	t_d	-	35	ns
Rise Time at $-V_{CC} = 3\text{ V}$, $-V_{BE} = 0.5\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = 1\text{ mA}$	t_r	-	35	ns
Storage Time at $-V_{CC} = 3\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = I_{B2} = 1\text{ mA}$	t_s	-	225	ns
Fall Time at $-V_{CC} = 3\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = I_{B2} = 1\text{ mA}$	t_f	-	75	ns

DC Current Gain



Collector Saturation Region



Inquire@party-itl.com