



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

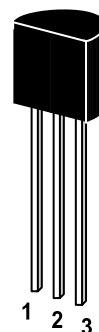
ST 2N3903 / 2N3904

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications.

As complementary types the PNP transistors
2N3905 and 2N3906 are recommended.

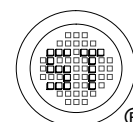
On special request, these transistors can be
manufactured in different pin configurations.



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package
Weight approx. 0.19g

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

Parameter	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	200	mA
Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	- 55 to + 150	$^\circ\text{C}$



Dated : 09/03/2007



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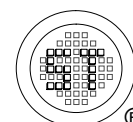
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Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at V _{CE} = 1 V, I _C = 0.1 mA	2N3903 h _{FE}	20	-	-
	2N3904 h _{FE}	40	-	-
at V _{CE} = 1 V, I _C = 1 mA	2N3903 h _{FE}	35	-	-
	2N3904 h _{FE}	70	-	-
at V _{CE} = 1 V, I _C = 10 mA	2N3903 h _{FE}	50	150	-
	2N3904 h _{FE}	100	300	-
at V _{CE} = 1 V, I _C = 50 mA	2N3903 h _{FE}	30	-	-
	2N3904 h _{FE}	60	-	-
at V _{CE} = 1 V, I _C = 100 mA	2N3903 h _{FE}	15	-	-
	2N3904 h _{FE}	30	-	-
Collector Cutoff Current at V _{CB} = 30 V	I _{CBO}	-	50	nA
Emitter Cutoff Current at V _{EB} = 6 V	I _{EBO}	-	50	nA
Collector Base Breakdown Voltage at I _C = 10 μA	V _{(BR)CBO}	60	-	V
Collector Emitter Breakdown Voltage at I _C = 1 mA	V _{(BR)CEO}	40	-	V
Emitter Base Breakdown Voltage at I _E = 10 μA	V _{(BR)EBO}	6	-	V
Collector Emitter Saturation Voltage at I _C = 10 mA, I _B = 1 mA	V _{CEsat}	-	0.2	V
at I _C = 50 mA, I _B = 5 mA	V _{CEsat}	-	0.3	V
Base Emitter Saturation Voltage at I _C = 10 mA, I _B = 1 mA	V _{BEsat}	-	0.85	V
at I _C = 50 mA, I _B = 5 mA	V _{BEsat}	-	0.95	V
Gain Bandwidth Product at V _{CE} = 20 V, I _C = 10 mA, f = 100 MHz	2N3903 f _T	250	-	MHz
	2N3904 f _T	300	-	MHz
Collector Base Capacitance at V _{CB} = 5 V, f = 100 KHz	C _{cb}	-	4	pF
Emitter Base Capacitance at V _{EB} = 0.5 V, f = 100 KHz	C _{eb}	-	8	pF
Thermal Resistance Junction to Ambient	R _{thA}	-	250 ¹⁾	K/W

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





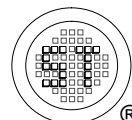
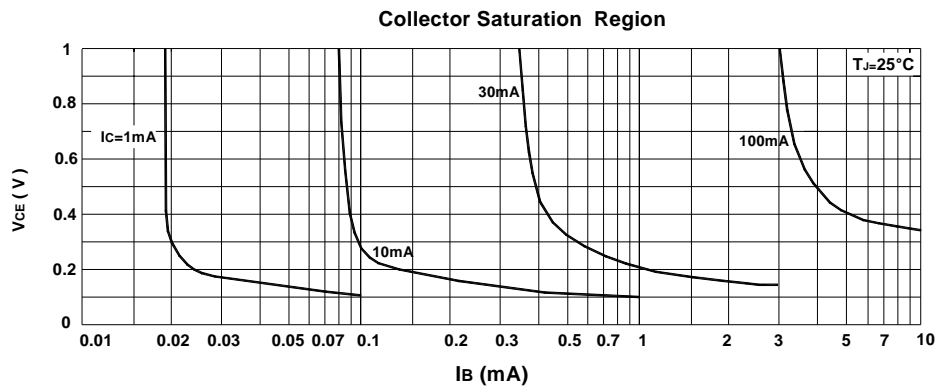
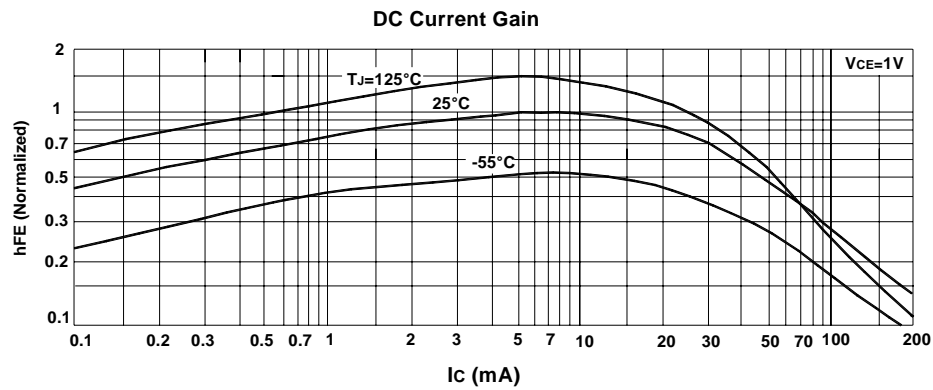
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