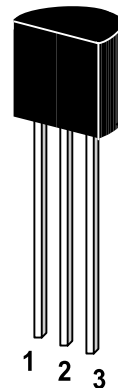


ST 2N3903 / 2N3904

NPN Silicon Epitaxial Planar Transistor
for switching and amplifier applications.

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

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



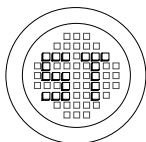
1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

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

	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	100	mA
Peak Collector Current	I_{CM}	200	mA
Power Dissipation	P_{tot}	500 ¹⁾	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^\circ\text{C}$
¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case			

G S P FORM A IS AVAILABLE



®

РАДИОТЕХ-ТРЕЙД

Тел.: (495) 795-0805
Факс: (495) 234-1603
Эл. почта: info@rct.ru
Веб: www.rct.ru

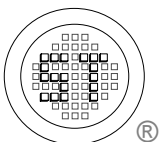
ST 2N3903 / 2N3904

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

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	at $V_{CE}=1V$, $I_C=0.1mA$	ST 2N3903	h_{FE}	20	-	-
		ST 2N3904	h_{FE}	40	-	-
	at $V_{CE}=1V$, $I_C=1mA$	ST 2N3903	h_{FE}	35	-	-
		ST 2N3904	h_{FE}	70	-	-
	at $V_{CE}=1V$, $I_C=10mA$	ST 2N3903	h_{FE}	50	-	150
		ST 2N3904	h_{FE}	100	-	300
	at $V_{CE}=1V$, $I_C=50mA$	ST 2N3903	h_{FE}	30	-	-
		ST 2N3904	h_{FE}	60	-	-
	at $V_{CE}=1V$, $I_C=100mA$	ST 2N3903	h_{FE}	15	-	-
		ST 2N3904	h_{FE}	30	-	-
Collector Saturation Voltage	at $I_C=10mA$, $I_B=1mA$	V_{CEsat}	-	-	0.2	V
	at $I_C=50mA$, $I_B=5mA$	V_{CEsat}	-	-	0.3	V
Base Saturation Voltage	at $I_C=10mA$, $I_B=1mA$	V_{BEsat}	-	-	0.85	V
	at $I_C=50mA$, $I_B=5mA$	V_{BEsat}	-	-	0.95	V
Collector Cutoff Current	at $V_{EB}=3V$, $V_{CE}=30V$	I_{CEV}	-	-	50	nA
Emitter Cutoff Current	at $V_{EB}=3V$, $V_{CE}=4V$	I_{EBV}	-	-	50	nA
Collector Base Breakdown Voltage	at $I_C=10\mu A$, $I_E=0$	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage	at $I_C=1mA$, $I_B=0$	$V_{(BR)CEO}$	40	-	-	V
Emitter Base Breakdown Voltage	at $I_E=10\mu A$, $I_C=0$	$V_{(BR)EBO}$	6	-	-	V
Gain Bandwidth Product	at $V_{CE}=20V$, $I_C=10mA$, $f=100MHz$	ST 2N3903	f_T	250	-	MHz
		ST 2N3904	f_T	300	-	MHz
Collector Base Capacitance	at $V_{CB}=5V$, $f=100kHz$	C_{CBO}	-	-	4	pF
Emitter Base Capacitance	at $V_{EB}=0.5V$, $f=100kHz$	C_{EBO}	-	-	8	pF
Thermal Resistance Junction to Ambient		R_{thA}	-	-	250 ¹⁾	K/W

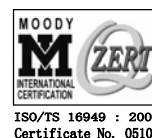
¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

G S P FORM A IS AVAILABLE



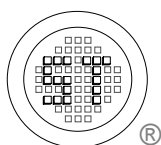
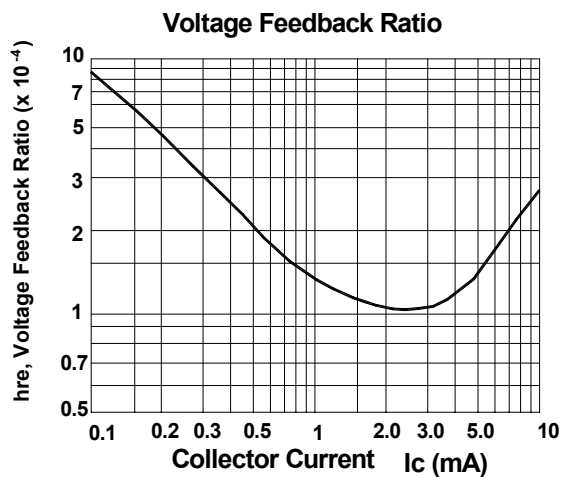
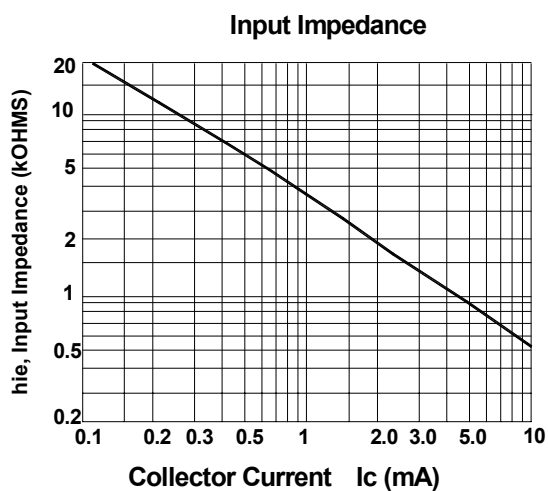
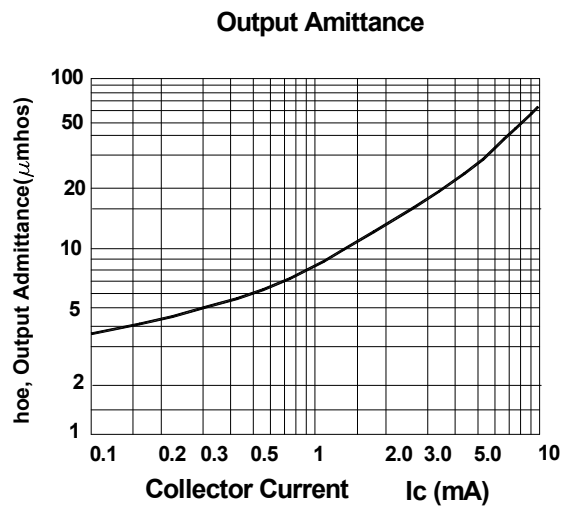
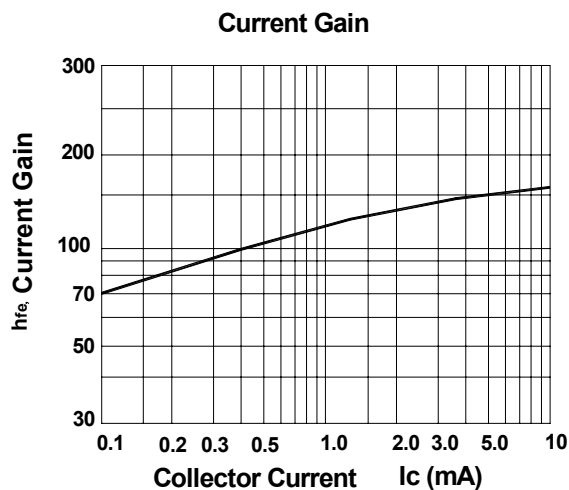
SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



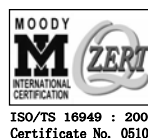
Dated : 16/06/2004

h Parameters ($V_{CE}=10V$, $T_a=25^\circ C$, $f=1kHz$)



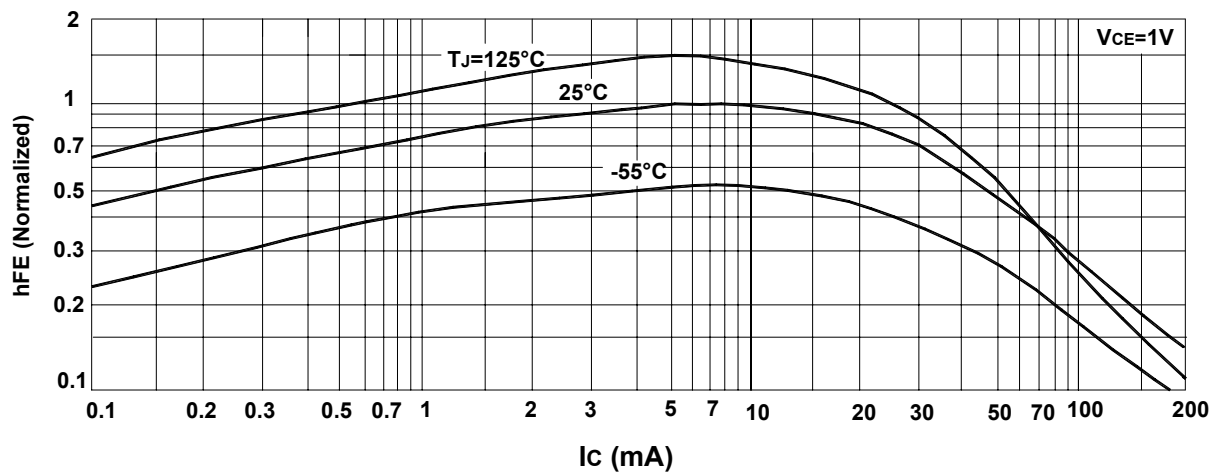
SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)

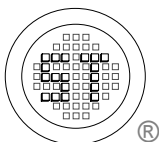
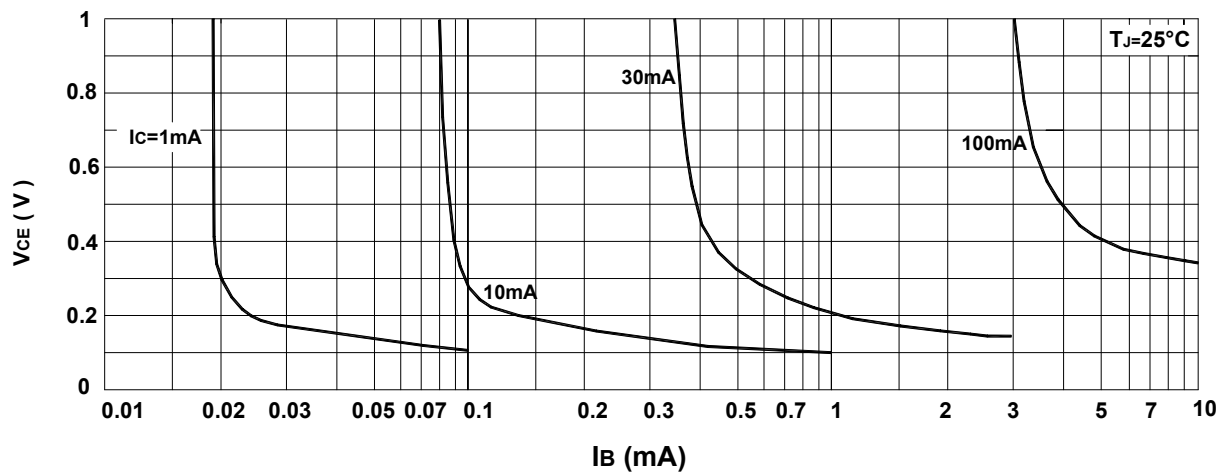


Dated : 16/06/2004

DC Current Gain

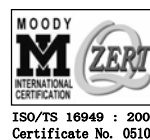


Collector Saturation Region



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 16/06/2004