

ST 2SC2786

NPN Silicon Epitaxial Planar Transistor

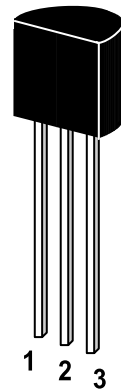
for FM RF amplifier and local oscillator of FM tuner.

The transistor is subdivided into three groups M, L, and K, according to its DC current gain.

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

Features

- 1) High gain bandwidth product
- 2) Small output capacitance
- 3) Low noise figure

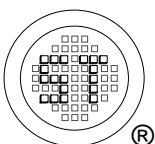


1. Emitter 2. Collector 3. Base

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}	30	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	4	V
Collector Current	I_{C}	20	mA
Base Current	I_{B}	20	mA
Power Dissipation	P_{tot}	250	mW
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{s}	-55 to +150	$^\circ\text{C}$



SEMTECH ELECTRONICS LTD.

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



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



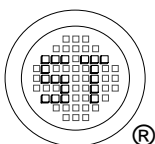
ISO 9001:2000
Certificate No. 0506098

Dated : 17/05/2003

ST 2SC2786

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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=6\text{V}$, $I_C=1\text{mA}$					
Current Gain Group M	h_{FE}	40	-	80	-
L	h_{FE}	60	-	120	-
K	h_{FE}	90	-	180	-
Collector Cutoff Current at $V_{CB}=30\text{V}$	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current at $V_{EB}=4\text{V}$	I_{EBO}	-	-	0.1	μA
Base Emitter Voltage at $V_{CE}=6\text{V}$, $I_C=1\text{mA}$	V_{BE}	-	0.72	-	V
Collector Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$	$V_{CE(sat)}$	-	0.1	0.3	V
Gain Bandwidth Product at $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$	f_T	400	600	-	MHz
Power Gain at $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$ $f=100\text{MHz}$, $R_G=50\Omega$	Gpe	18	22	-	dB
Collector Base Time Constant at $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$, $f=31.9\text{MHz}$	$C_C \cdot r_{b'b}$	-	12	15	Ps
Output Capacitance at $V_{CB}=6\text{V}$, $f=1\text{MHz}$	C_{OB}	-	1	1.3	pF
Noise Figure at $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$ $f=100\text{MHz}$, $R_G=50\Omega$	NF	-	3.0	5	dB



SEMTECH ELECTRONICS LTD.

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



ISO/TS 16949 : 2002
Certificate No. 05103



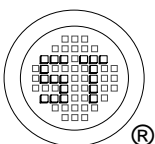
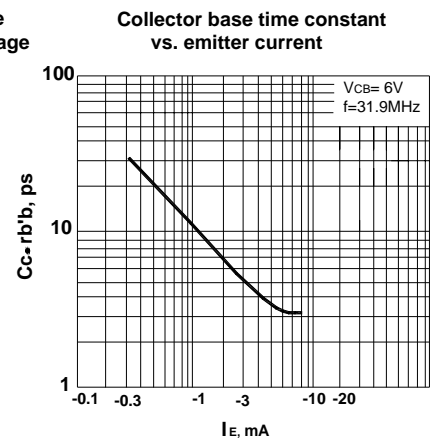
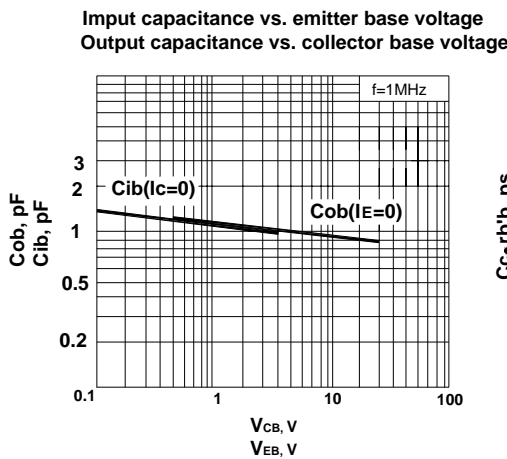
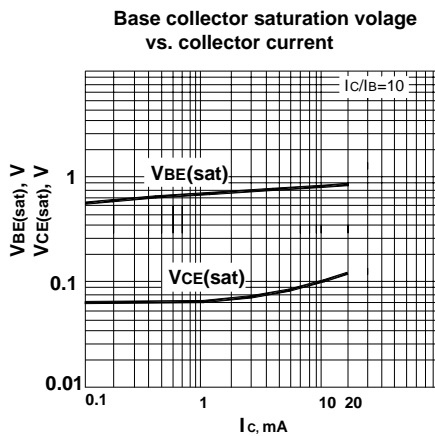
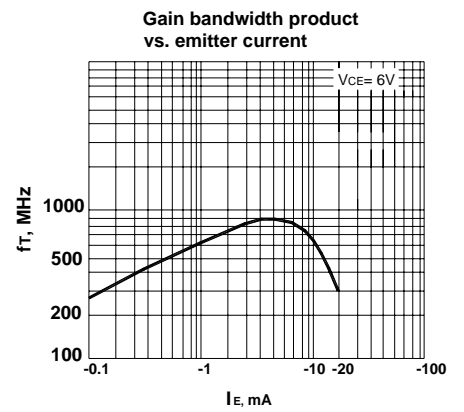
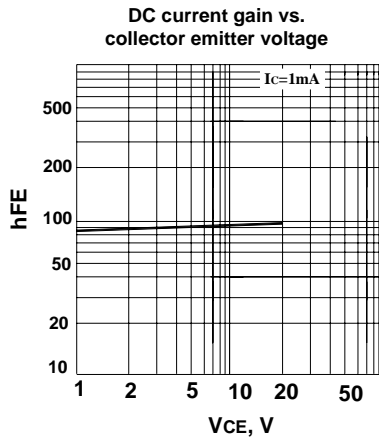
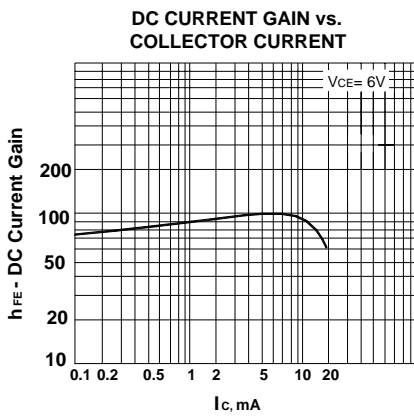
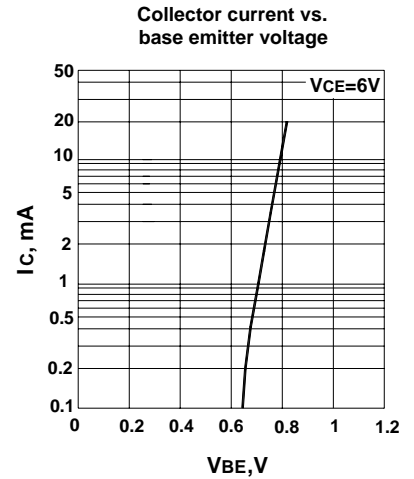
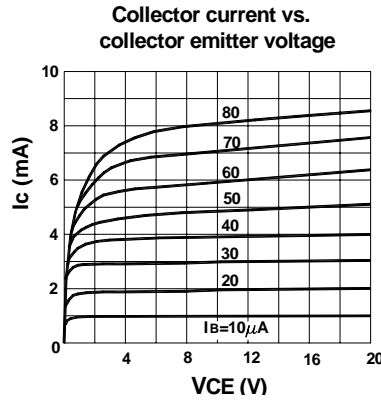
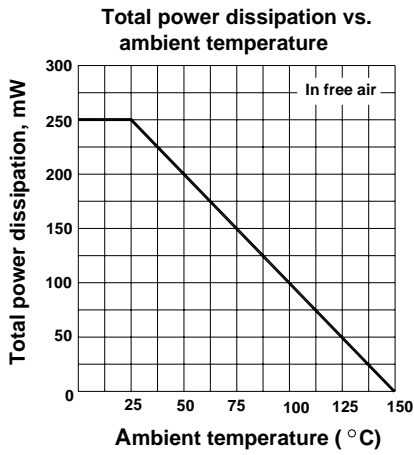
ISO 14001:2004
Certificate No. 71116



ISO 9001:2000
Certificate No. 0506098

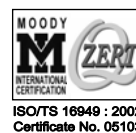
Dated : 17/05/2003

ST 2SC2786



SEMTECH ELECTRONICS LTD.

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



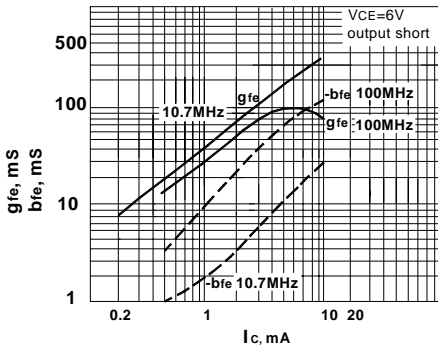
ISO/TS 16949 : 2002
Certificate No. 05103

ISO 14001:2004
Certificate No. 7116

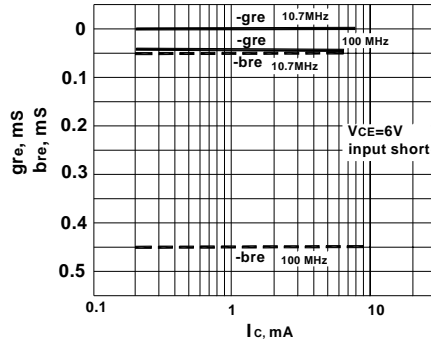
ISO 9001:2000
Certificate No. 050698

Dated : 17/05/2003

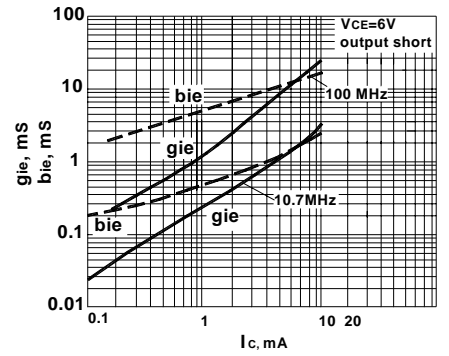
Forward transfer admittance vs. collector current



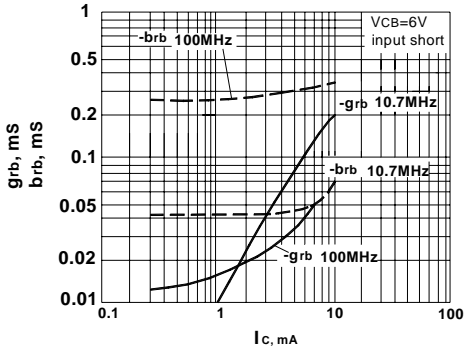
Reverse transfer admittance vs. collector current



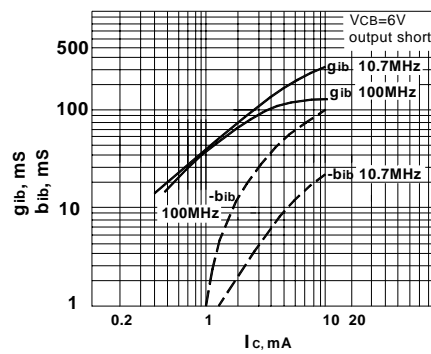
Input admittance vs. collector current



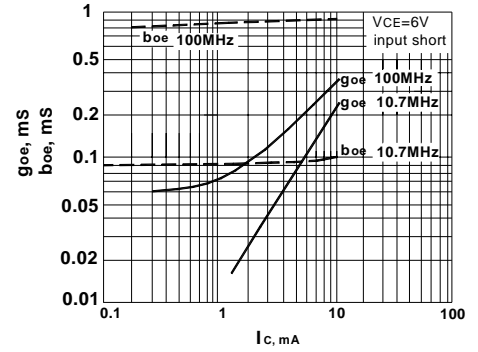
Reverse transfer admittance vs. collector current



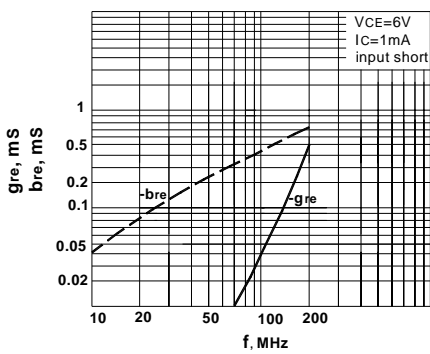
Input admittance vs. collector current



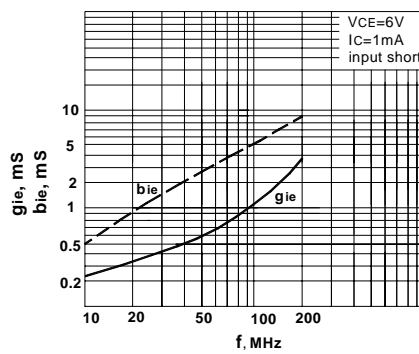
Output admittance vs. collector current



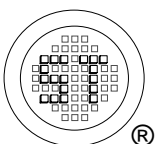
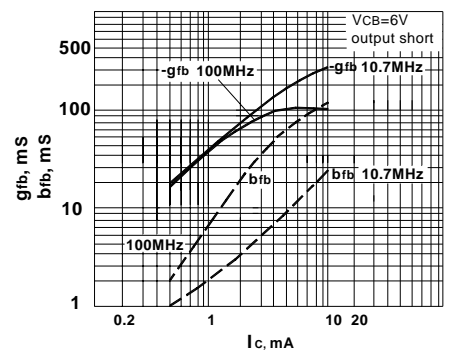
Reverse transfer admittance vs. frequency



Input admittance vs. frequency



Forward transfer admittance vs. collector current



SEMTECH ELECTRONICS LTD.

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



ISO/TS 16949 : 2002
Certificate No. 05103



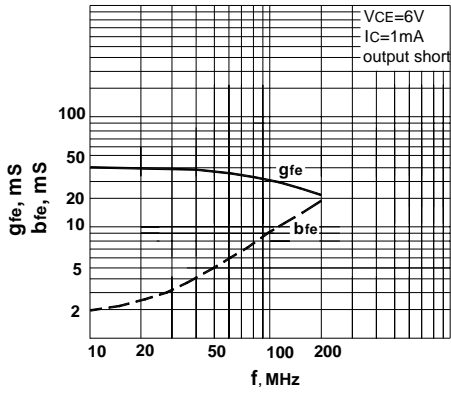
ISO 14001:2004
Certificate No. 7116



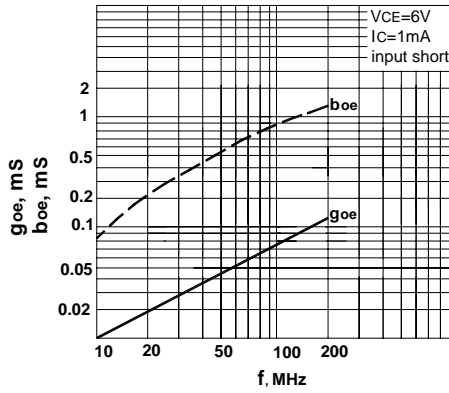
ISO 9001:2000
Certificate No. 0506098

ST 2SC2786

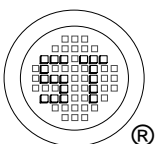
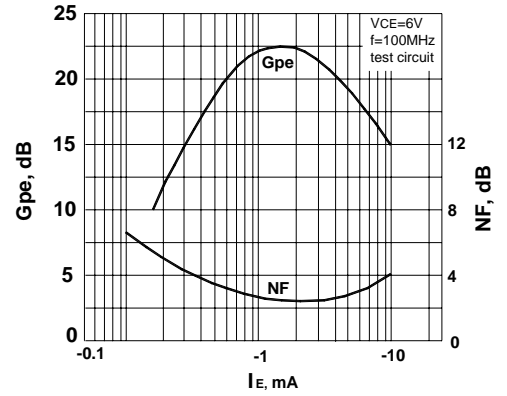
Forward transfer amittance vs. frequency



Output amittance vs. frequency



Power gain, noise figure vs. emitter current



SEMTECH ELECTRONICS LTD.

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



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

Dated : 17/05/2003