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.

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

Features

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

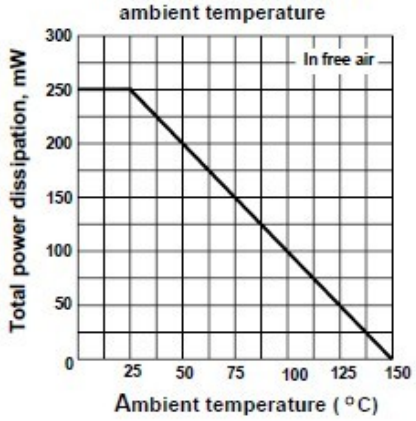
Absolute Maximum Ratings (T_a = 25℃)

Parameter	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	^OC
Storage Temperature Range	T_S	-55 to +150	^OC

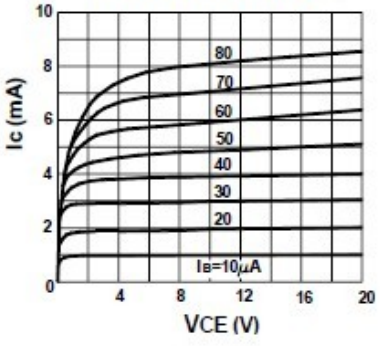
Characteristics at T_{amb}=25 °C

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

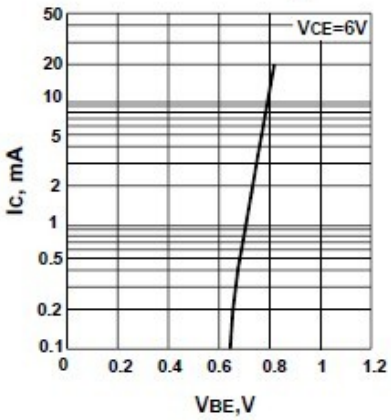
Total power dissipation vs. ambient temperature



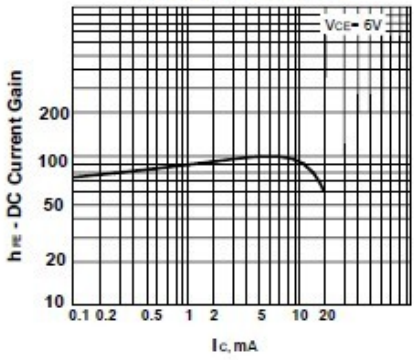
Collector current vs. collector emitter voltage



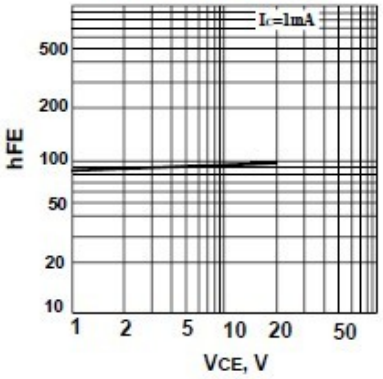
Collector current vs. base emitter voltage



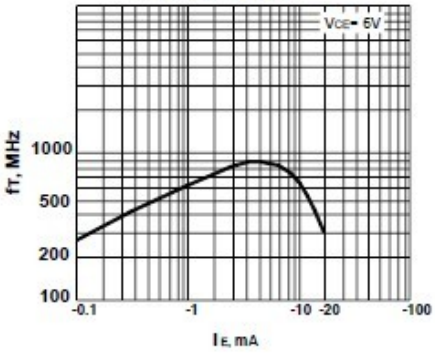
DC CURRENT GAIN vs. COLLECTOR CURRENT



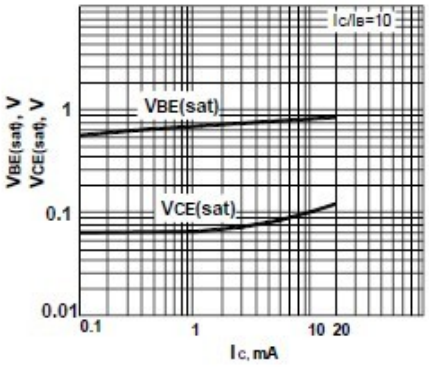
DC current gain vs. collector emitter voltage



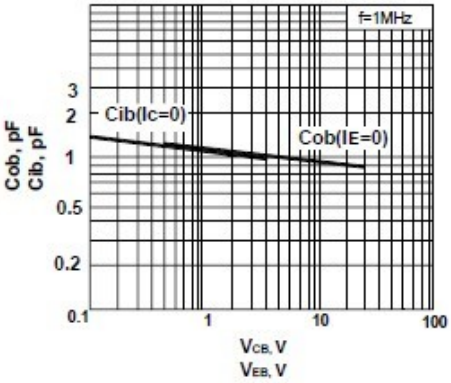
Gain bandwidth product vs. emitter current



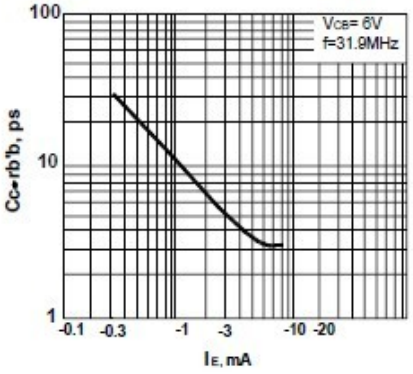
Base collector saturation volage vs. collector current



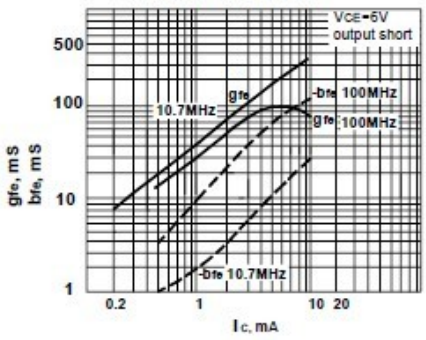
Imput capacitance vs. emitter base voltage
Output capacitance vs. collector base voltage



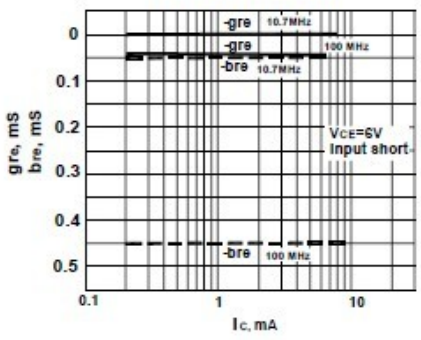
Collector base time constant vs. emitter current



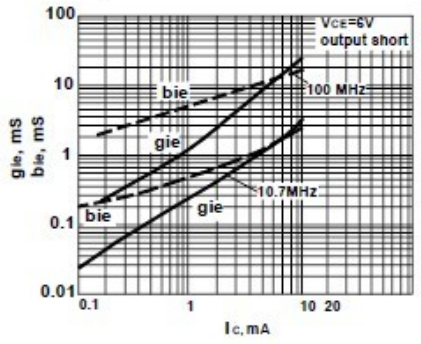
Forward transfer amittance vs. collector current



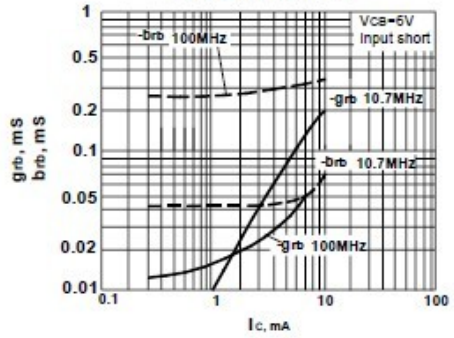
Reverse transfer admittance vs. collector current



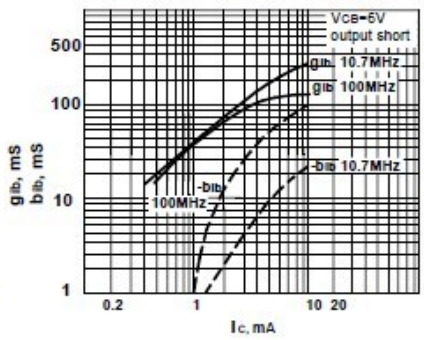
Input admittance vs. collector current



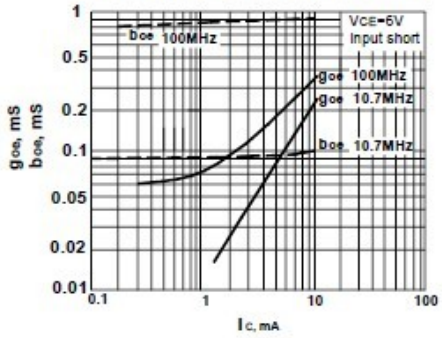
Reverse transfer amittance vs. collector current



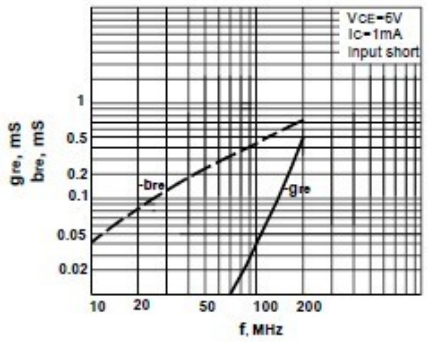
Input amittance vs. collector current



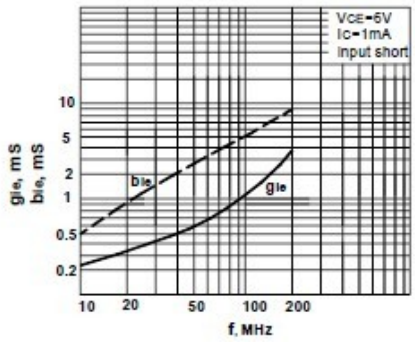
Output amittance vs. collector current



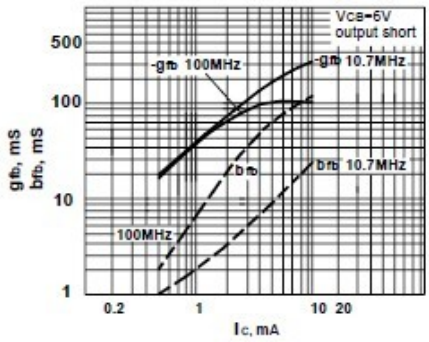
Reverse transfer amittance vs. frequency



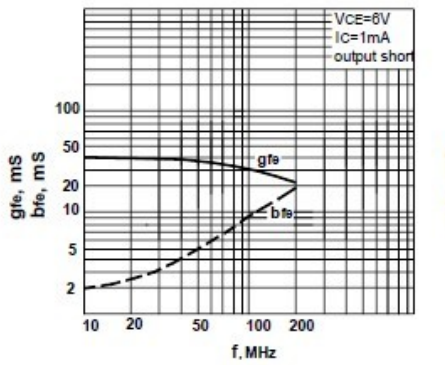
Input amittance vs. frequency



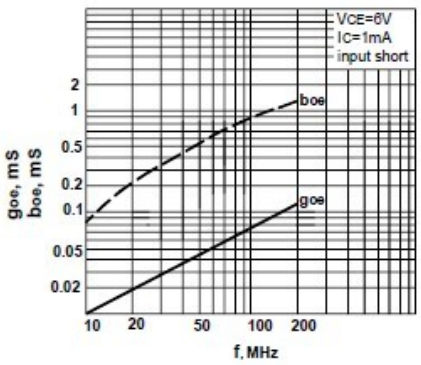
Forward transfer amittance vs. collector current



Forward transfer amittance vs. frequency



Output amittance vs. frequency



Power gain, noise figure
vs. emitter current