

ST 2SC2786

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NPN Silicon Epitaxial Planar Transistor

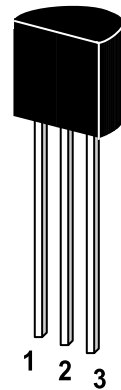
for FM RF amplifier and local oscillator of FM tuner.

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

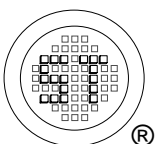


1. Emitter 2. Collector 3. Base

TO-92 Plastic Package
Weight approx. 0.19g

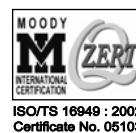
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

	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	$^\circ\text{C}$



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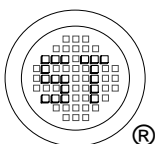
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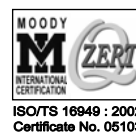
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	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 $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$ $f=100\text{MHz}$, $R_G=50\Omega$	G _{pe}	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



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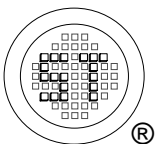
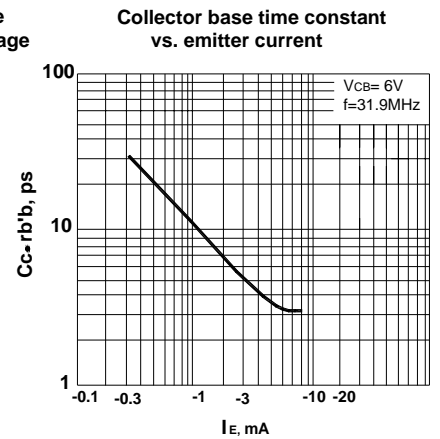
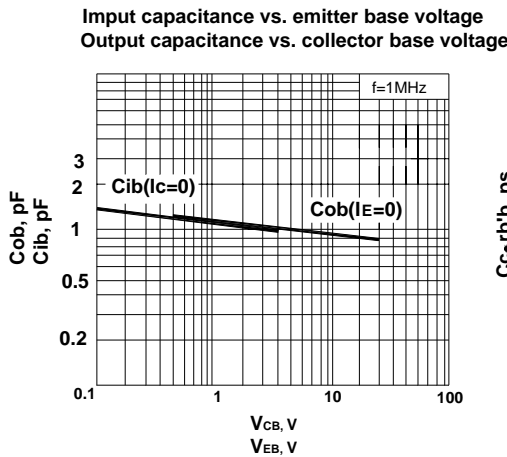
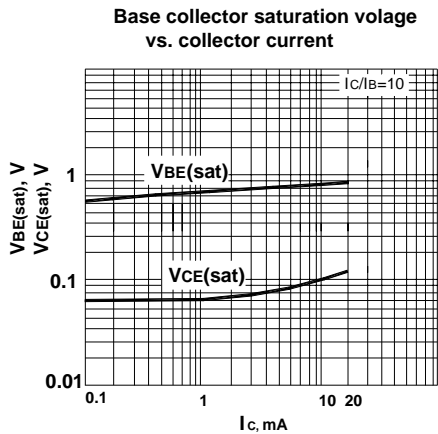
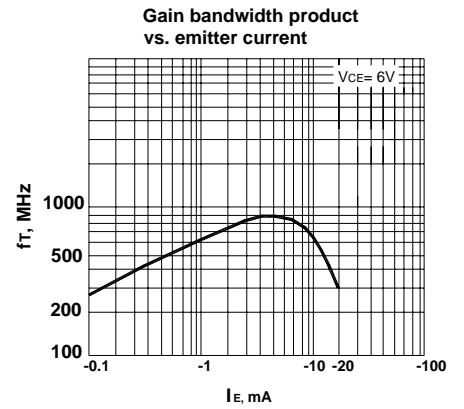
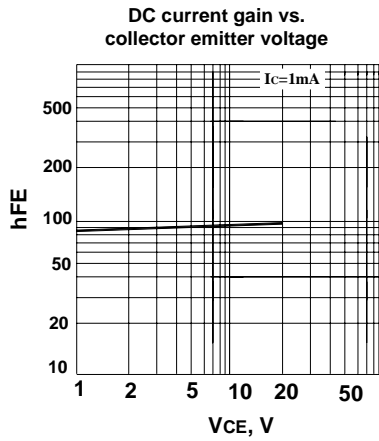
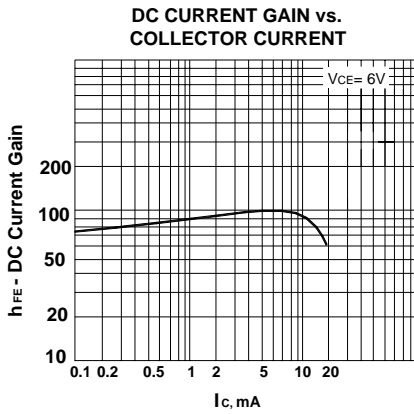
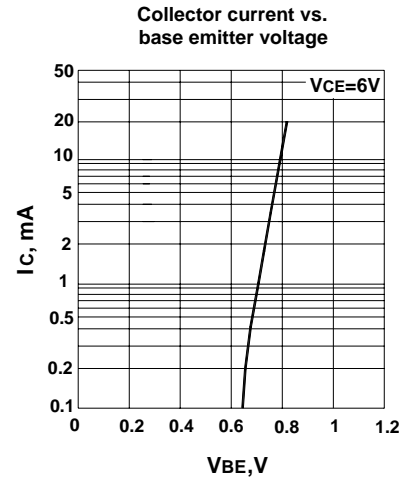
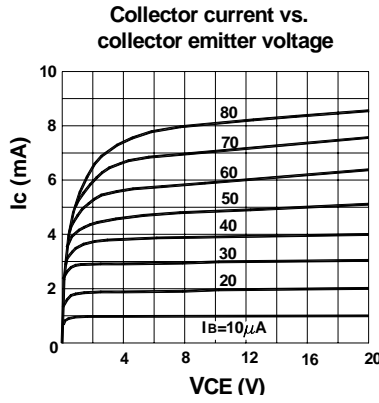
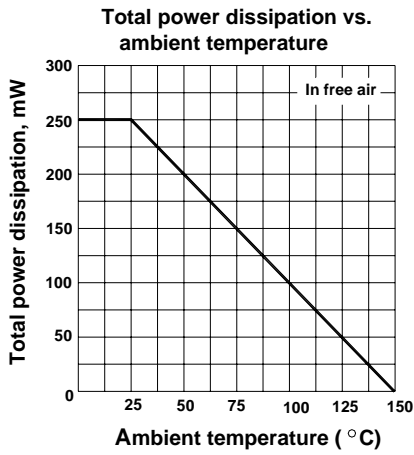
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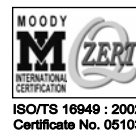
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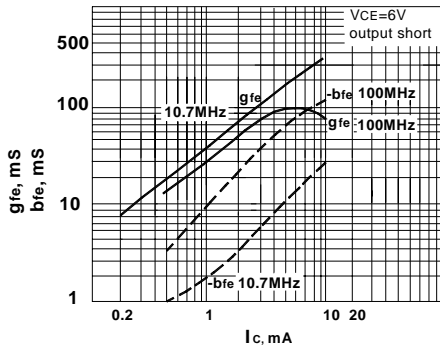
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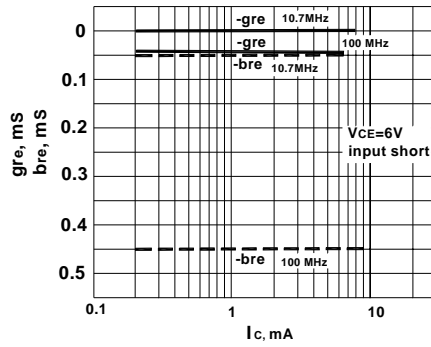
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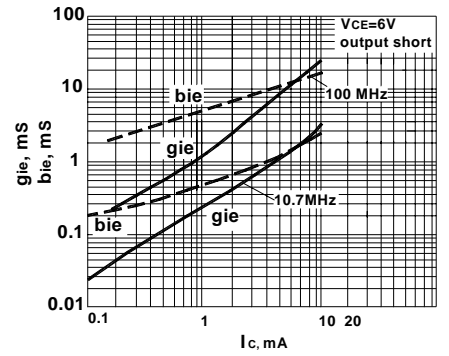
Forward transfer admittance vs. collector current



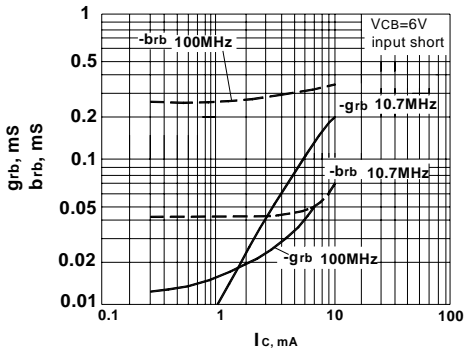
Reverse transfer admittance vs. collector current



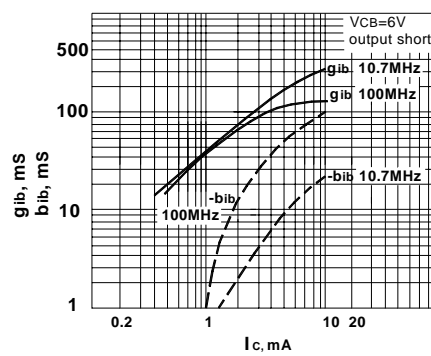
Input admittance vs. collector current



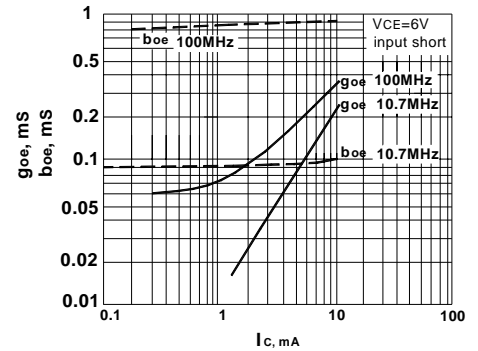
Reverse transfer admittance vs. collector current



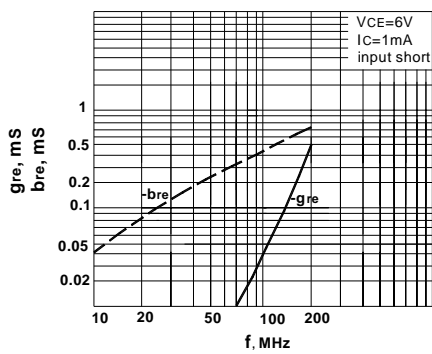
Input admittance vs. collector current



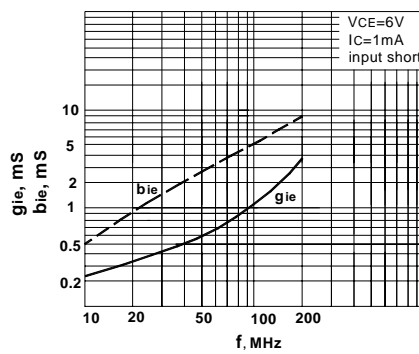
Output admittance vs. collector current



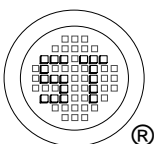
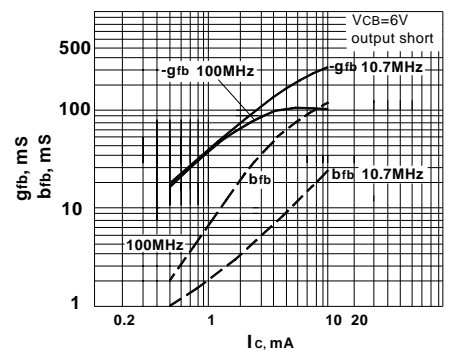
Reverse transfer admittance vs. frequency



Input admittance vs. frequency



Forward transfer admittance vs. collector current



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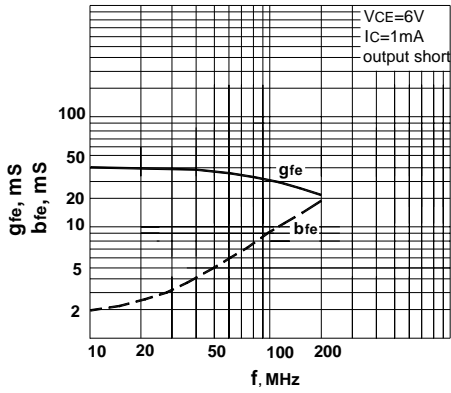


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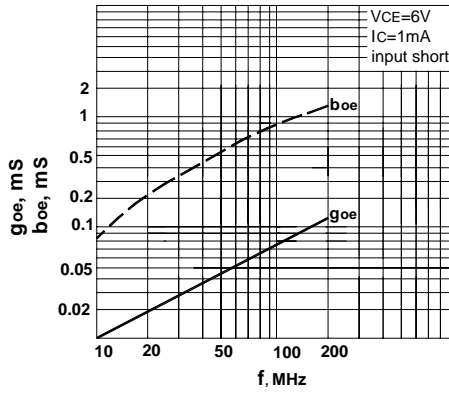
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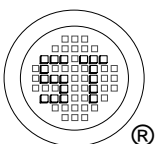
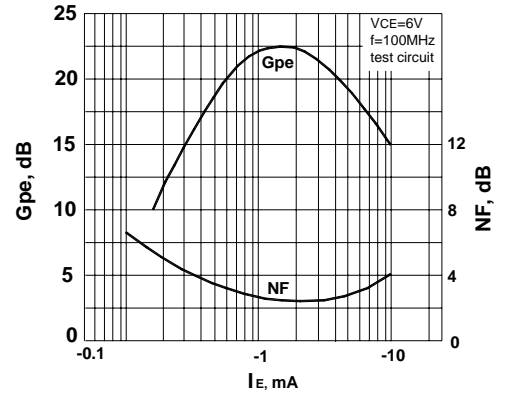
Forward transfer admittance vs. frequency



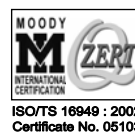
Output admittance vs. frequency



Power gain, noise figure vs. emitter current



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