

2SC5621

FOR HIGH FREQUENCY AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

2SC5621 is a super mini package resin sealed silicon NPN epitaxial transistor.

It is designed for high frequency voltage application.

FEATURE

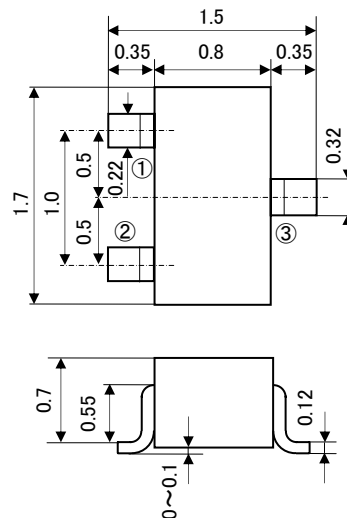
- High gain bandwidth product. $f_T=4.5\text{GHz}$
- High gain, low noise.
- Can operate at low voltage.
- Super mini package for easy mounting.

APPLICATION

For TV tuners, High frequency voltage amplifier,
Cellular phone system

OUTLINE DRAWING

Unit: mm



TERMINAL CONNECTOR

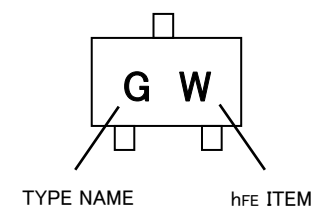
- ①: BASE
- ②: EMITTER
- ③: COLLECTOR

JEITA: SC-75A

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

Symbol	Parameter	Ratings	Unit
VCBO	Collector to Base voltage	20	V
VCEO	Collector to Emitter voltage	12	V
VEBO	Emitter to Base voltage	3	V
IC	Collector current	50	mA
PC	Collector dissipation	100	mW
Tj	Junction temperature	+150	$^\circ\text{C}$
Tstg	Storage temperature	-55 ~ +150	$^\circ\text{C}$

MARKING



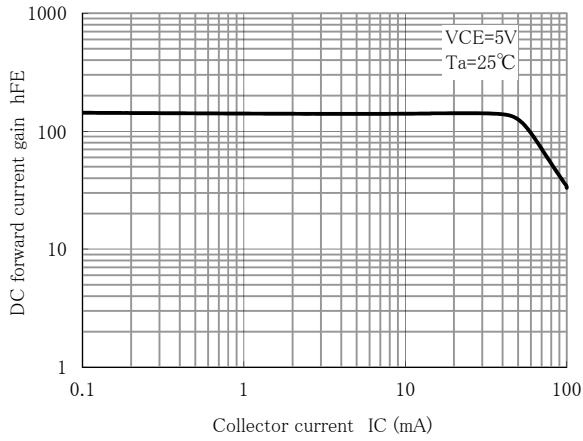
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
ICBO	Collector cut off current	$V_{CB}=10\text{V}, I_E=0\text{mA}$	-	-	1.0	μA
IEBO	Emitter cut off current	$V_{EB}=1\text{V}, I_C=0\text{mA}$	-	-	1.0	μA
hFE	DC forward current gain	$V_{CE}=5\text{V}, I_C=20\text{mA}$	50	-	250	-
fT	Gain bandwidth product	$V_{CE}=5\text{V}, I_E=20\text{mA}$	-	4.5	-	GHz
Cob	Collector output capacitance	$V_{CB}=5\text{V}, I_E=0\text{mA}, f=1\text{MHz}$	-	1.0	-	pF
S21 ²	Insertion power gain	$V_{CE}=5\text{V}, I_C=20\text{mA}, f=1\text{GHz}$	7.5	9.0	-	dB
NF	Noise figure	$V_{CE}=5\text{V}, I_C=5\text{mA}, f=1\text{GHz}$	-	1.5	-	dB

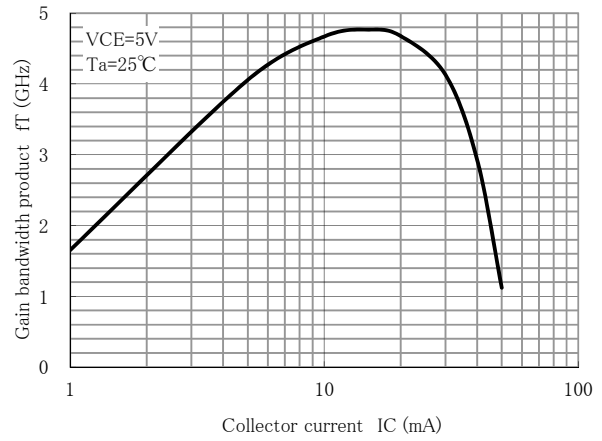
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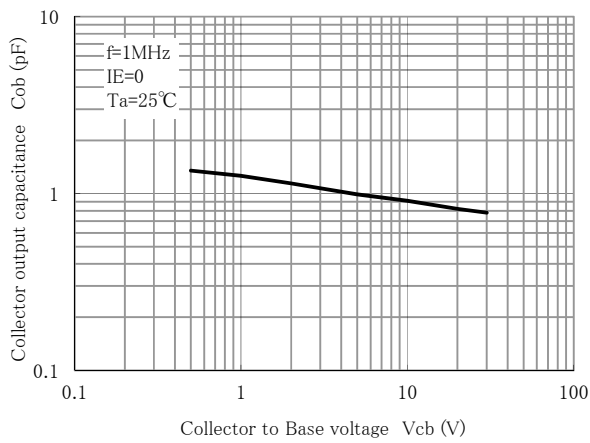
hFE - IC



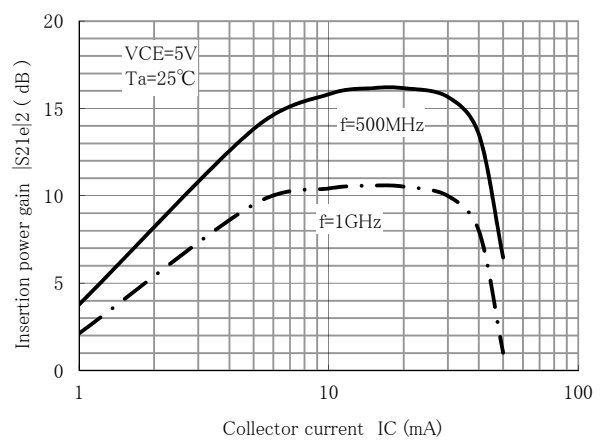
fT - IC



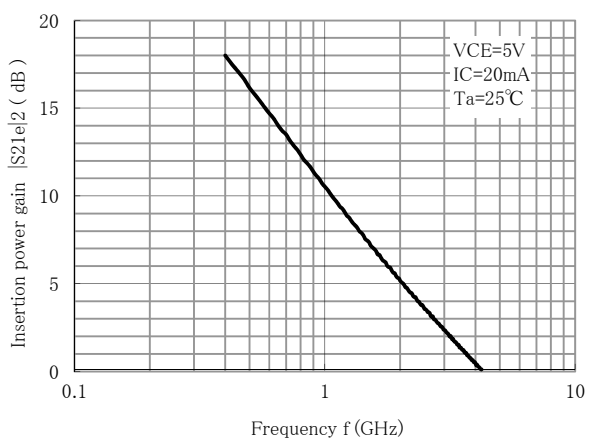
Cob - Vcb



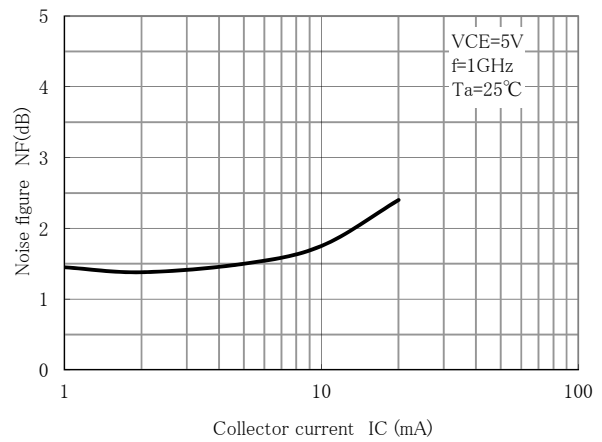
$|S_{21e}|^2$ - IC



$|S_{21e}|^2$ - f



NF - IC

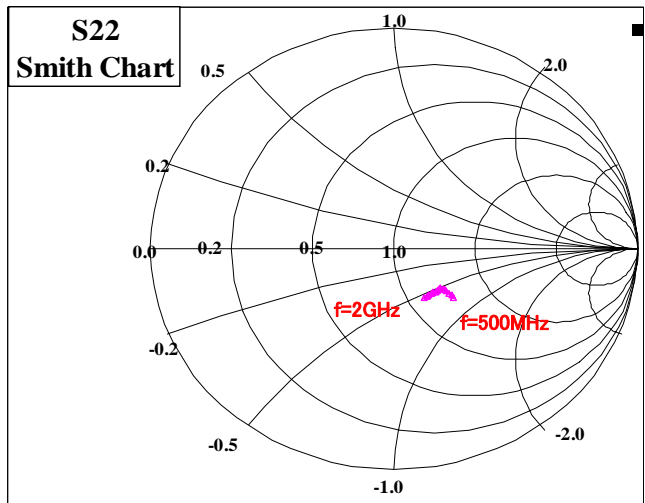
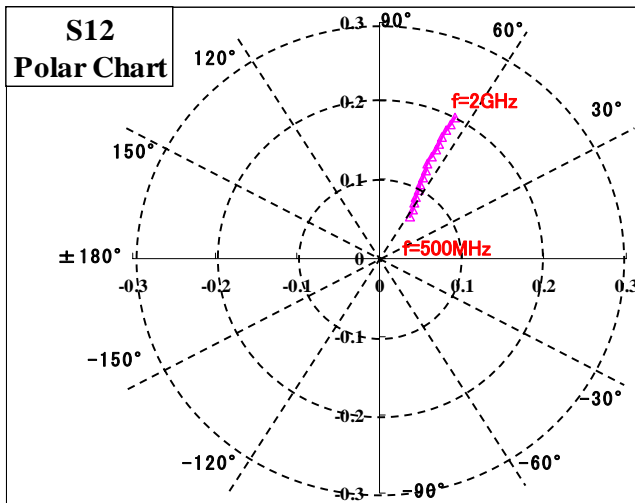
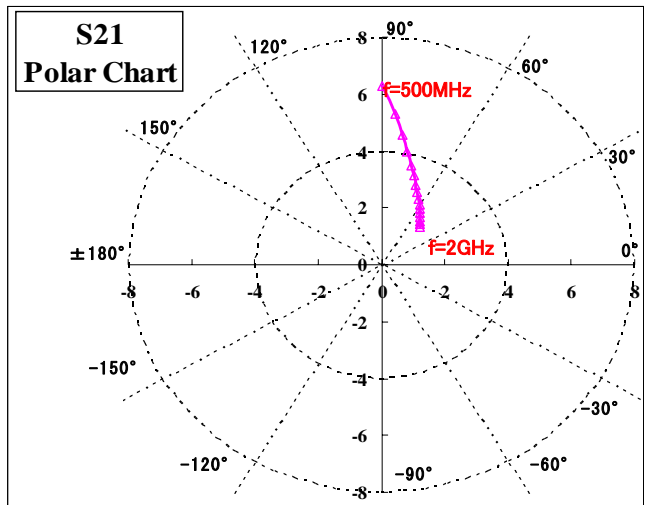
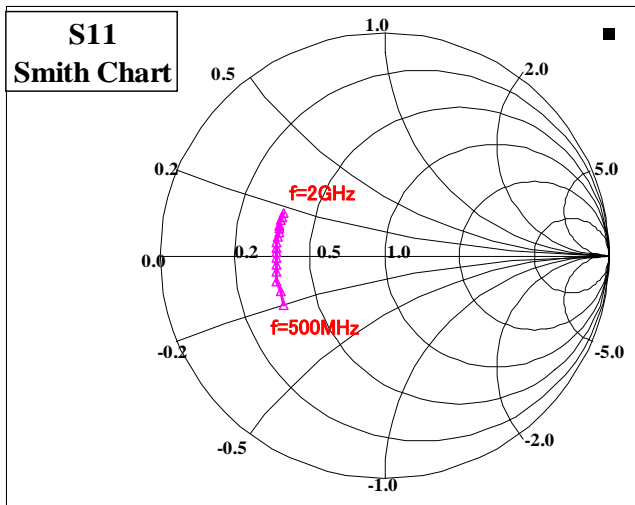


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VCE=5V/IC=20mA

Frequency (MHz)	S11		S21		S12		S22	
	Mag	Ang(deg)	Mag	Ang(deg)	Mag	Ang(deg)	Mag	Ang(deg)
500	0.504	-153.8	6.300	89.7	0.065	54.6	0.329	-42.3
600	0.492	-160.7	5.314	85.5	0.073	56.7	0.317	-41.5
700	0.493	-166.4	4.616	82.0	0.082	58.5	0.304	-41.4
800	0.490	-171.4	4.055	78.4	0.089	60.2	0.284	-41.3
900	0.486	-175.1	3.633	74.8	0.098	61.4	0.277	-40.7
1000	0.480	-178.6	3.290	71.8	0.107	61.9	0.272	-42.1
1100	0.483	178.2	3.010	69.2	0.115	62.8	0.260	-42.2
1200	0.485	175.7	2.789	66.3	0.125	63.5	0.260	-44.1
1300	0.487	173.1	2.607	63.2	0.134	63.8	0.262	-45.1
1400	0.485	170.2	2.441	60.4	0.144	63.8	0.259	-47.1
1500	0.482	167.7	2.298	58.4	0.153	63.7	0.261	-49.3
1600	0.485	165.5	2.167	55.9	0.162	63.7	0.256	-50.7
1700	0.487	163.7	2.047	53.7	0.172	63.6	0.255	-53.4
1800	0.488	161.0	1.958	51.3	0.181	63.4	0.253	-55.0
1900	0.488	159.2	1.869	49.2	0.191	63.0	0.256	-58.2
2000	0.486	156.7	1.788	46.8	0.201	62.6	0.256	-60.6





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