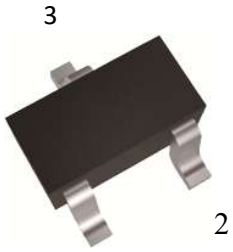
2SC4901

NPN SILICON RF TRANSISTOR

- Ultra high frequency low noise transistor
- Silicon epitaxial bipolar process.
- High power gain, low noise figure,
- SOT-323 chip package, mainly used in VHF, UHF
- high frequency wideband low noise amplifier.



1：Base　2：Emitter　3：Collector

SOT-323

Feature

High gain: $|S_{21e}|^2$ TYP. Value is 13.5dB @ V_{CE}=5V，I_C=20mA，f=0.9GHz
Low noise: NF TYP. Value is 1.6dB @ V_{CE}=5V，I_C=5mA， f=0.9GHz
f_T (TYP.) : TYP. Value is 9GHz @ V_{CE}=5V，I_C=20mA，f=0.9GHz

Absolute Maximum Ratings T_A=25℃ Unless Otherwise noted

PARAMETER	SYMBLE	MAXIMUM VALUE	UNIT
Collector-base breakdown voltage	V_{CBO}	15	V
Collector-emitter breakdown voltage	V_{CEO}	9	V
Emitter-base breakdown voltage	V_{EBO}	1.5	V
Collector current	I_C	50	mA
Collector Power Dissipation	P_D	100	mW
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-65 ~ +150 ℃	T_{stg}

hFE Classification

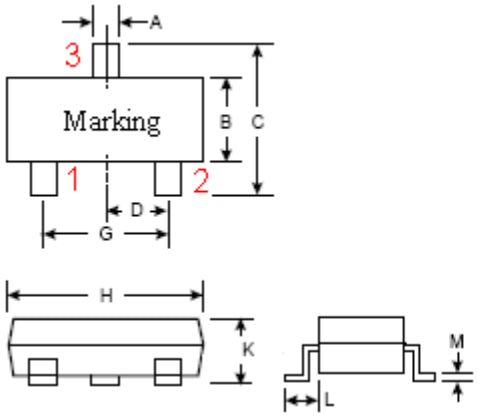
Classification	A	B	C	D	E
Marking	YK-				
hFE	60-100	90-140	130-180	170-250	250-300

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

PARAMETER	SYMBLE	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Collector-base breakdown voltage	V_{CBO}	15			V	I_C=1.0μA
Collector cut-off current	I_{CBO}			0.1	μA	V_{CB}=10V
Emitter cut-off current	I_{EBO}			0.1	μA	V_{EB}=1V
DC current gain	hFE	60		300		V_{CE}=5V,I_C=20mA
Transit frequency	f_T	7	9		GHz	V_{CE}=5V,I_C=20mA
Output feedback capacitance	C_{re}		0.65	1.0	pF	V_{CB}=10V,I_E=0mA, f=1MHz
Power gain	$\|S_{21e}\|^2$		13.3		dB	V_{CE}=5V,I_C=5mA, f=0.9GHz
			13.5			V_{CE}=5V,I_C=20mA,f=0.9GHz
Noise factor	NF		1.6	2.5	dB	V_{CE}=5V, I_C=5mA, f=0.9GHz

PACKAGE：SC-59

1:（Base） 2:（Emitter） 3:（Collector）



SYMBOL	MIN（mm）	MAX（mm）
A	0.200	0.400
B	1.150	1.350
C	2.150	2.450
D	0.650	
G	1.200	1.400
H	2.000	2.200
K	0.900	1.100
L	0.525	
M	0.080	0.150

TYPICAL CHARATERISTICS

FIG.01

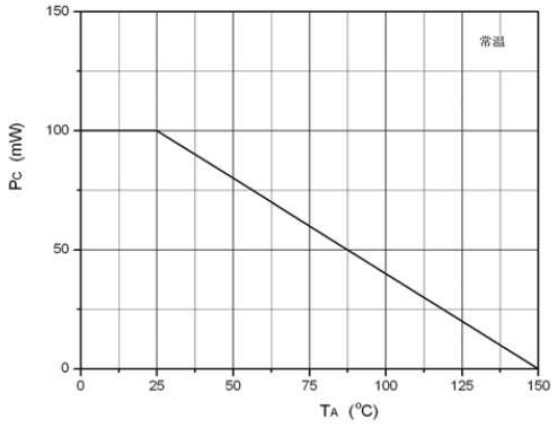


FIG.02

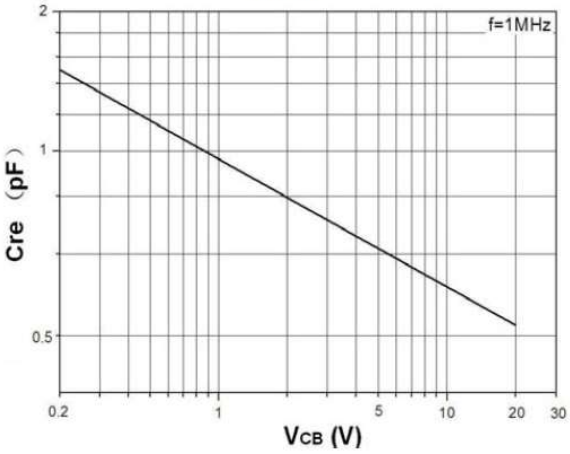


FIG.03

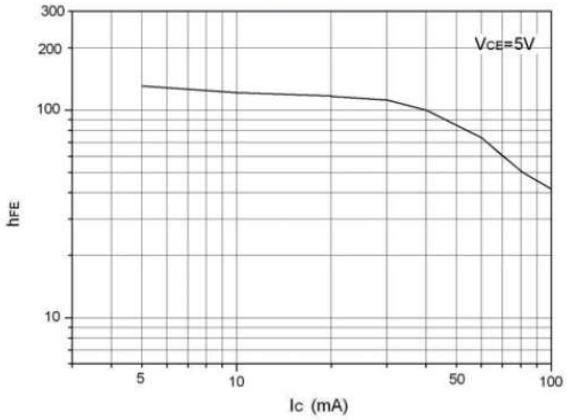


FIG.04

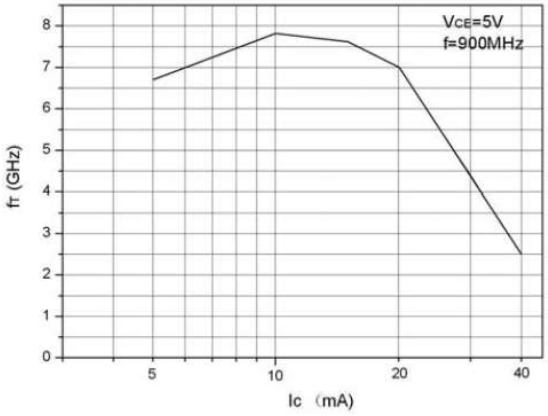


FIG.05

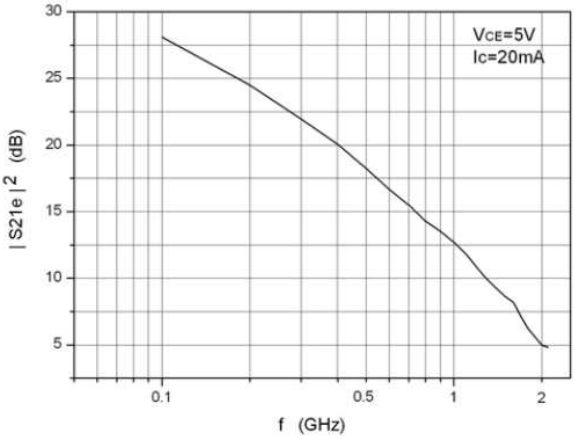
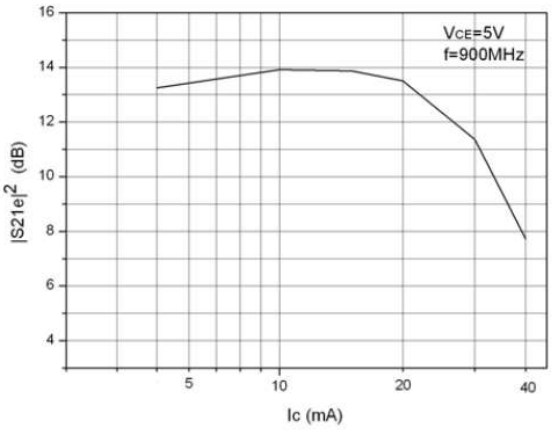


FIG.06



TYPICAL CHARATERISTICS

FIG.07

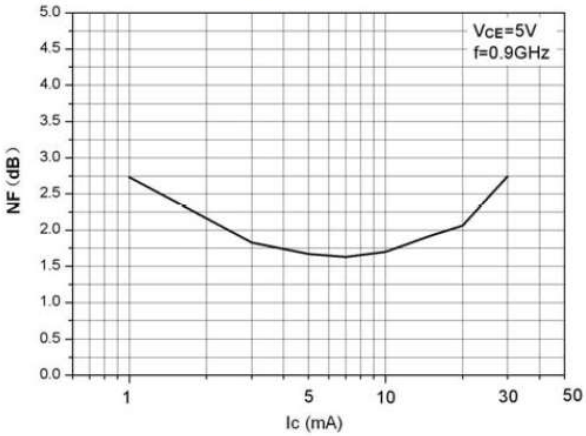
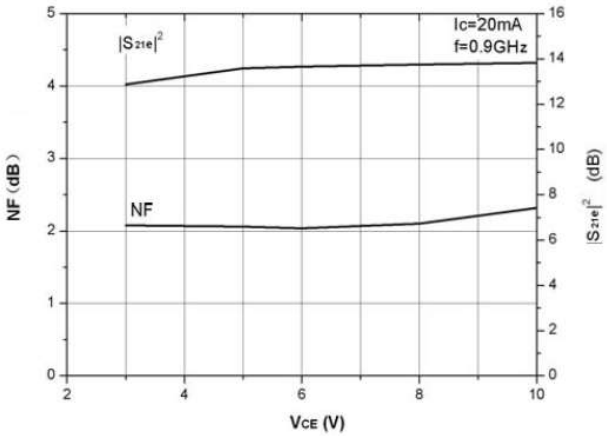


FIG.08



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