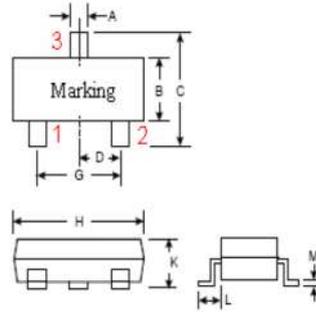


NPN SILICON RF TRANSISTOR

External bipolar process, with high power gain
Low noise characteristics. The adoption of subminiature SOT-323 package, Especially suitable for high density surface patch installation, mainly for the VHF, UHF low noise amplifier.



符号	最小值 (mm)	最大值 (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

SOT-323: 1: Base 2: Emitter 3: Collector

Feature

High gain: $|S_{21e}|$ 2 TYP. Value is 11dB @ $V_{CE}=3V$, $I_C=7mA$, $f=1GHz$
 Low noise: NF TYP. Value is 1.4dB @ $V_{CE}=3V$, $I_C=7mA$, $f=1GHz$
 f_T (TYP.): TYP. Value is 4.5GHz @ $V_{CE}=3V$, $I_C=7mA$, $f=1GHz$

Absolute Maximum Ratings $T_A=25^\circ C$ Unless Otherwise noted

PARAMETER	SYMBLE	MAXIMUM VALUE	UNIT
Collector-base breakdown voltage	V_{CBO}	20	V
Collector-emitter breakdown voltage	V_{CEO}	12	V
Emitter-base breakdown voltage	V_{EBO}	3	V
Collector current	I_C	100	mA
Collector Power Dissipation	PD	150	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-65 ~ +150 $^\circ C$	T_{stg}

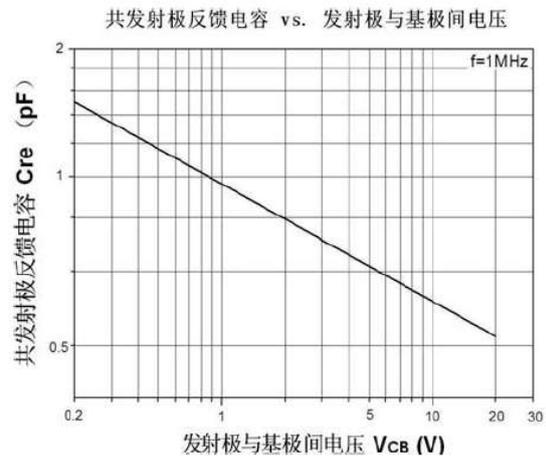
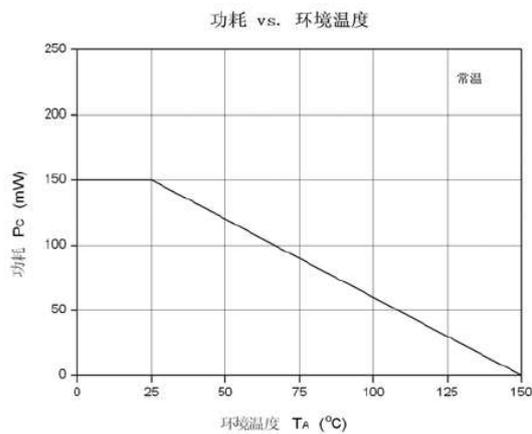
hFE Classification

Classification	A	B	C	D	E
Marking	R24		R25		
hFE	60~100	90~140	130~180	170~250	250~300

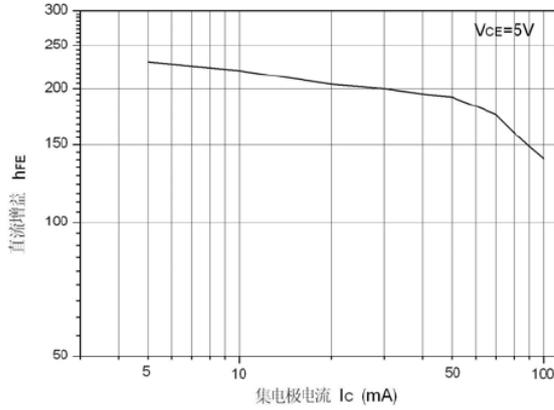
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBLE	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Collector-base breakdown voltage	V_{CB0}	20			V	$I_C=1.0\mu\text{A}$
Collector cut-off current	I_{CBO}			0.1	μA	$V_{CB}=10\text{V}$
Emitter cut-off current	I_{EBO}			0.1	μA	$V_{EB}=1\text{V}$
DC current gain	h_{FE}	60	150	300		$V_{CE}=3\text{V}, I_C=7\text{mA}$
Transit frequency	f_T	3.5	4.5		GHz	$V_{CE}=3\text{V}, I_C=7\text{mA}$
Output feedback capacitance	C_{re}		0.65	1.0	pF	$V_{CB}=10\text{V}, I_E=0\text{mA}, f=1\text{MHz}$
Power gain	$ S_{21e} ^2$		9.5		dB	$V_{CE}=3\text{V}, I_C=3\text{mA}, f=1\text{GHz}$
			10.7		dB	$V_{CE}=3\text{V}, I_C=5\text{mA}, f=1\text{GHz}$
			11		dB	$V_{CE}=3\text{V}, I_C=7\text{mA}, f=1\text{GHz}$
			11.6		dB	$V_{CE}=3\text{V}, I_C=10\text{mA}, f=1\text{GHz}$
Noise factor	NF		1.4	2.0	dB	$V_{CE}=3\text{V}, I_C=7\text{mA}, f=1\text{GHz}$
			1.6	2.3		$V_{CE}=10\text{V}, I_C=5\text{mA}, f=1\text{GHz}$

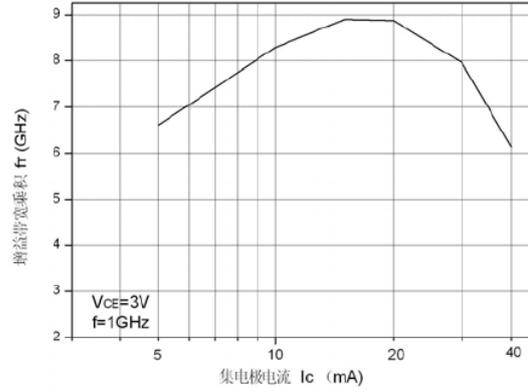
TYPICAL CHARACTERISTICS



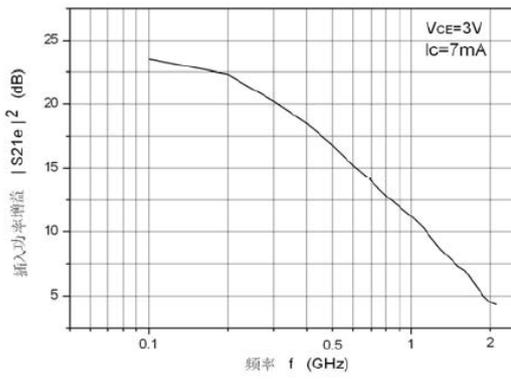
直流增益 vs. 集电极电流



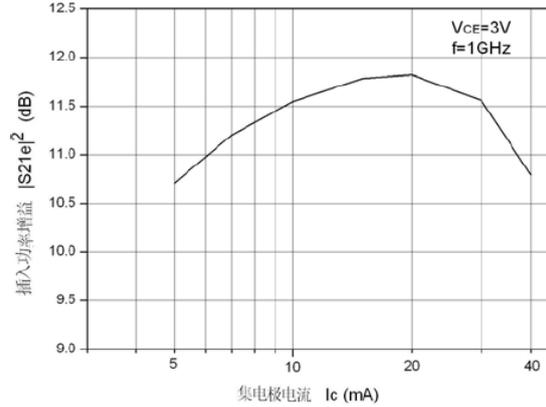
增益带宽乘积 vs. 集电极电流



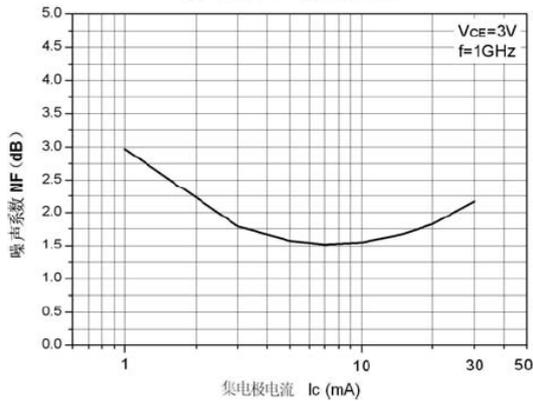
插入功率增益 vs. 频率



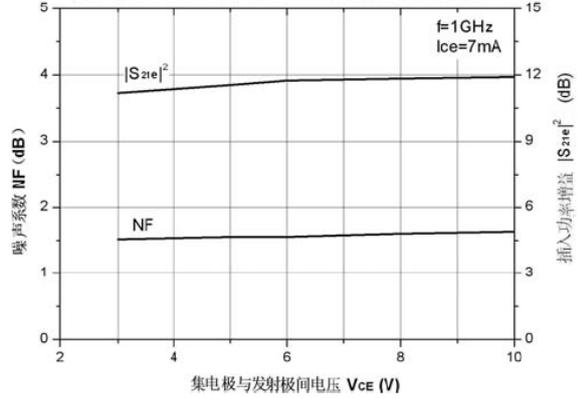
插入功率增益 vs. 集电极电流



噪声系数 vs. 集电极电流



噪声系数, 插入功率增益 vs. 集电极与发射极电压



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