



DESCRIPTION

The 2SC3356AL is available in SOT-23 package.

ORDERING INFORMATION

Package Type	Part Number
SOT-23 SPQ: 3,000pcs	2SC3356AL-X
Note	X = A , B See below hFE Classification Table
AiT provides all RoHS Compliant Products	

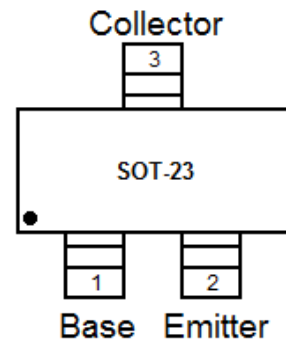
hFE CLASSIFICATION

Classification	B	C	D
Marking	R24	R25	R25
hFE	90-140	120-180	170-250

FEATURES

- High gain: $|S_{21E}|^2$ TYP. Value is 11.5dB
@V_{CE}=10V, I_C=20mA, f=1GHz
- Low noise: NF TYP. Value is 1.3dB
@V_{CE}=10V, I_C=7mA, f=1GHz
- f_T (TYP.) : TYP. Value is 7GHz
@V_{CE}=10V, I_C=20mA
- Ultra high frequency low noise transistor
- Silicon epitaxial bipolar process.
- High power gain, low noise figure,
- High dynamic range and ideal current characteristics
- Mainly used in VHF, UHF and CATV
- High frequency wideband low noise amplifier.
- Available in SOT-23 package

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

T_A=25°C, unless Otherwise noted

V _{CBO} , Collector-base breakdown voltage	20V
V _{CEO} , Collector-emitter breakdown voltage	12V
V _{EBO} , Emitter-base breakdown voltage	2.5V
I _C , Collector Current	100mA
P _C , Collector Power Dissipation	200mW
T _J , Junction Temperature	150°C
T _{STG} , Storage Temperature	-65°C~+150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	Characteristic	Min	Typ.	Max	Unit
Collector-base breakdown voltage	V _{CBO}	I _C =1.0μA	20	-	-	V
Collector Cutoff Current	I _{CB0}	V _{CB} =10V	-	-	0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =1.0V	-	-	0.1	μA
DC Current Gain	h _{FE}	V _{CE} =10V, I _C =20mA	90	150	250	-
Gain Bandwidth Product	f _T	V _{CE} =10V, I _C =30mA	6	7	-	GHz
Feedback Capacitance	C _{re}		-	0.65	-	pF
Insertion Power Gain	$ S_{21E} ^2$	V _{CE} =10V, I _C =30mA, f=1.0GHz	11	11.5	-	dB
Noise Factor	NF	V _{CE} =10V, I _C =7mA, f=1.0GHz	-	1.3	1.8	dB



TYPICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$

Fig 1. Power Dissipation vs. Ambient Temperature

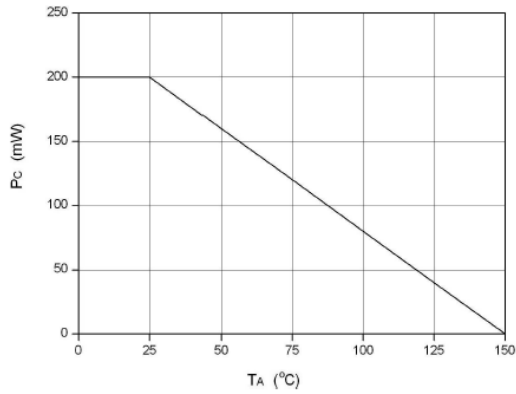


Fig 3. Insertion Power Gain vs. Frequency

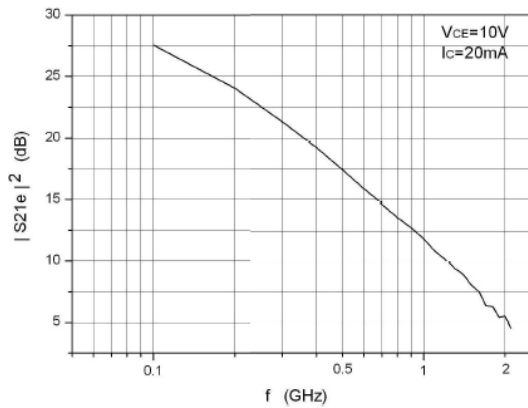


Fig 5. Noise Factor vs. Collector Current

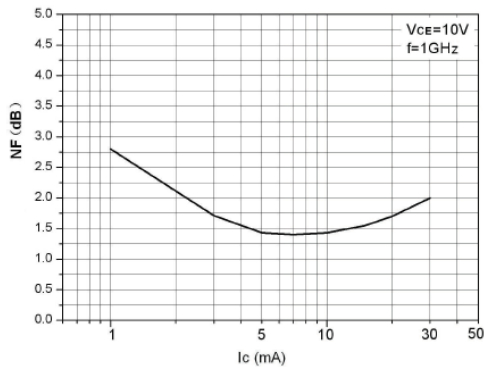


Fig 2. Feed-Back Capacitance vs. Collector to Base Voltage

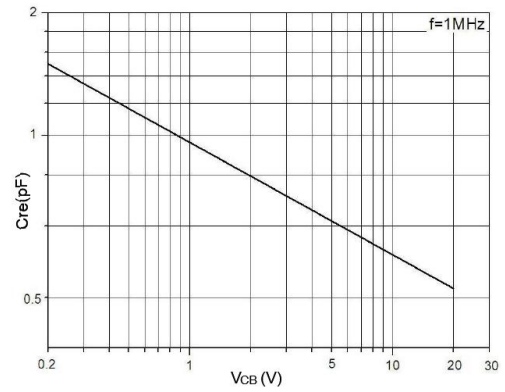


Fig 4. Insertion Power Gain vs. Collector Current

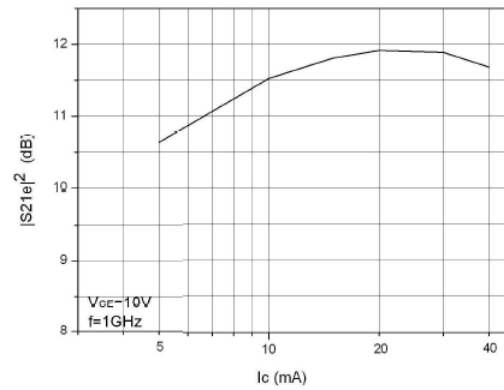
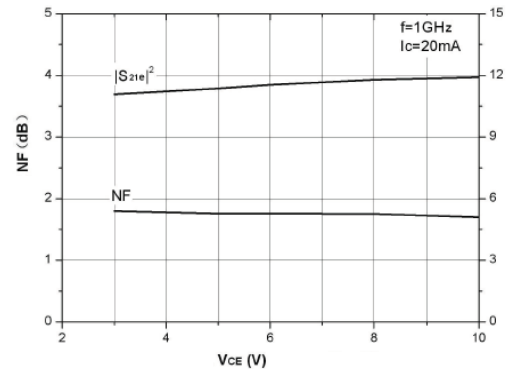


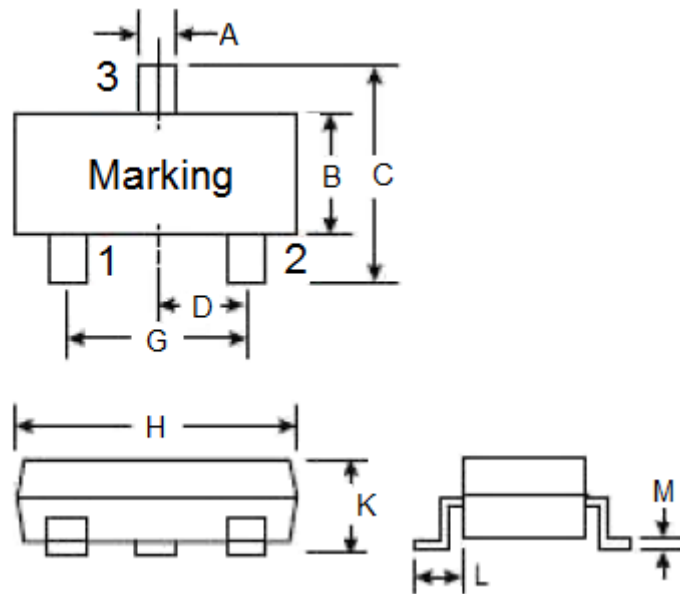
Fig 6. Insertion Power Gain, Noise Factor vs. Collector to Emitter Voltage





PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	MIN	MAX
A	0.35	0.5
B	1.4	1.7
C	2.7	3.1
D	0.95	
G	1.7	2.1
H	2.7	3.1
K	1	1.3
L	0.5	0.85
M	0.1	0.35



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