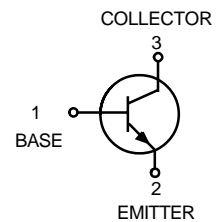
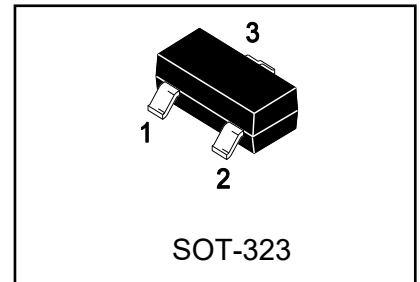


High-Frequency Amplifier NPN Transistor

• Features

- 1.High gain bandwidth product.(Typ. $f_T=8.0\text{GHz}$)
- 2.High gain,low noise
- 3.Can operate at low voltage
- 4.We declare that the material of product compliance with RoHS requirements.
- 5.S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable

2SC5635W
S-2SC5635W



MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	15	V
Collector-Emitter Voltage	V_{CEO}	6	V
Emitter-base voltage	V_{EBO}	1.5	V
Collector Current	I_C	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{sig}	-55~+125	$^\circ\text{C}$

DEVICE MARKING

2SC5635W;S-2SC5635W=HF1

• ORDERING INFORMATION

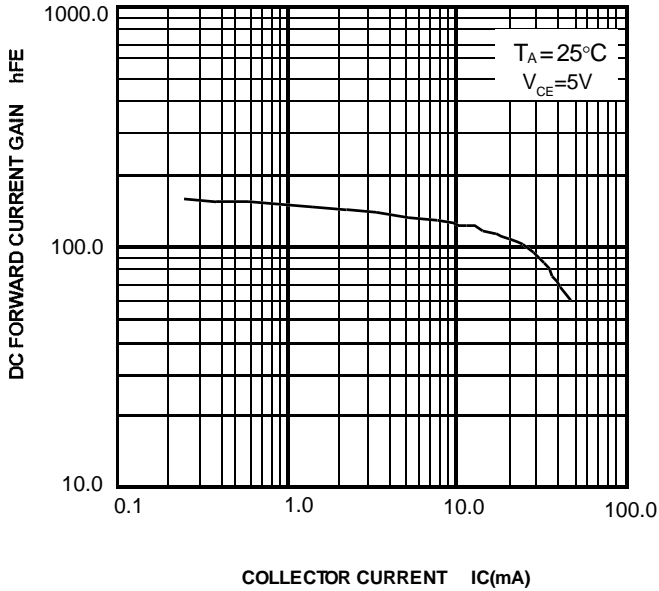
Device	Package	Shipping
2SC5635W S-2SC5635W	SOT-323	3000/Tape & Reel

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

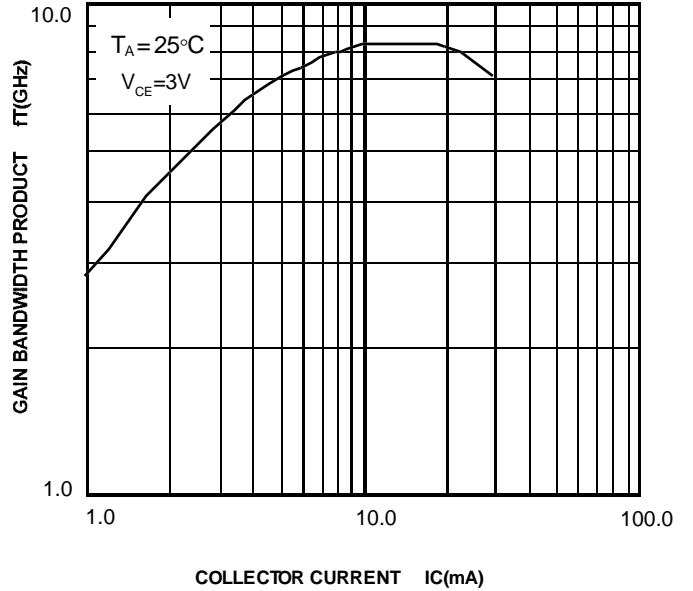
Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Collector cutoff current	I_{CBO}	-	-	1.0	μA	$V_{CB}=10\text{V}, I_E=0\text{mA}$
Emitter cutoff current	I_{EBO}	-	-	1.0	μA	$V_{EB}=1\text{V}, I_C=0\text{mA}$
DC current transfer ratio	h_{FE}	50	-	250	-	$V_{CE}=5\text{V}, I_C=10\text{mA}$
Transition frequency	f_T	5.0	8.0	-	GHz	$V_{CE}=5\text{V}, I_E=10\text{mA}$
Output capacitance	C_{ob}	-	1.0	-	pF	$V_{CB}=5\text{V}, I_E=0\text{A}, f=1\text{MHz}$
Insertion power gain	$ S_{21} ^2$	9.0	12.0	-	dB	$V_{CE}=5\text{V}, I_C=10\text{A}, f=1\text{GHz}$
Noise factor	NF	-	1.4	-	dB	$V_{CE}=5\text{V}, I_C=5\text{mA}, f=1\text{GHz}$



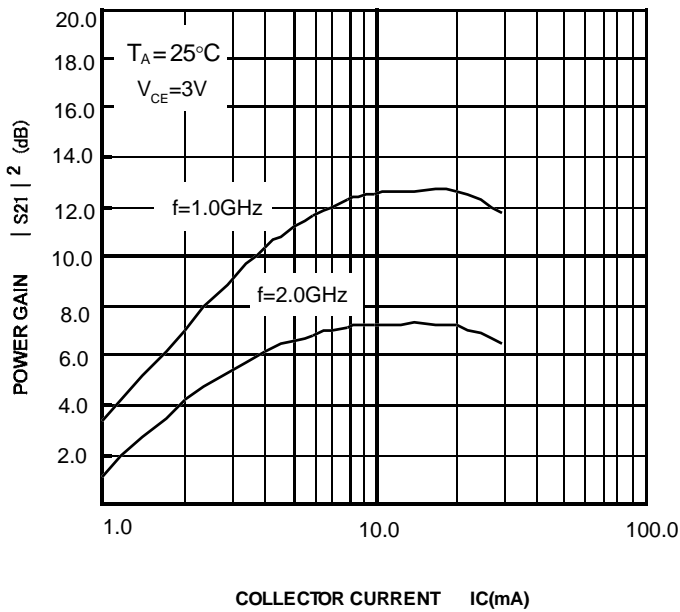
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



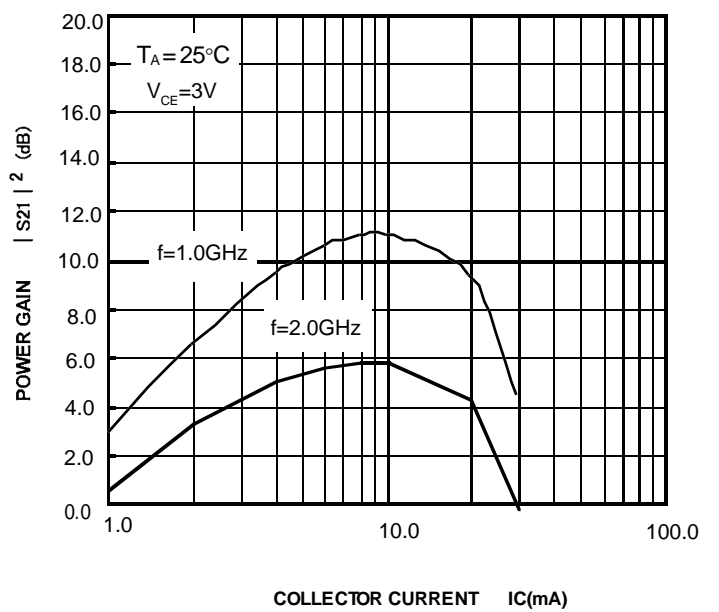
GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



POWER GAIN VS. COLLECTOR CURRENT



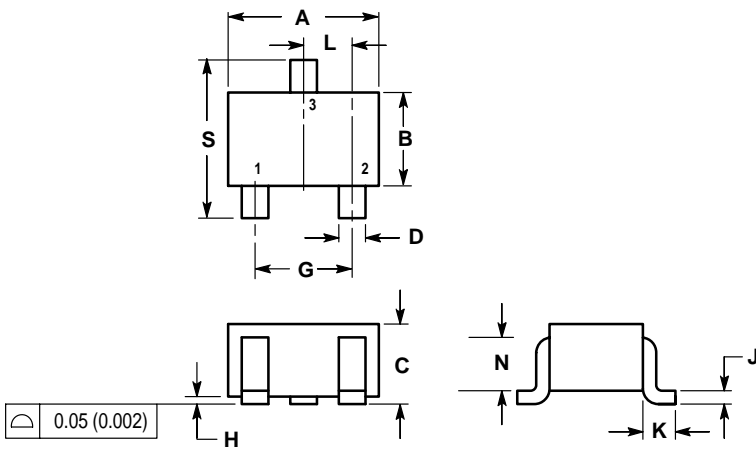
POWER GAIN VS. COLLECTOR CURRENT



SOT-323

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40

