

NPN Silicon Epitaxial Planar Transistor

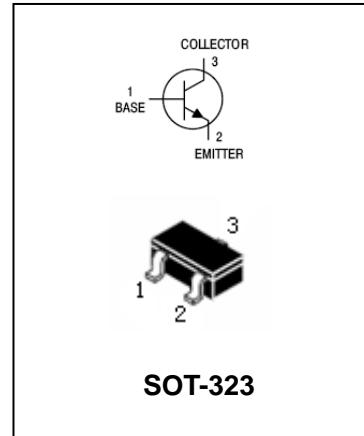
FEATURES

- Low noise.
- High gain.
- Power dissipation.($P_C=150\text{mW}$)

APPLICATIONS

- High frequency low noise amplifier.

ORDERING INFORMATION



MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

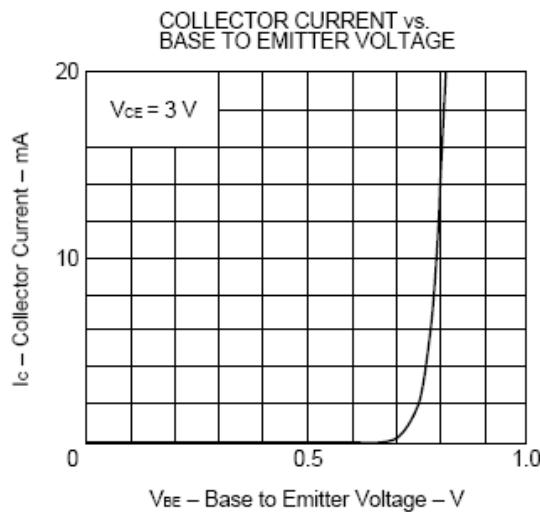
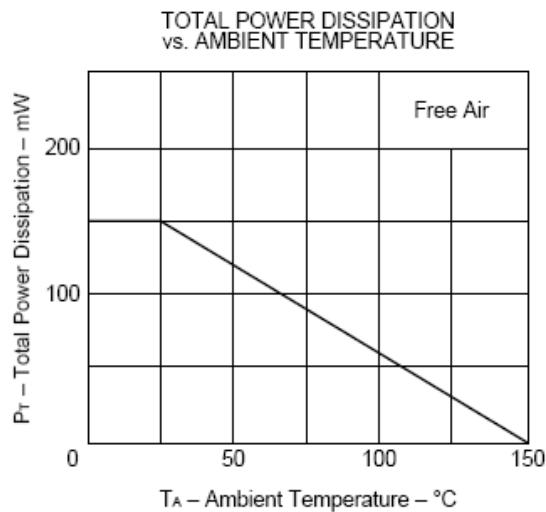
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current -Continuous	100	mA
P_C	Collector Dissipation	150	mW
T_j, T_{stg}	Junction and Storage Temperature	-65 to +150	°C

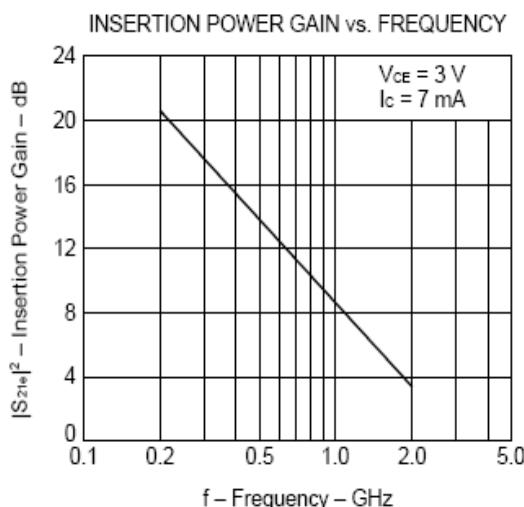
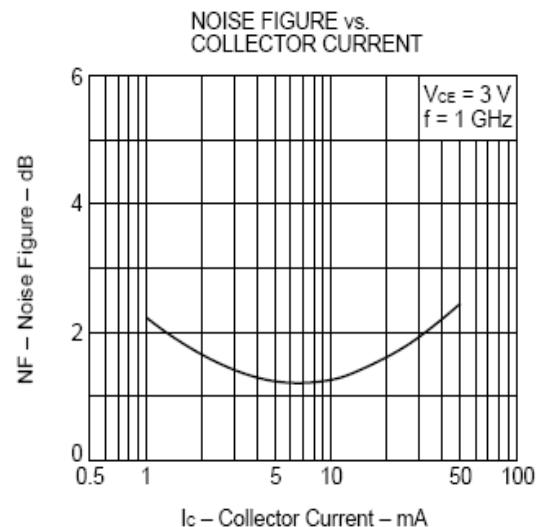
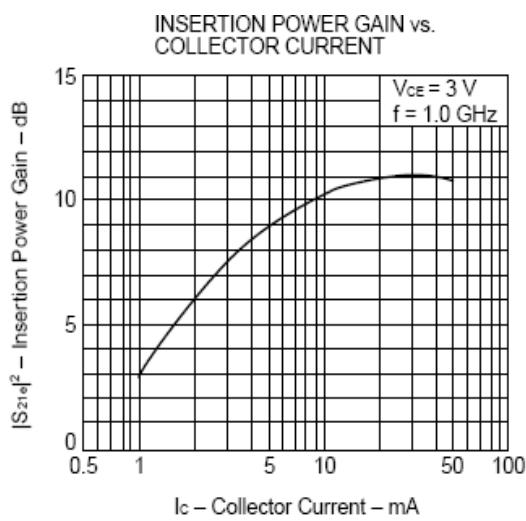
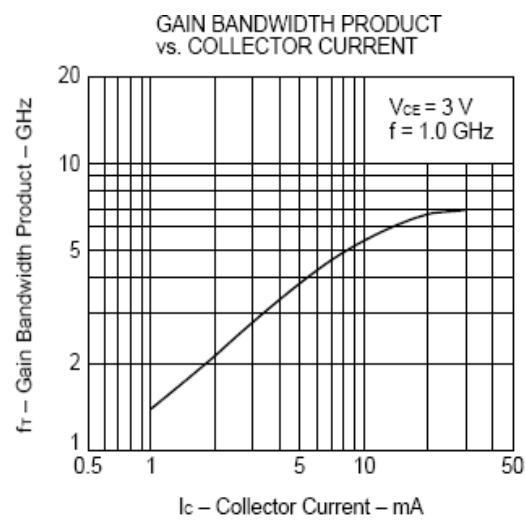
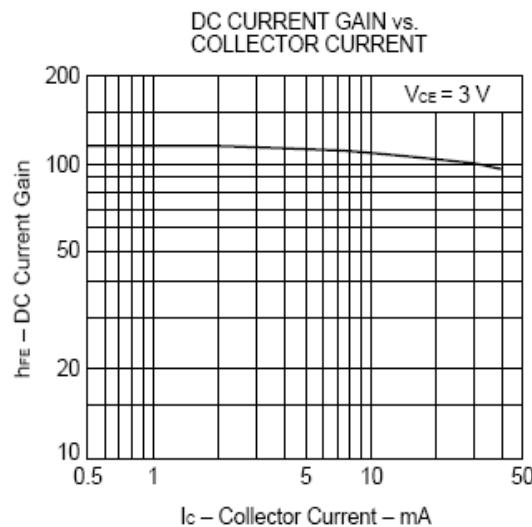
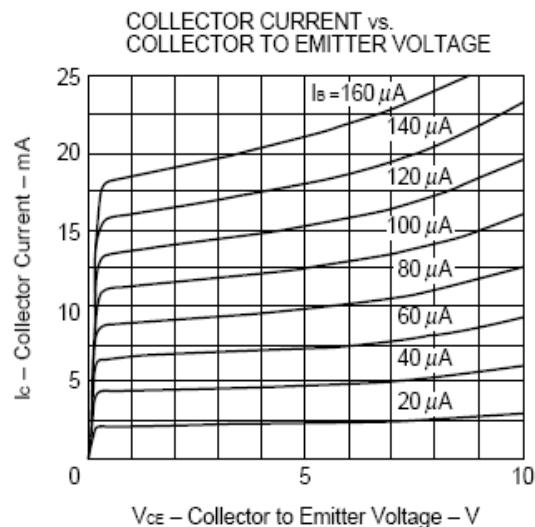
ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_C=100\mu\text{A}, I_E=0$	20			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_C=1\text{mA}, I_B=0$	12			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_E=100\mu\text{A}, I_C=0$	3			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=10\text{V}, I_E=0$			1.0	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=1\text{V}, I_C=0$			1.0	μA
DC current gain	h_{FE}	$V_{\text{CE}}=3\text{V}, I_C=7\text{mA}$	40	110	250	
Feed back capacitance	C_{re}	$V_{\text{CE}}=3\text{V}, I_E=0\text{mA}, f=1\text{MHz}$		0.7	1.5	pF
Transition frequency	f_T	$V_{\text{CE}}=3\text{V}, I_E=7\text{mA}$	3.0	4.5		GHz
Noise Figure	NF	$V_{\text{CE}}=3\text{V}, I_C=7\text{mA}, f=1\text{GHz}$		1.2	2.5	dB

CLASSIFICATION OF h_{FE}

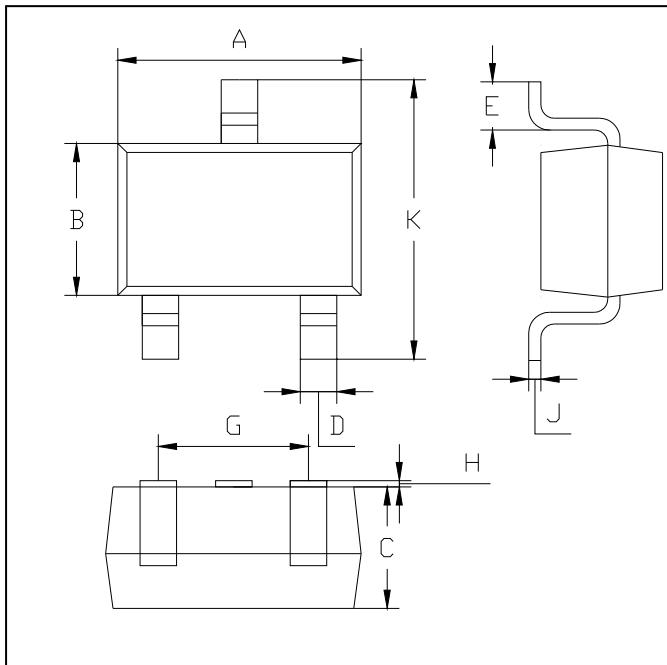
Marking	R23	R24	R25
h_{FE}	40-80	70-140	125-250

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



PACKAGE OUTLINE

Plastic surface mounted package



SOT-323		
Dim	Min	Max
A	1.8	2.2
B	1.15	1.35
C	1.0Typical	
D	0.15	0.35
E	0.25	0.40
G	1.2	1.4
H	0.02	0.1
J	0.1Typical	
K	2.2	2.4

All Dimensions in mm

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