

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	$^\circ\text{C}$



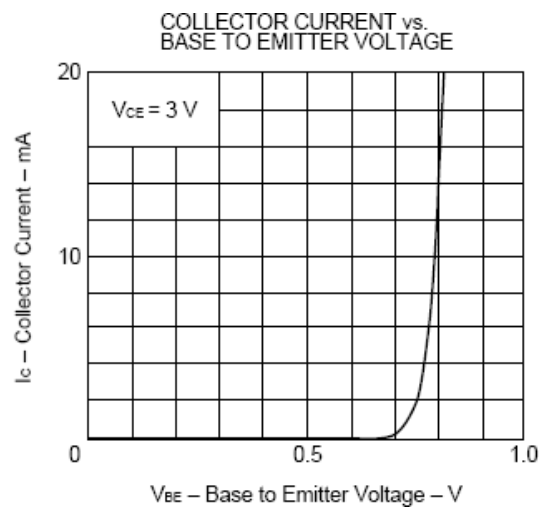
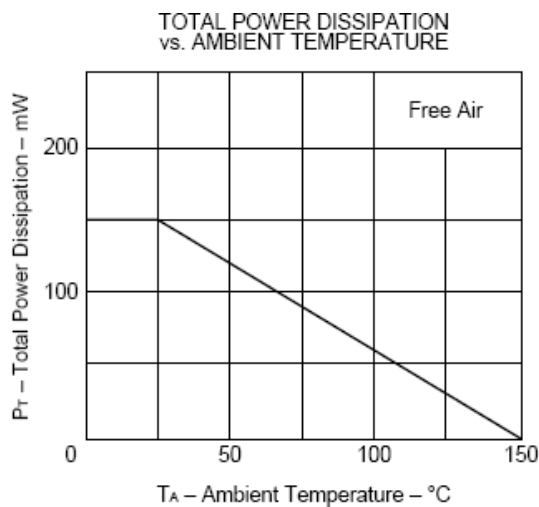
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

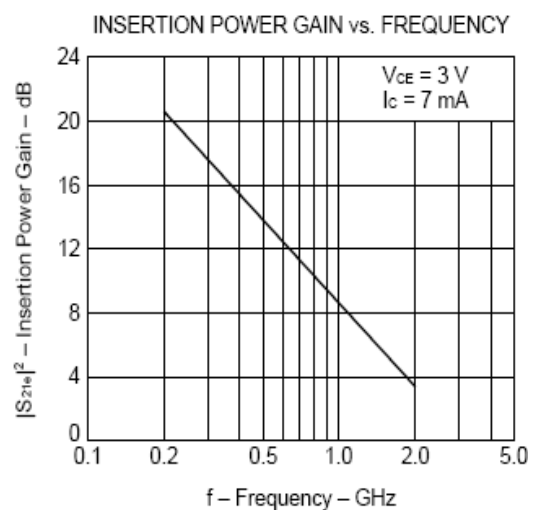
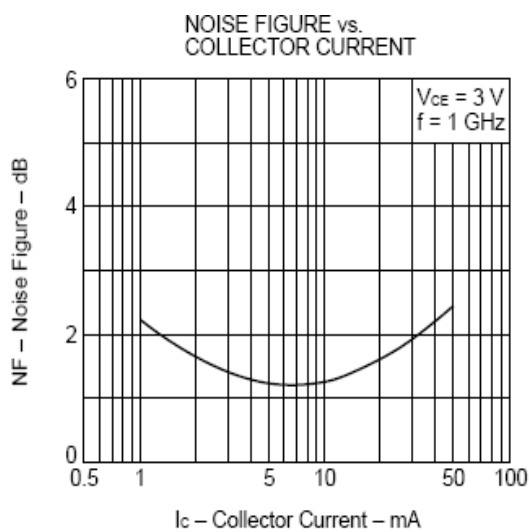
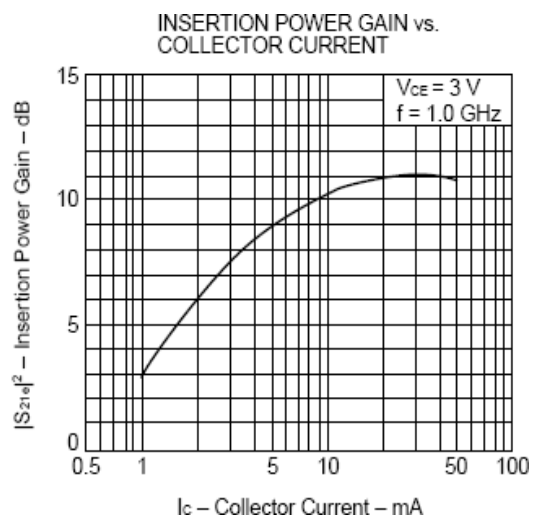
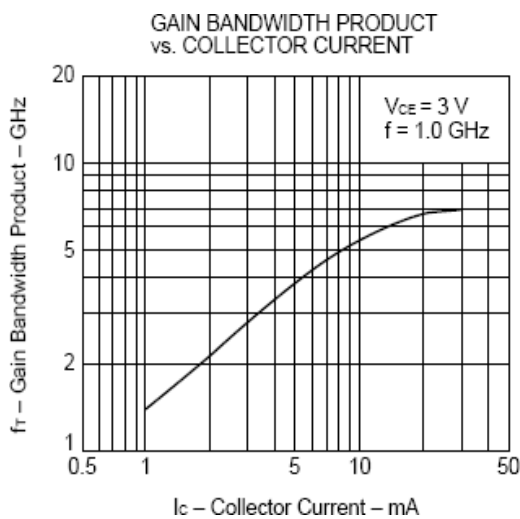
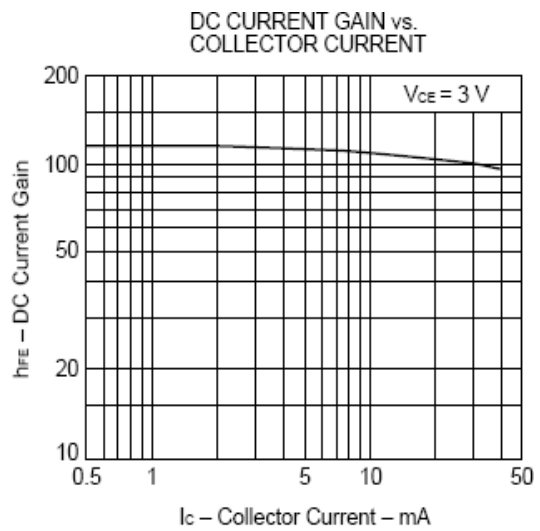
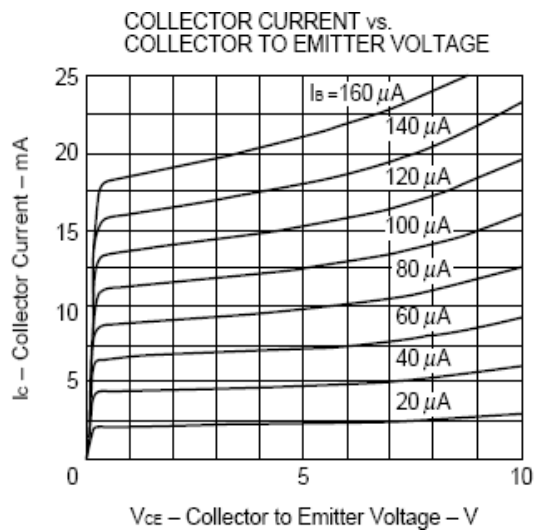
Parameter	Symbol	Test conditions	MI N	TY P	MA X	UNI T
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	12			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	3			V
Collector cut-off current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

CLASSIFICATION OF h_{FE}

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

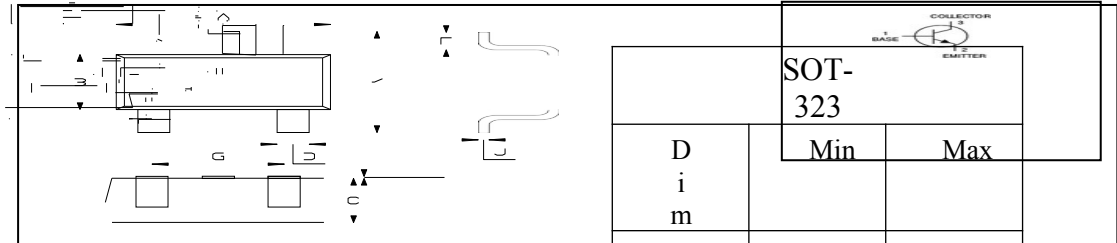
TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified





PACKAGE OUTLINE

Plastic surface mounted package



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