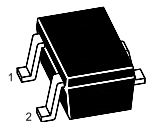


NPN Silicon Epitaxial Planar Transistor

For VHF, UHF low noise amplifier



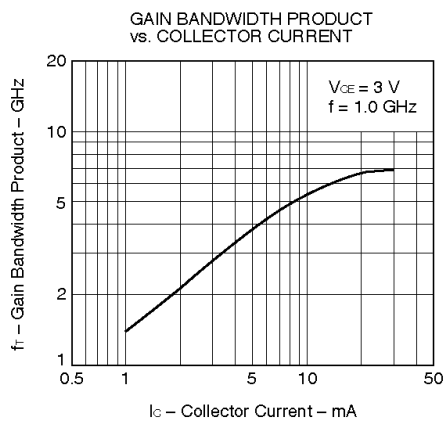
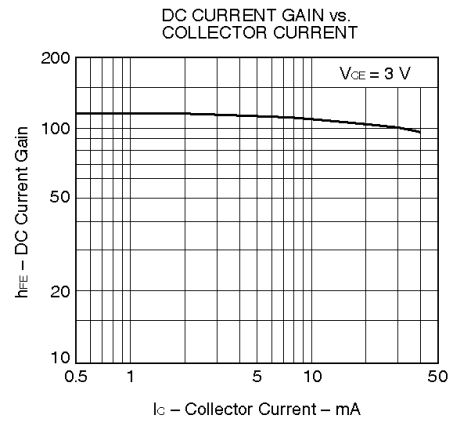
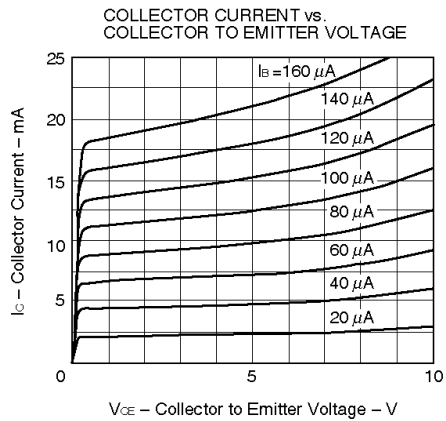
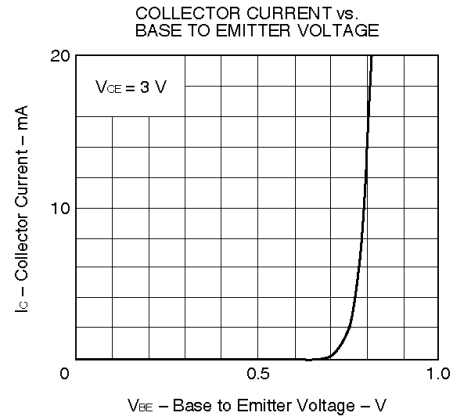
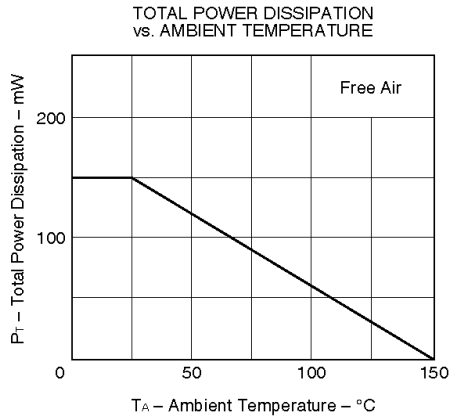
1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package
Marking Code: J9

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

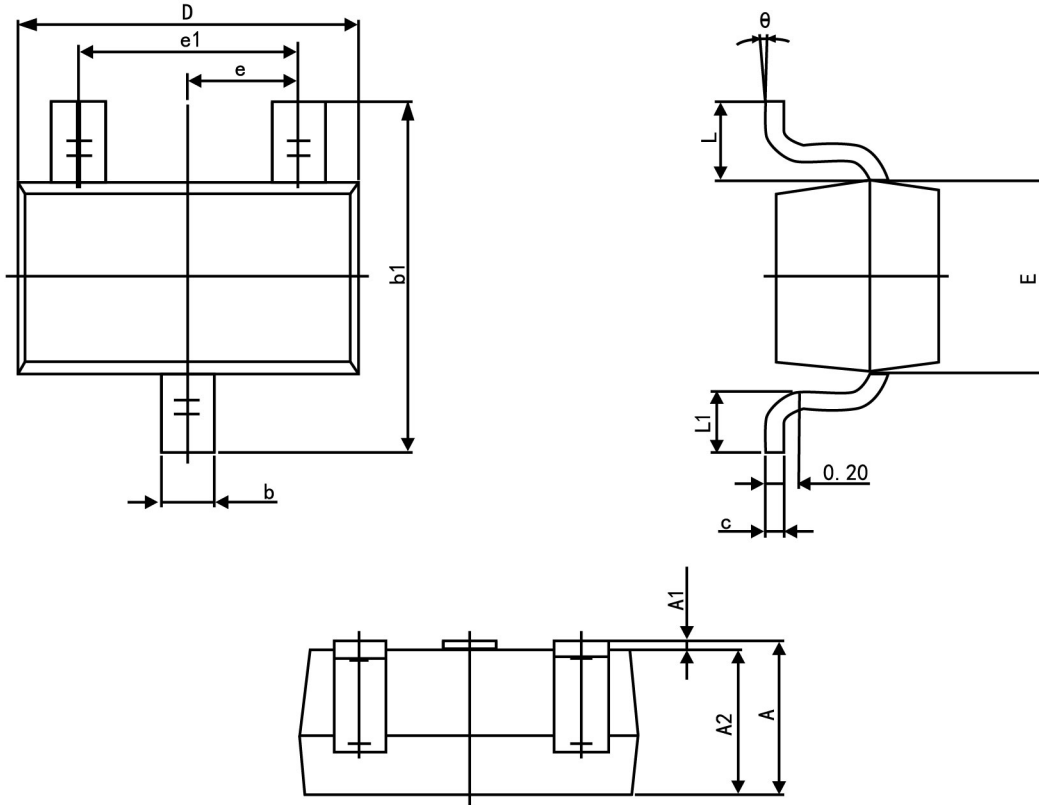
Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $V_{CE} = 3\text{ V}$, $I_C = 7\text{ mA}$	Current Gain Group Q	h_{FE}	40	80	-
	R	h_{FE}	70	140	-
	S	h_{FE}	125	250	-
Collector Base Cutoff Current at $V_{CB} = 10\text{ V}$	I_{CBO}	-	1	μA	
Emitter Base Cutoff Current at $V_{EB} = 1\text{ V}$	I_{EBO}	-	1	μA	
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	20	-	V	
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	12	-	V	
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	3	-	V	
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	-	0.5	V	
Transition Frequency at $V_{CE} = 3\text{ V}$, $I_C = 7\text{ mA}$	f_T	3	-	GHz	
Feed Back Capacitance at $V_{CB} = 3\text{ V}$, $f = 1\text{ MHz}$	C_{re}	-	1.5	pF	
Noise Figure at $V_{CE} = 3\text{ V}$, $I_C = 7\text{ mA}$, $f = 1\text{ GHz}$	NF	-	2.5	dB	





SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.200	0.400
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
θ	0°	8°