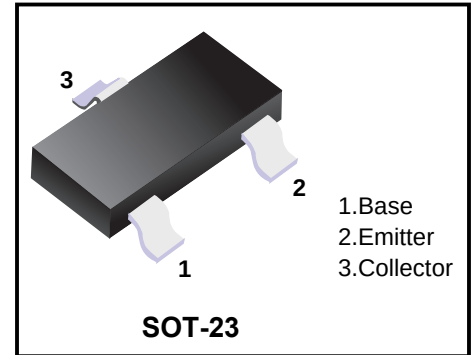


NPN Silicon Epitaxial Planar Transistor

for microwave low noise amplifier at VHF,
UHF and CATV band

The transistor is subdivided into three
groups, Q, R and S, according to its DC
current gain.



h_{FE} Classification

Classification	2SC3356-Q	2SC3356-R	2SC3356-S
Range	50-100	80-160	125-250
Marking	R23	R24	R25

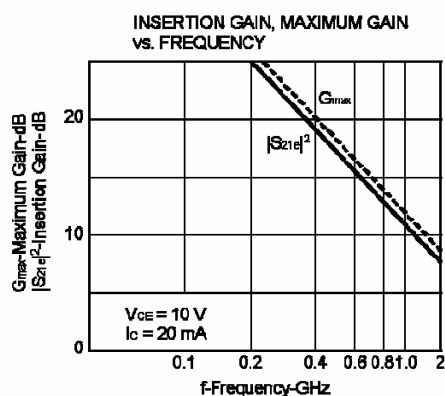
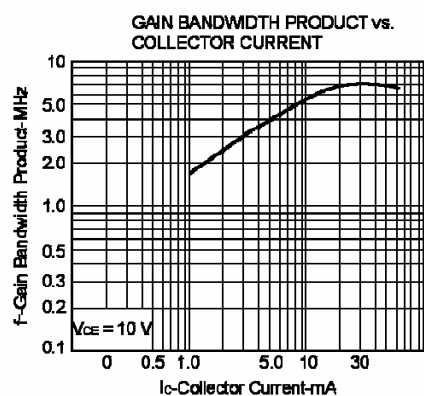
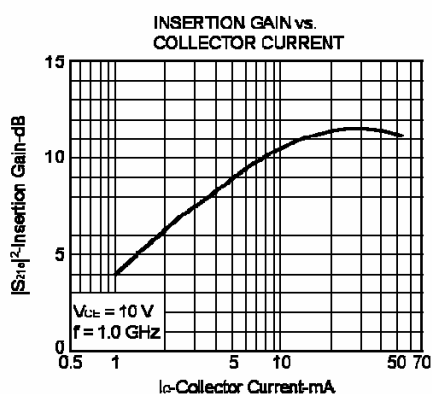
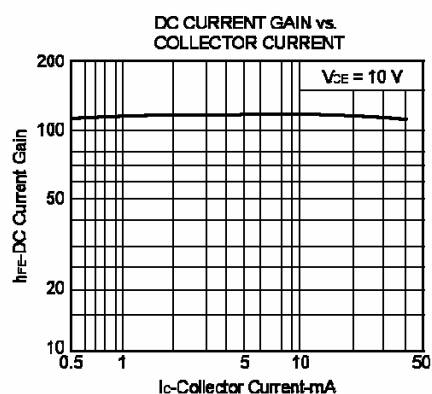
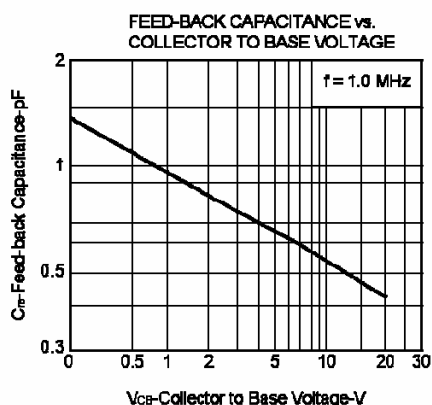
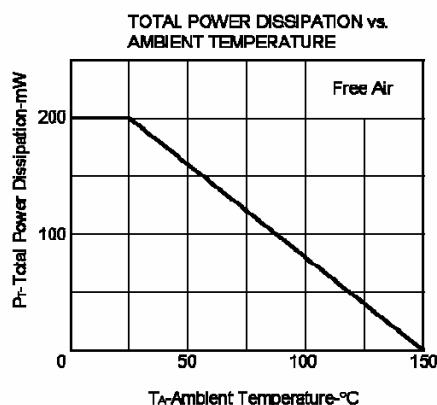
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	- 65 to + 150	$^\circ\text{C}$

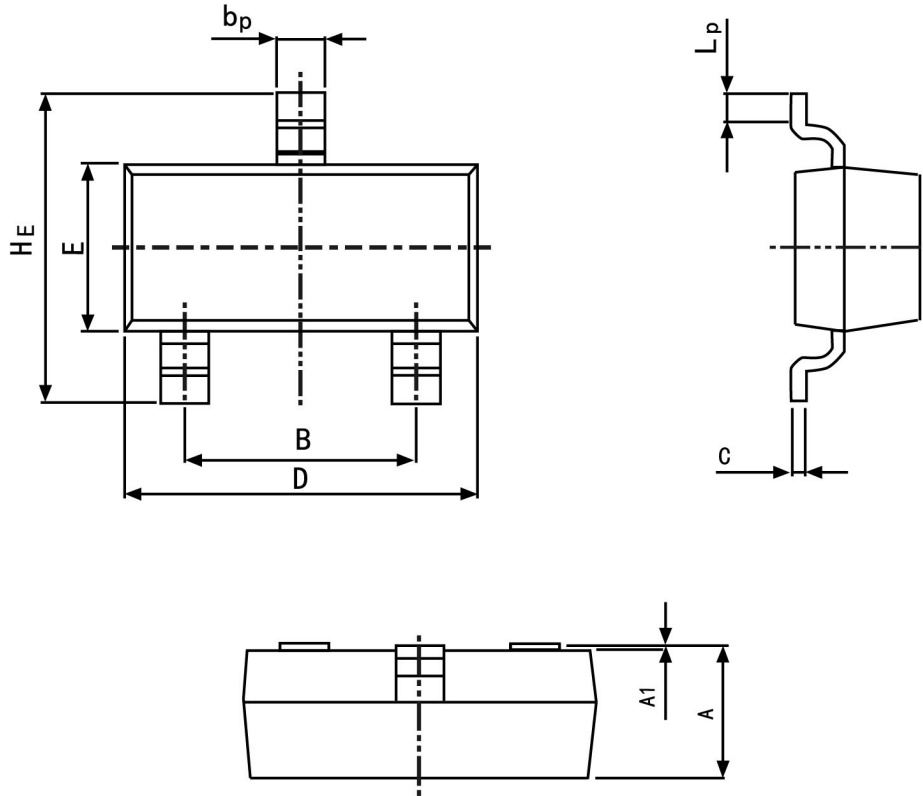
Characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}$, $I_C = 20\text{ mA}$ Current Gain Group Q R S	h_{FE}	50	-	100	-
	h_{FE}	80	-	160	-
	h_{FE}	125	-	250	-
	h_{FE}				
Collector Cutoff Current at $V_{CB} = 10\text{ V}$	I_{CBO}	-	-	1	μA
Emitter Cutoff Current at $V_{EB} = 1\text{ V}$	I_{EBO}	-	-	1	μA
Gain Bandwidth Product at $V_{CE} = 10\text{ V}$, $I_C = 20\text{ mA}$	f_T	-	3	-	GHz
Feed-Back Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	$C_{re}^{1)}$	-	0.55	1	pF
Noise Figure at $V_{CE} = 10\text{ V}$, $I_C = 7\text{ mA}$, $f = 1\text{ GHz}$	NF	-	1.1	2	dB

1) The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.



Package Outline SOT-23
Plastic surface mounted package; 3 leads



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3 000	EIA-481-1