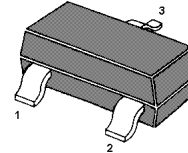


NPN Silicon Epitaxial Planar Transistor

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.



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

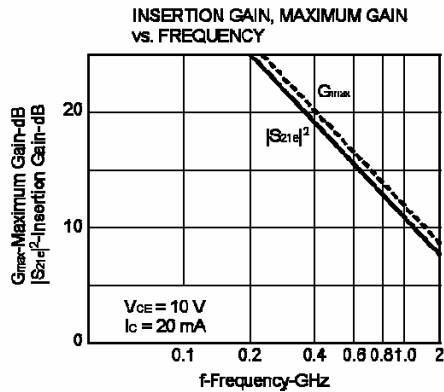
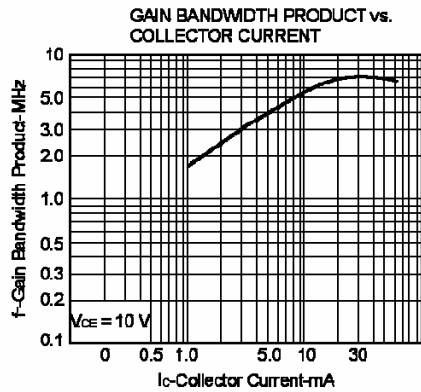
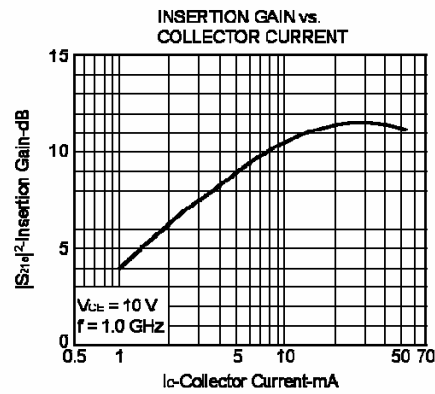
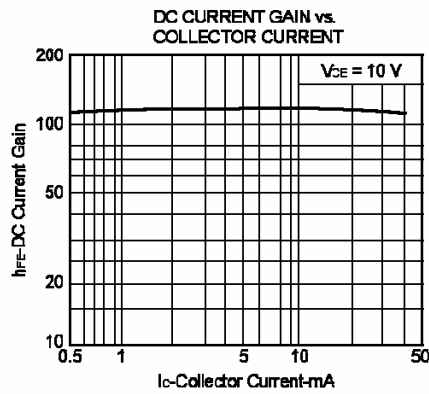
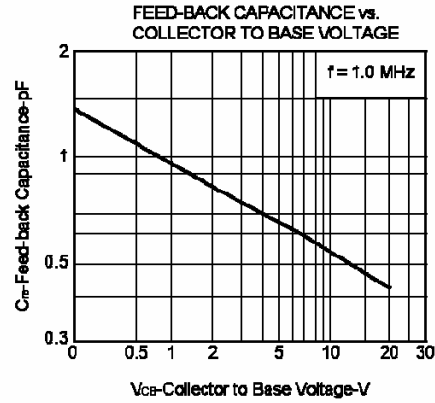
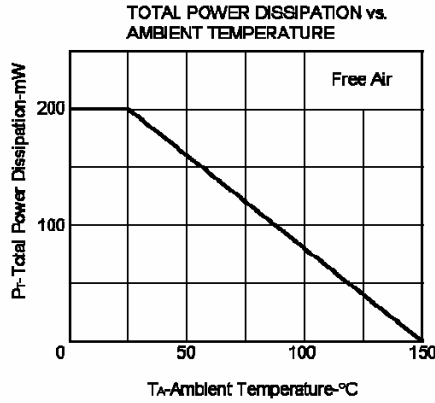
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 10\text{ V}$, $I_C = 20\text{ mA}$ Current Gain Group	Q	h_{FE}	50	-	100	-
	R	h_{FE}	80	-	160	-
	S	h_{FE}	125	-	250	-
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	-	7	-	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.





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SOT-23

MMBTSC3356

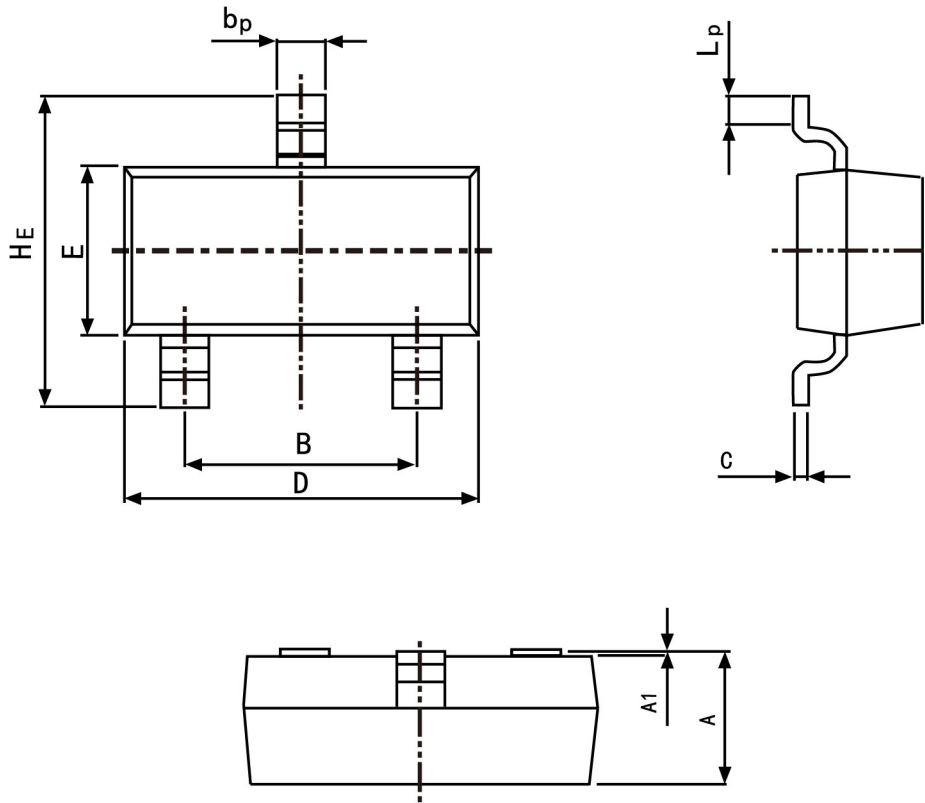


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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
b_p	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
L_p	0.20	0.50