

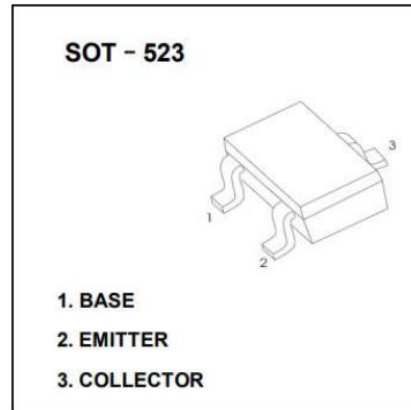


NPN Silicon Epitaxial Planar Transistor

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.

HFE	MARKING
Q	R23
R	R24
S	R25



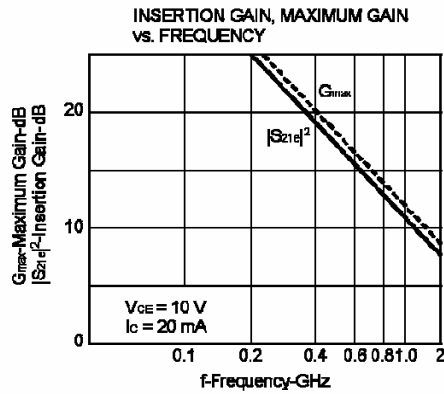
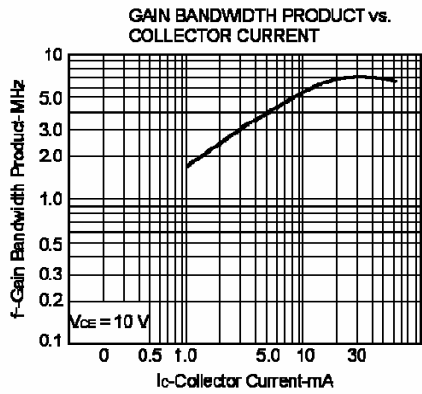
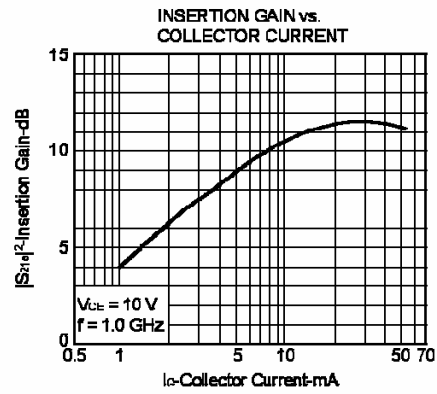
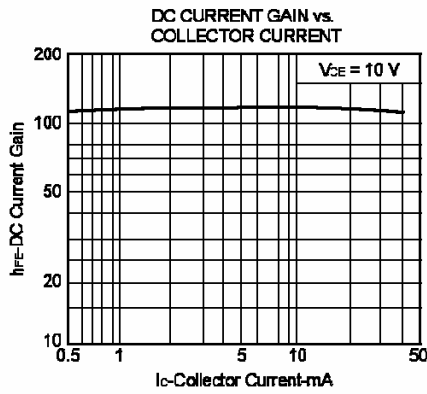
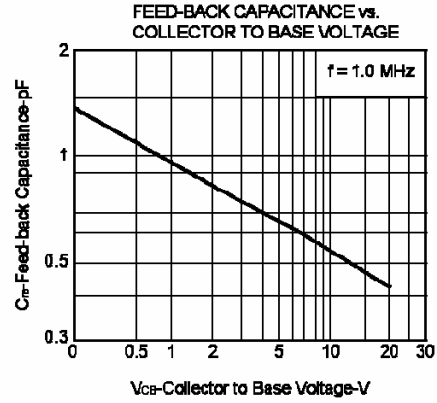
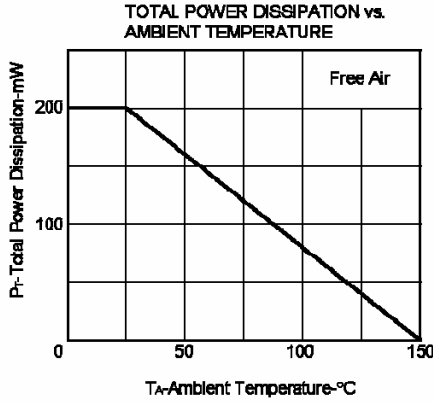
Absolute Maximum Ratings (T_a = 25 °C)

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	°C
Storage Temperature Range	T _s	- 65 to + 150	°C

Characteristics (T_a = 25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V _{CE} = 10 V, I _C = 20 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 V	I _{CBO}	-	-	1	μA
Emitter Cutoff Current at V _{EB} = 1 V	I _{EBO}	-	-	1	μA
Gain Bandwidth Product at V _{CE} = 10 V, I _C = 20 mA	f _T	-	3	-	GHz
Feed-Back Capacitance at V _{CB} = 10 V, f = 1 MHz	C _{re} ¹⁾	-	0.55	1	pF
Noise Figure at V _{CE} = 10 V, I _C = 7 mA, f = 1 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.

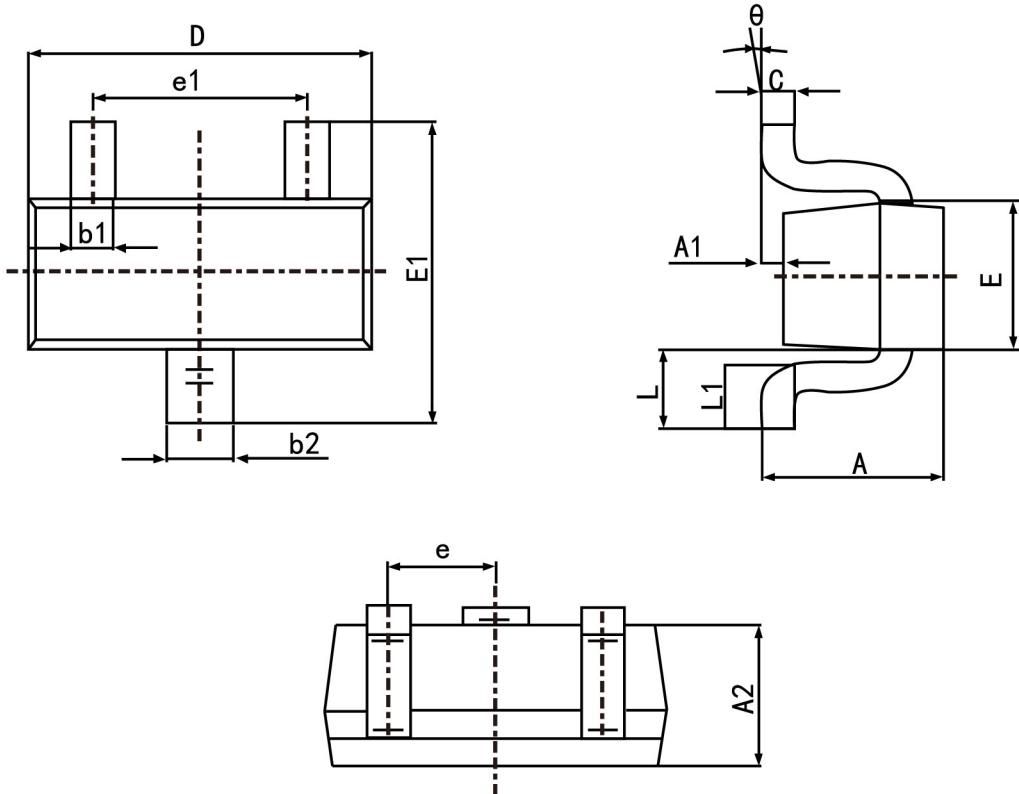




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-523



Symbol	Dimension in Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
c	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500	TYP.
e1	0.900	1.100
L	0.400 REF.	
L1	0.260	0.460
θ	0°	8°