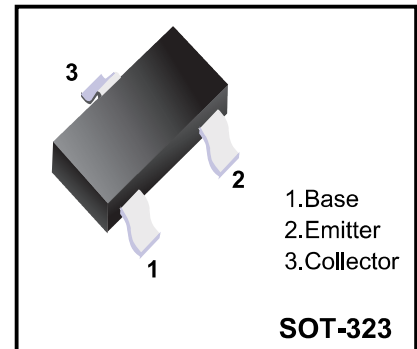


**NPN Silicon Epitaxial Planar Transistor**

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
<b>Q</b>	<b>R23</b>
<b>R</b>	<b>R24</b>
<b>S</b>	<b>R25</b>

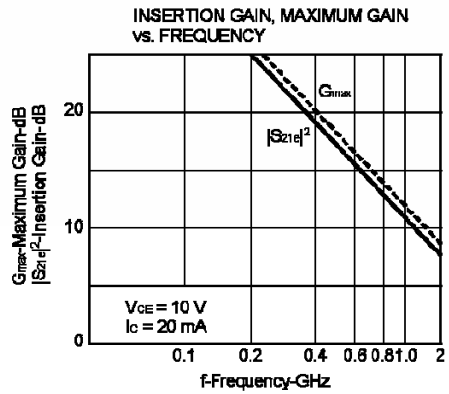
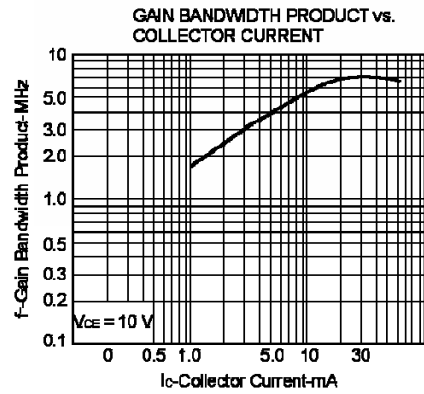
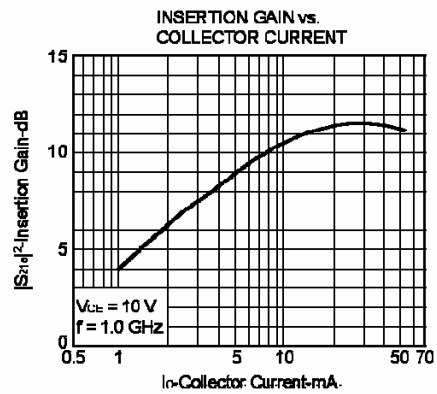
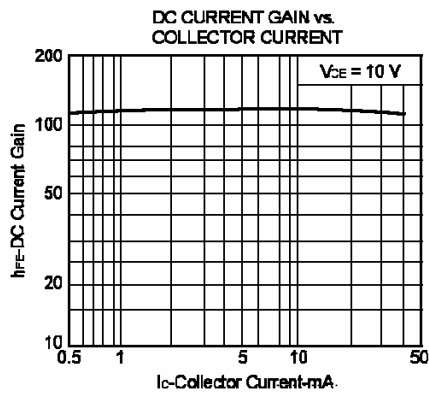
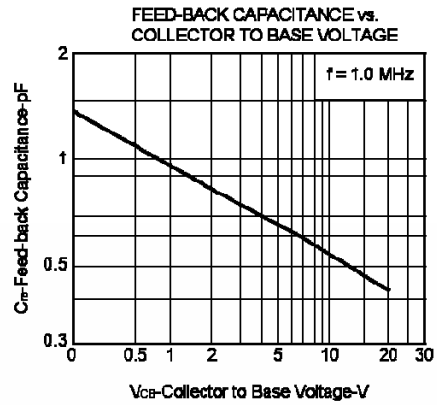
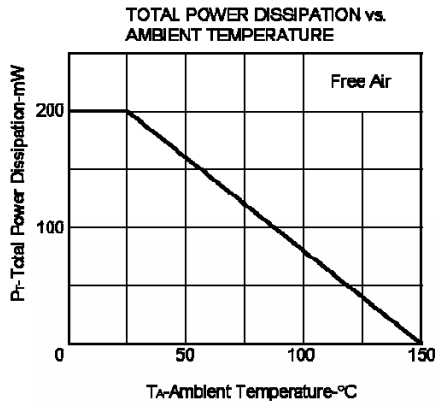
**Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)**

Parameter	Symbol	Value	Unit
Collector Base Voltage	V <sub>CBO</sub>	20	V
Collector Emitter Voltage	V <sub>CEO</sub>	12	V
Emitter Base Voltage	V <sub>EBO</sub>	3	V
Collector Current	I <sub>C</sub>	100	mA
Power Dissipation	P <sub>tot</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>s</sub>	- 65 to + 150	°C

**Characteristics (T<sub>a</sub> = 25 °C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V <sub>CE</sub> = 10 V, I <sub>C</sub> = 20 mA Current Gain Group	Q h <sub>FE</sub>	50	-	100	-
	R h <sub>FE</sub>	80	-	160	-
	S h <sub>FE</sub>	125	-	250	-
Collector Cutoff Current at V <sub>CB</sub> = 10 V	I <sub>CBO</sub>	-	-	1	μA
Emitter Cutoff Current at V <sub>EB</sub> = 1 V	I <sub>EBO</sub>	-	-	1	μA
Gain Bandwidth Product at V <sub>CE</sub> = 10 V, I <sub>C</sub> = 20 mA	f <sub>T</sub>	-	7	-	GHz
Feed-Back Capacitance at V <sub>CB</sub> = 10 V, f = 1 MHz	C <sub>re</sub> <sup>1)</sup>	-	0.55	1	pF
Noise Figure at V <sub>CE</sub> = 10 V, I <sub>C</sub> = 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.



**Ordering information**

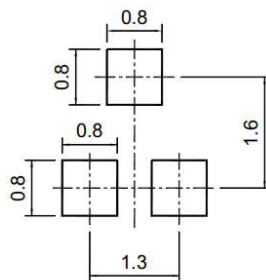
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-323**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
E	1.3		51	
E1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

**The recommended mounting pad size**



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