

NPN Silicon Epitaxial Planar Transistor
 High Frequency Low Noise Amplifier.

Features:

- NF=1.8dB TYP. @ f=0.9GHz, V_{CE}=10V, I_C=10mA
- High Gain
 $|S_{21e}|^2 = 13$ dB TYP. @ f=0.9GHz, V_{CE}=8V, I_C=40mA

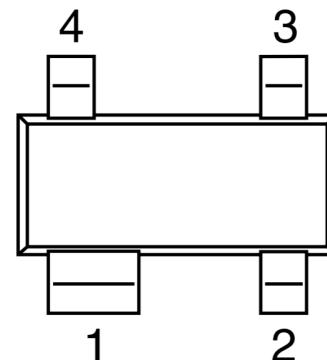
Description:

The BFG540 is a low supply voltage transistor designed for VHF, UHF low noise amplifier.

Marking: N37

PIN CONNECTIONS

1. collector 2.base 3&4.emitter

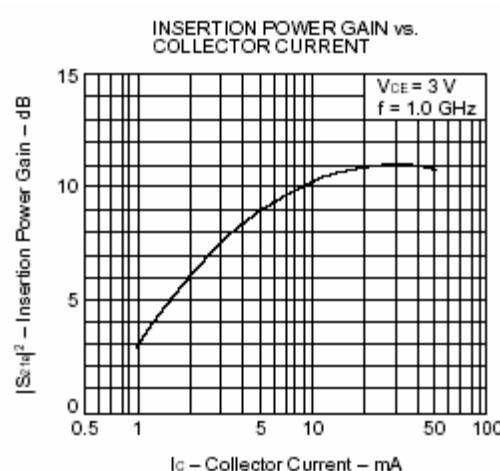
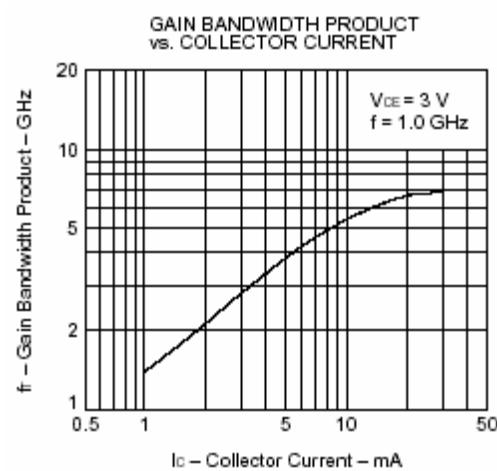
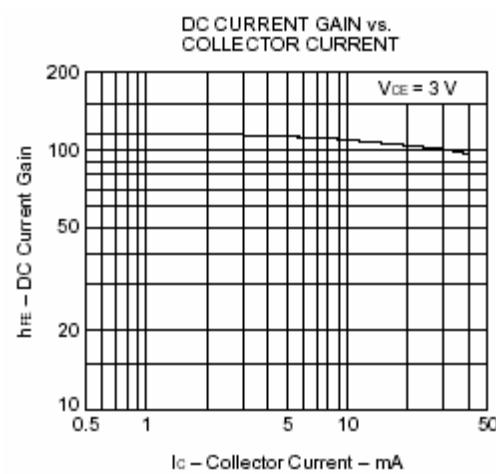
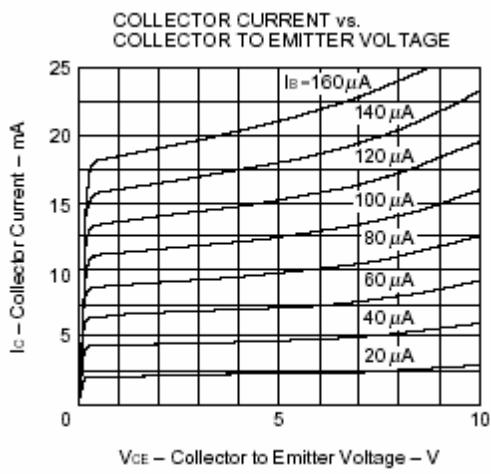
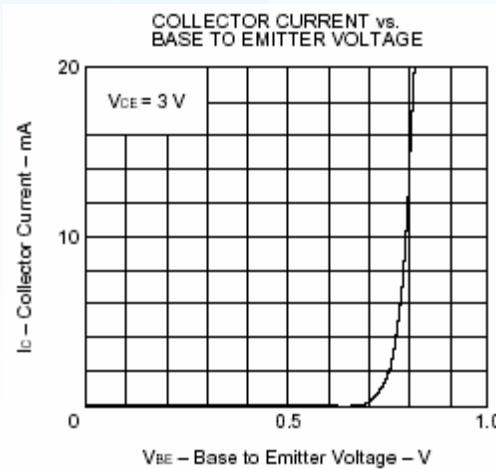
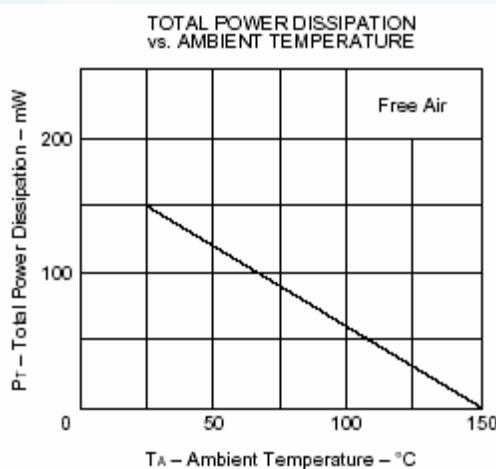

SOT143
Absolute Maximum Ratings (T_a = 25 °C)

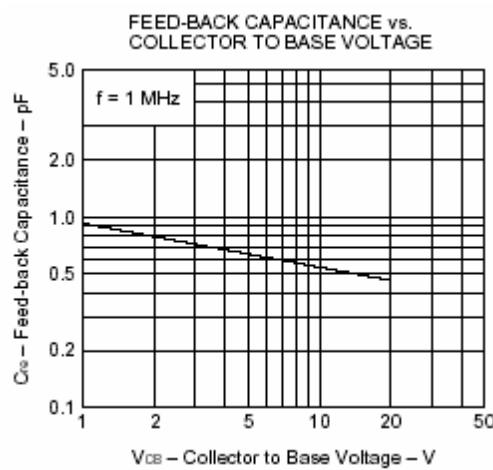
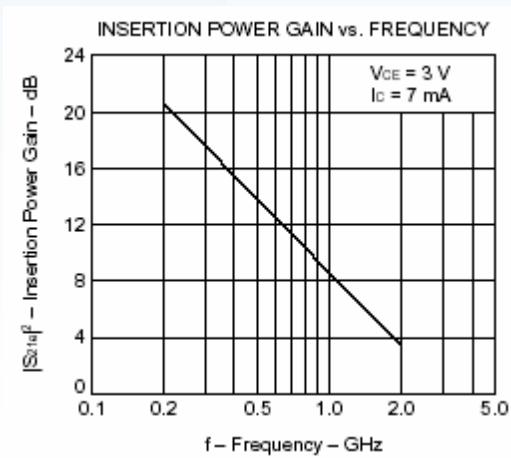
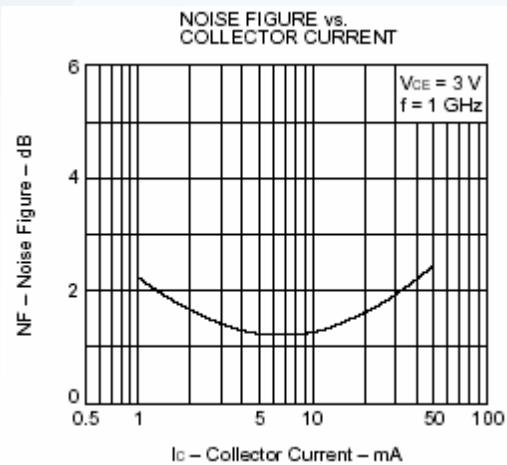
	Symbol	Value	Unit
Collector Base Voltage	V _{CBO}	20	V
Collector Emitter Voltage	V _{CEO}	12	V
Emitter Base Voltage	V _{EBO}	3	V
Collector Current	I _C	100	mA
Total Power Dissipation	P _{tot}	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _s	-65 to +150	°C

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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=5\text{V}$, $I_C=15\text{mA}$	h_{FE}	100	-	250	-
Collector Cutoff Current at $V_{CB}=10\text{V}$	I_{CBO}	-	-	1.0	μA
Emitter Cutoff Current at $V_{EB}=1\text{V}$	I_{EBO}	-	-	1.0	μA
Gain Bandwidth Product at $V_{CE}=8\text{V}$, $I_C=40\text{mA}$	f_T	-	9	-	GHz
Feed back Capacitance ¹⁾ at $V_{CE}=8\text{V}$, $f=1\text{MHz}$	C_{re}	-	0.65	1.5	pF
Insertion Power Gain at $V_{CE}=8\text{V}$, $I_C=40\text{mA}$, $f=0.9\text{GHz}$	$ S_{21e} ^2$	7	13	-	dB
Noise Figure at $V_{CE}=10\text{V}$, $I_C=10\text{mA}$, $f=0.9\text{GHz}$	NF	-	1.8	2.5	dB

¹⁾ Measured with 3 terminal bridge, Emitter and case should be grounded.

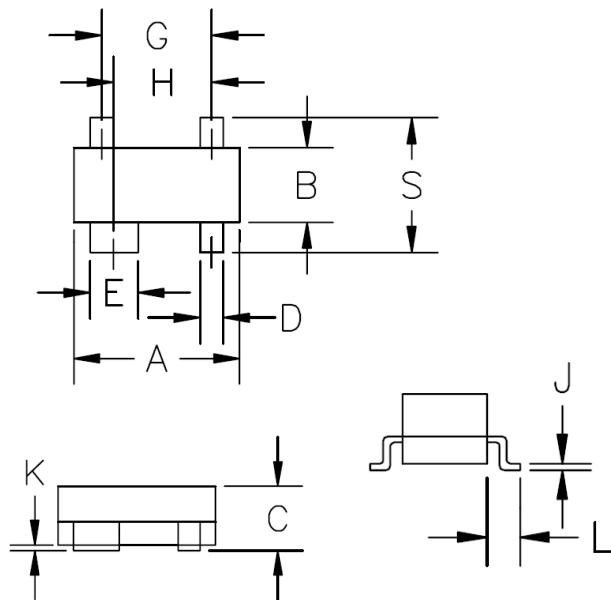




Package Outline

Plastic surface mounted package

SOT-143



DIM ^N	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	—
B	.047	.055	1.20	1.40	—
C	.031	.047	.80	1.20	—
D	.014	.018	.37	.510	—
E	.030	.035	.76	.940	—
G	.076	BSC	1.92	BSC	—
H	.068	BSC	1.72	BSC	—
J	.003	.005	.085	.180	—
K	.002	.005	.013	0.10	—
L	.010	.022	—	.55	REF
S	.082	.104	2.10	2.64	—

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