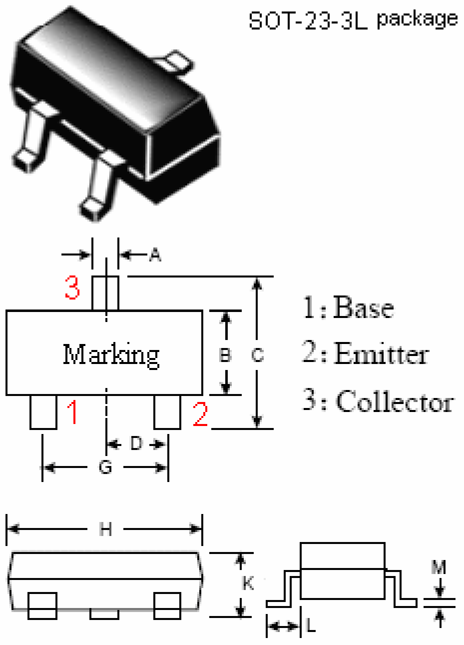
isc Silicon NPN RF Transistor 2SC3127

DESCRIPTION

- Low Noise and High Gain
  NF = 2.2 dB TYP. @V_{CE} = 5 V, I_C = 5 mA, f = 900 MHz
  PG = 10.5 dB TYP. @V_{CE} = 5 V, I_C = 20 mA, f = 900 MHz

APPLICATIONS

- Designed for use in low-noise and small signal amplifiers from VHF ~ UHF band.



DIM	mm	
	MIN	MAX
A	0.30	0.40
B	1.50	1.70
C	2.65	2.95
D	0.95	
G	1.80	2.00
H	2.82	3.02
K	1.05	1.25
L	0.70	
M	0.10	0.20

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current-Continuous	50	mA
P_C	Collector Power Dissipation @T_C=25℃	0.15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 10μA ; I_E= 0	20			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA ; R_{BE}= ∞	12			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 12V; I_E= 0			0.5	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 3V; I_C= 0			10	μA
h_{FE}	DC Current Gain	I_C= 20mA ; V_{CE}= 5V	30		200	
f_T	Current-Gain—Bandwidth Product	I_C= 20mA ; V_{CE}= 5V	3.5	4.5		GHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 5V;f= 1.0MHz		0.9	1.5	pF
PG	Power Gain	I_C= 20mA ; V_{CE}= 5V;f= 900MHz		10.5		dB
NF	Noise Figure	I_C= 5mA ; V_{CE}= 5V;f= 900MHz		2.2		dB

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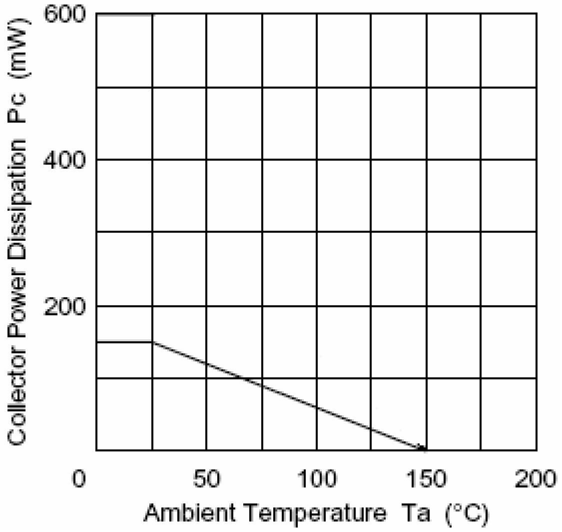
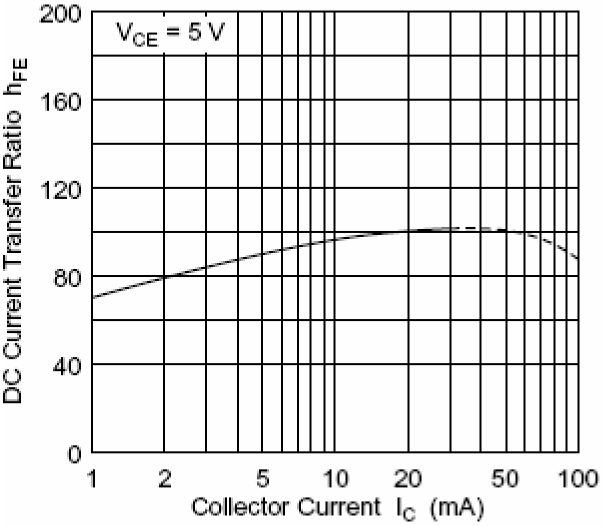
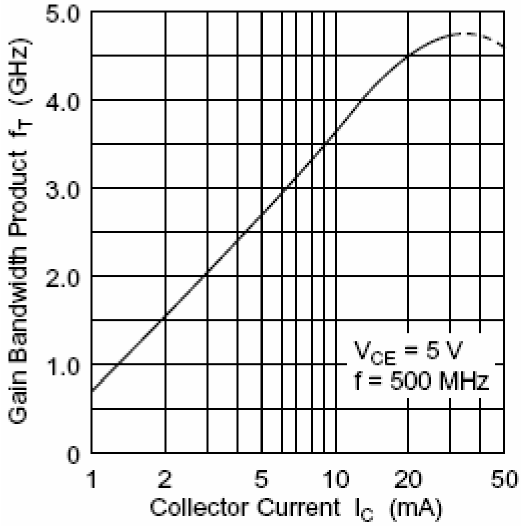
Maximum Collector Dissipation Curve



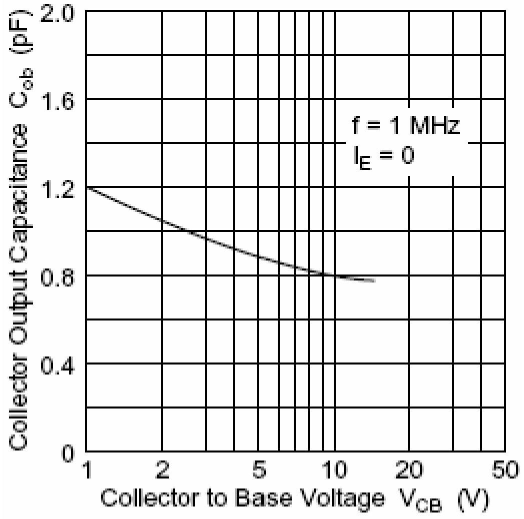
DC Current Transfer Ratio vs. Collector Current



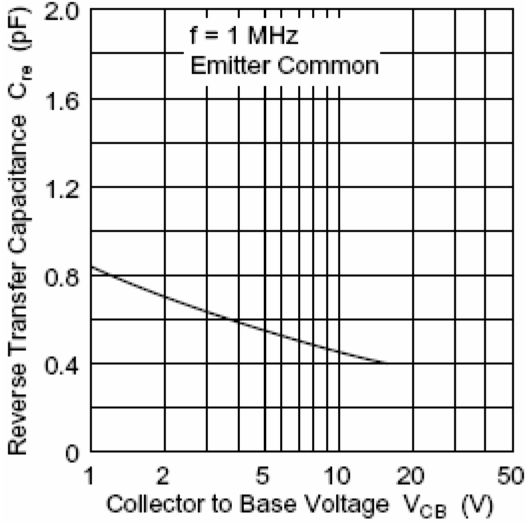
Gain Bandwidth Product vs. Collector Current



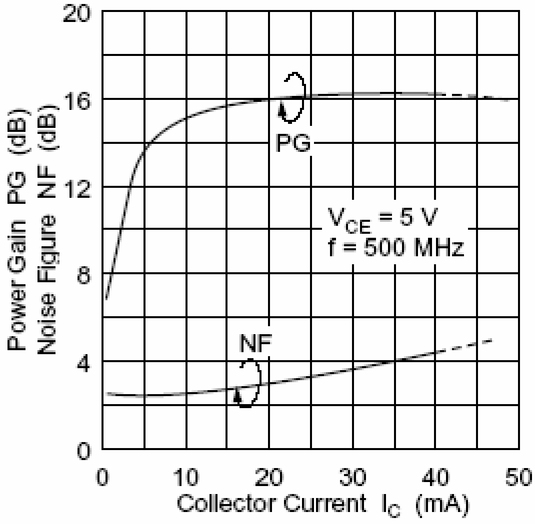
Collector Output Capacitance vs. Collector to Base Voltage

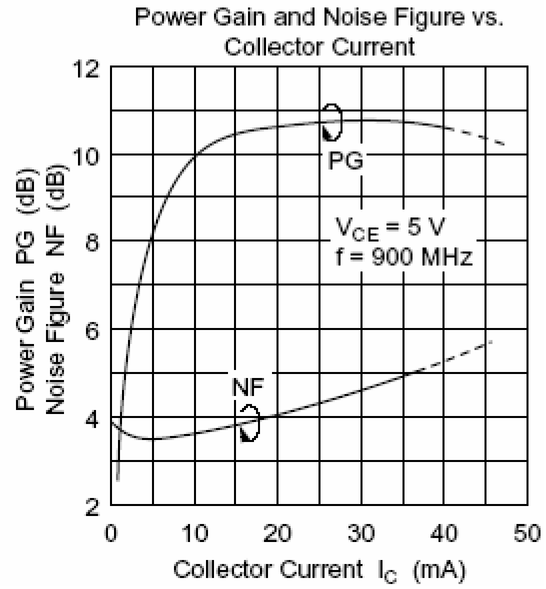


Reverse Transfer Capacitance vs. Collector to Base Voltage

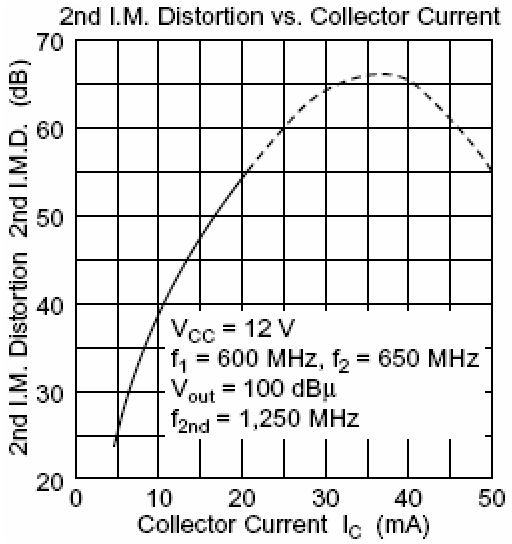


Power Gain and Noise Figure vs. Collector Current

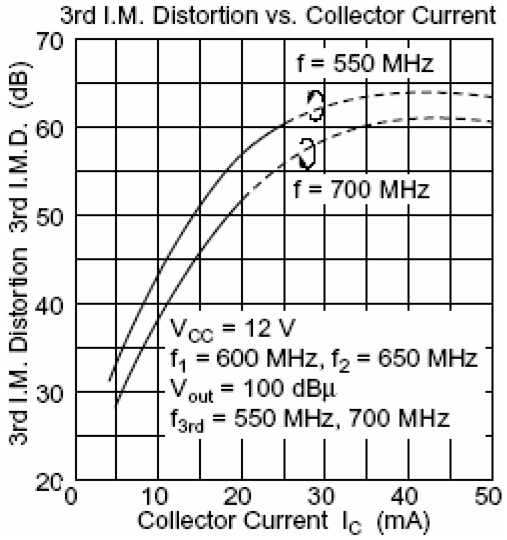




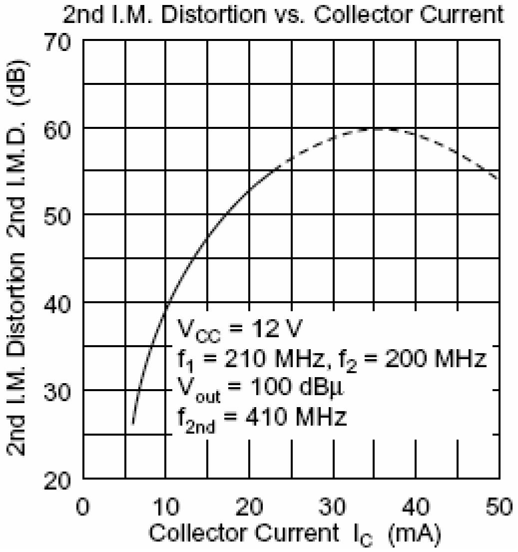
Power Gain and Noise Figure vs. Collector Current



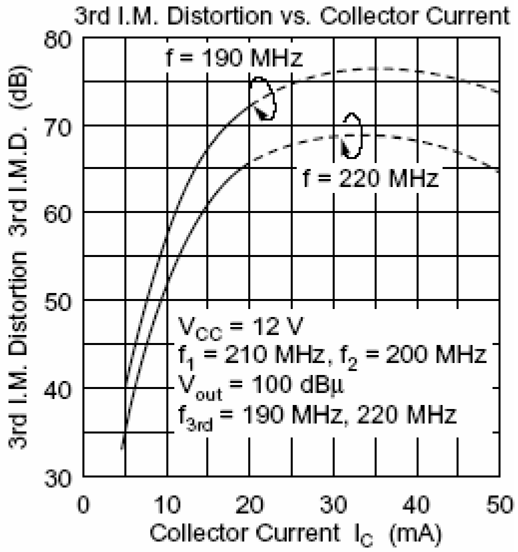
2nd I.M. Distortion vs. Collector Current



3rd I.M. Distortion vs. Collector Current



2nd I.M. Distortion vs. Collector Current



3rd I.M. Distortion vs. Collector Current

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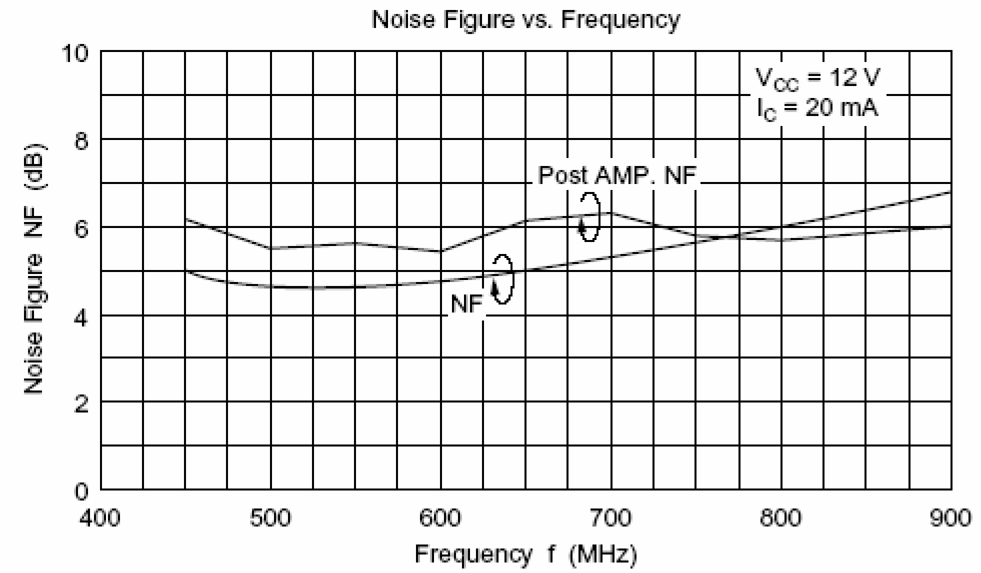

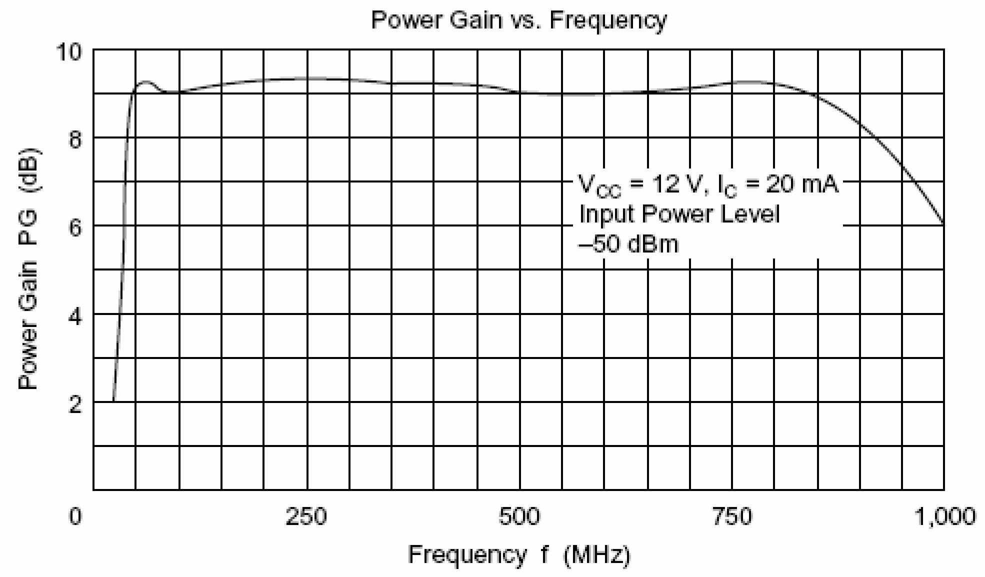

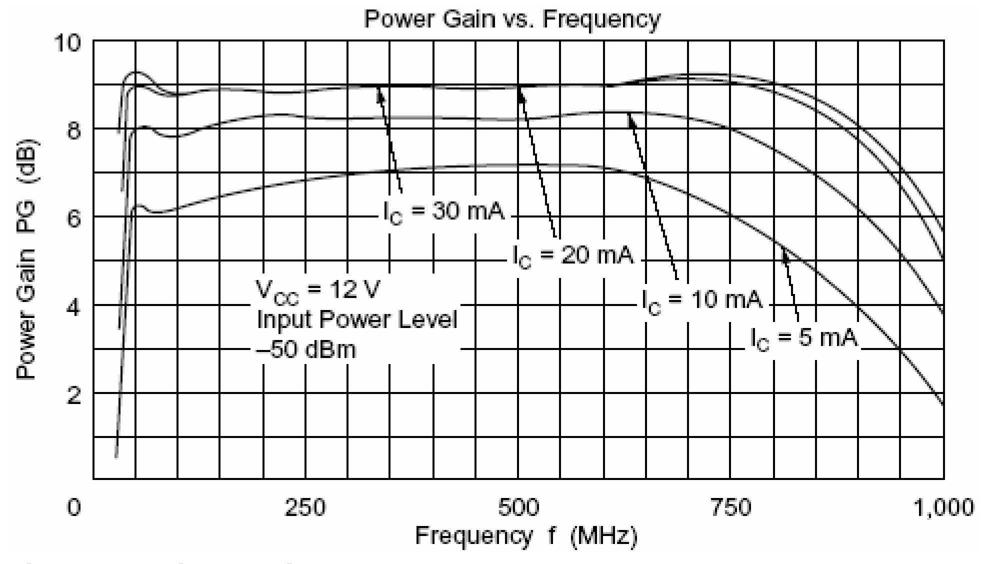

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