

isc Silicon NPN RF Transistor

2SC2570A

DESCRIPTION

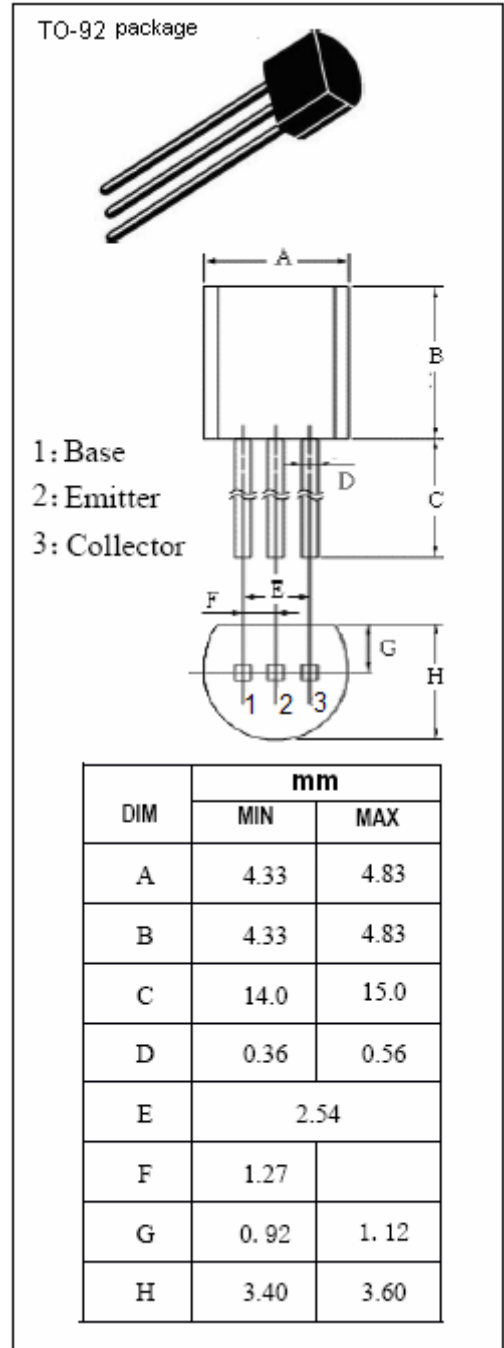
- Low Noise and High Gain  
 NF = 1.5 dB TYP.  
 Ga = 8 dB TYP. @f = 1.0 GHz, V<sub>CE</sub> = 10 V, I<sub>C</sub> = 5 mA
- Wide Dynamic Range  
 NF = 1.9 dB TYP.  
 Ga = 9 dB TYP. @f = 1.0 GHz, V<sub>CE</sub> = 10 V, I<sub>C</sub> = 15 mA

APPLICATIONS

- Designed for use in low-noise amplifier of VHF ~ UHF stages.

ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	25	V
V <sub>CEO</sub>	Collector-Emitter Voltage	12	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.0	V
I <sub>C</sub>	Collector Current-Continuous	70	mA
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	0.6	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C



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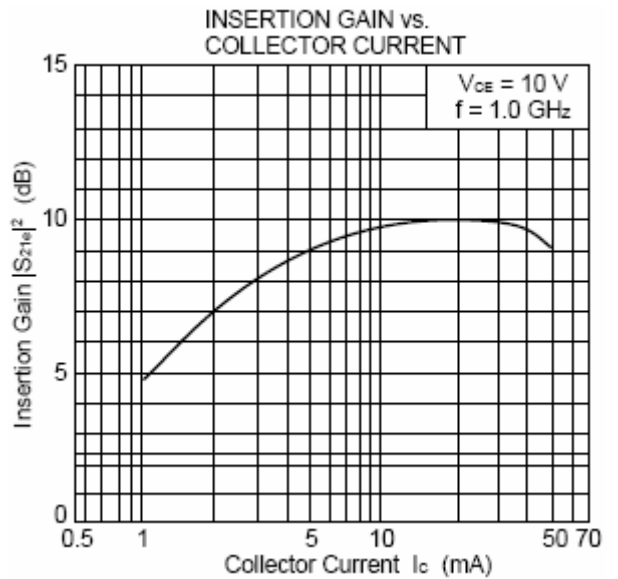
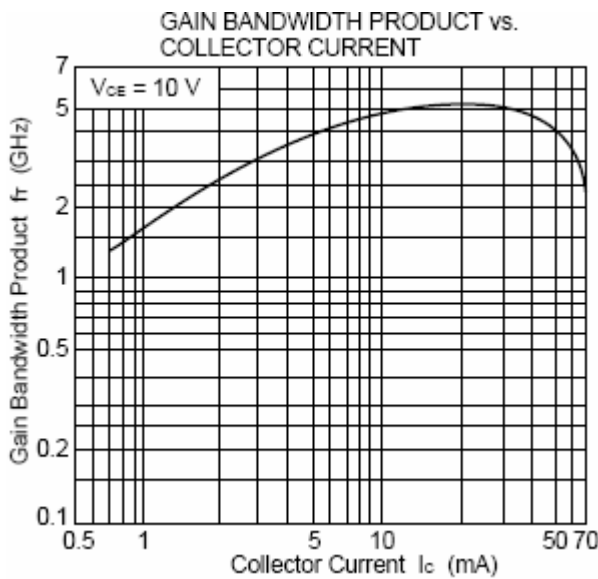
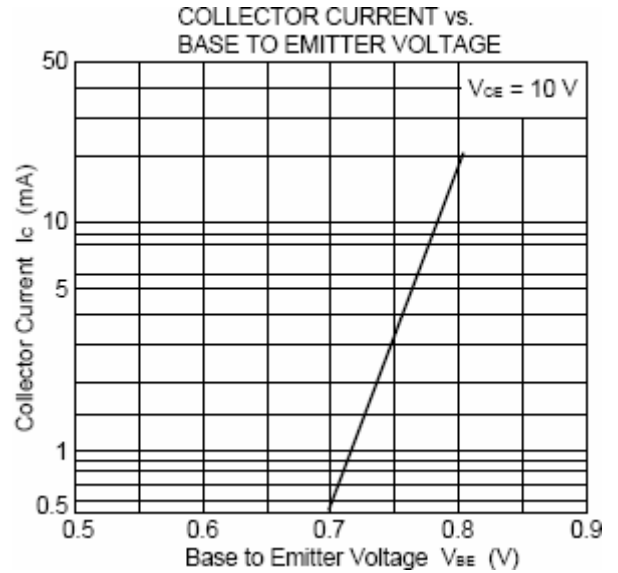
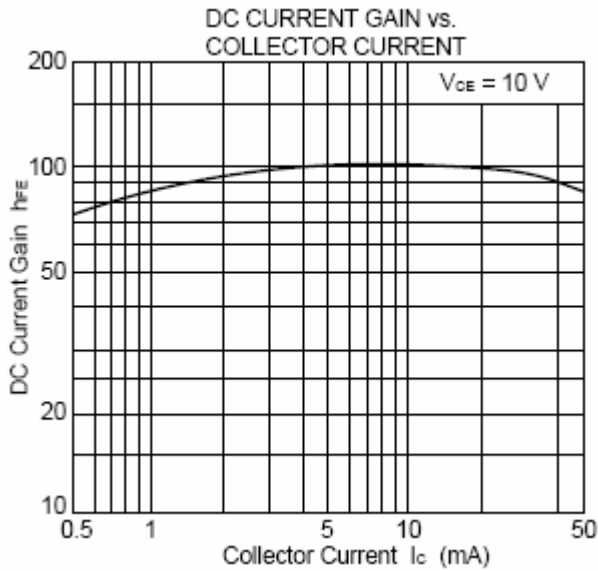
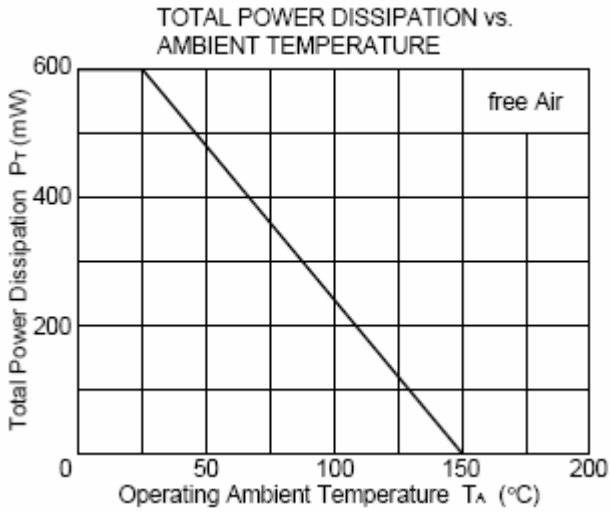
## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 15V; I <sub>E</sub> = 0			0.1	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 2V; I <sub>C</sub> = 0			0.1	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 20mA ; V <sub>CE</sub> = 10V	40		200	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 20mA ; V <sub>CE</sub> = 10V		5		GHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V;f= 1.0MHz		0.7	0.9	pF
S <sub>21e</sub>   <sup>2</sup>	Insertion Power Gain	I <sub>C</sub> = 20mA ; V <sub>CE</sub> = 10V; f= 1.0GHz	8	10		dB
MAG	Maximum Available Gain	I <sub>C</sub> = 20mA ; V <sub>CE</sub> = 10V;f= 1.0GHz		11.5		dB
NF	Noise Figure	I <sub>C</sub> = 5mA ; V <sub>CE</sub> = 10V;f= 1.0GHz		1.5	3.0	dB

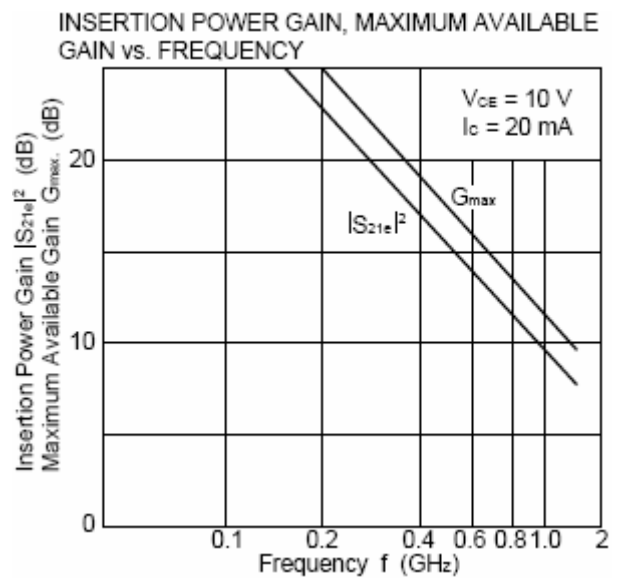
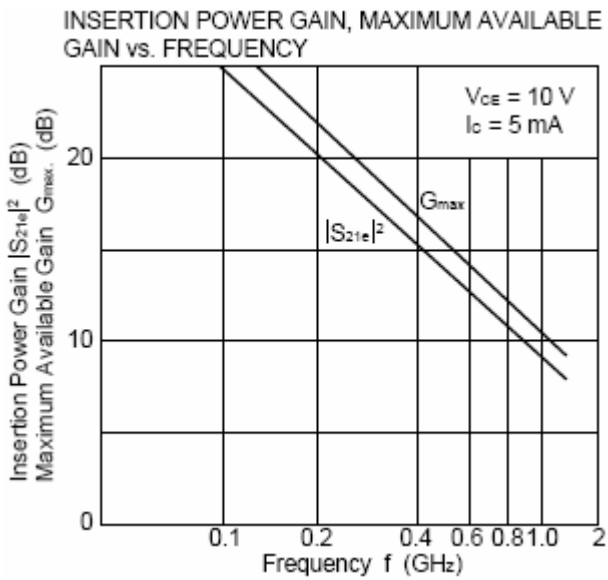
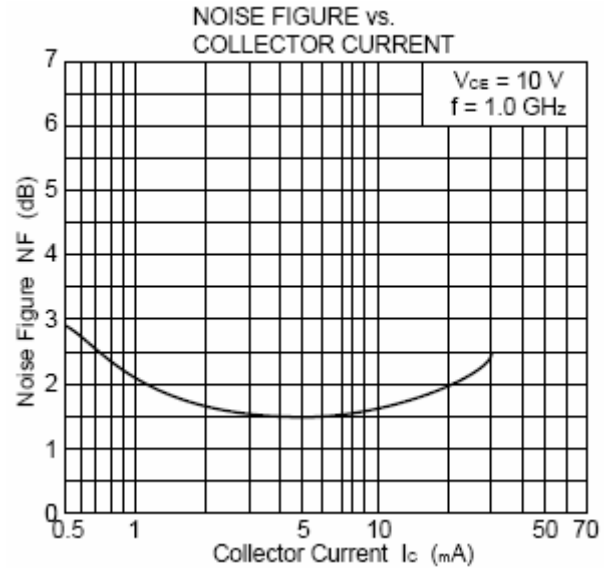
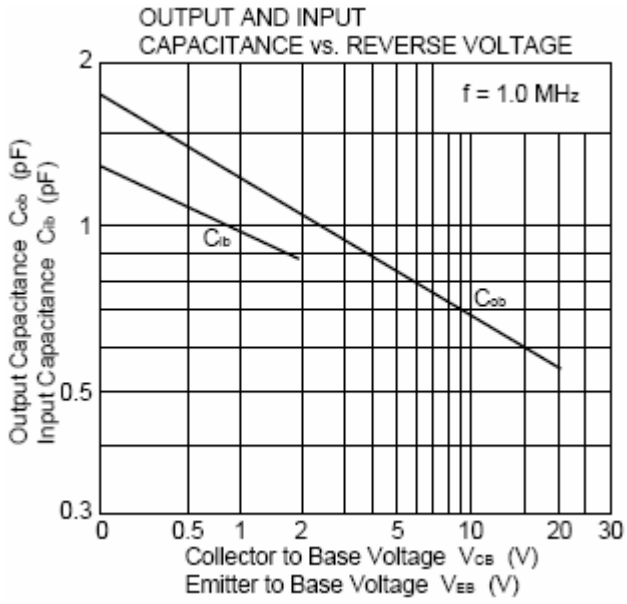
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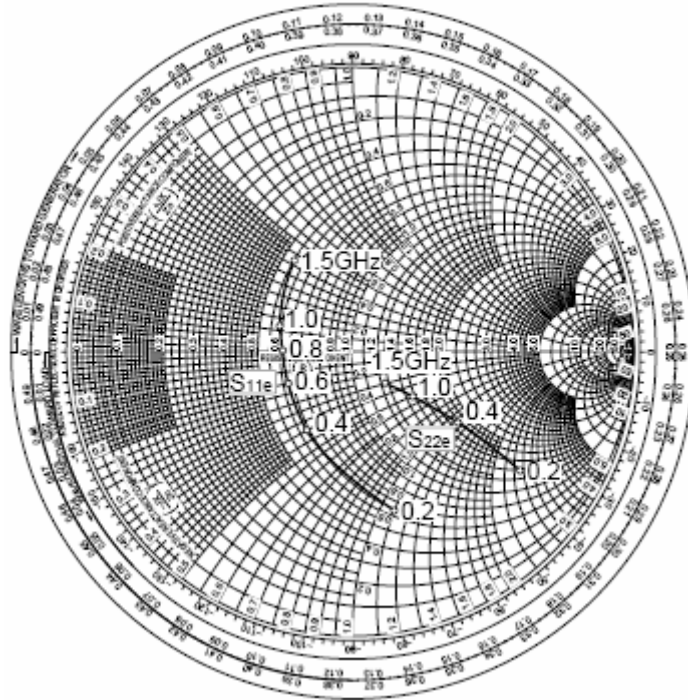


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S-PARAMETER

$V_{CE} = 10\text{ V}$ ,  $I_c = 5\text{ mA}$ ,  $Z_o = 50\ \Omega$



S-PARAMETER

$V_{CE} = 10\text{ V}$ ,  $I_c = 20\text{ mA}$ ,  $Z_o = 50\ \Omega$

