

isc Silicon NPN RF Transistor

2SC2570A

DESCRIPTION

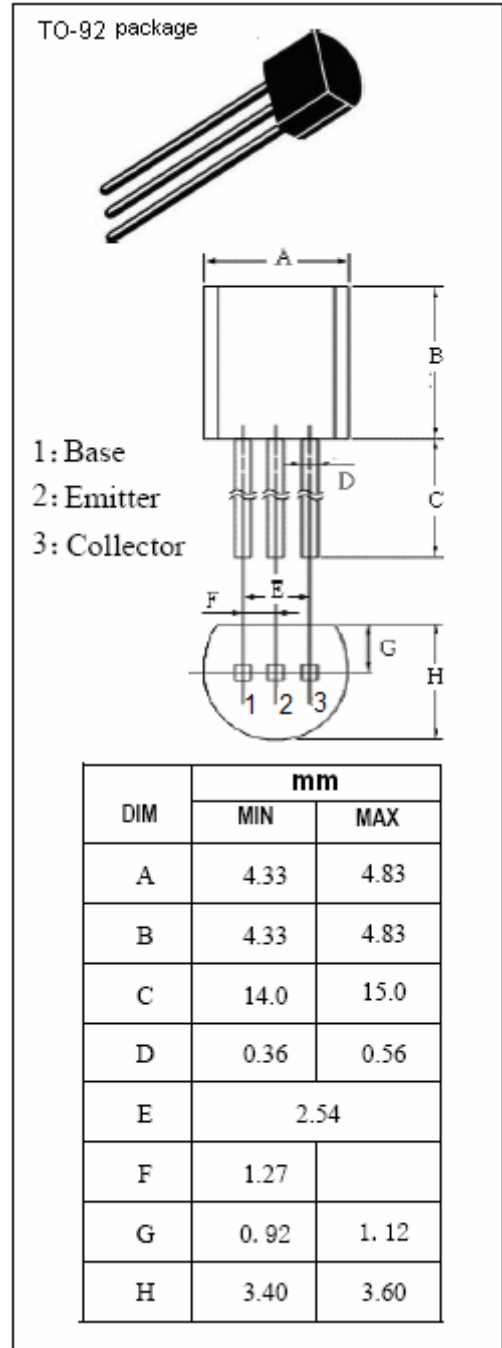
- Low Noise and High Gain  
 NF = 1.5 dB TYP.  
 Ga = 8 dB TYP. @f = 1.0 GHz, V<sub>CE</sub> = 10 V, I<sub>C</sub> = 5 mA
- Wide Dynamic Range  
 NF = 1.9 dB TYP.  
 Ga = 9 dB TYP. @f = 1.0 GHz, V<sub>CE</sub> = 10 V, I<sub>C</sub> = 15 mA

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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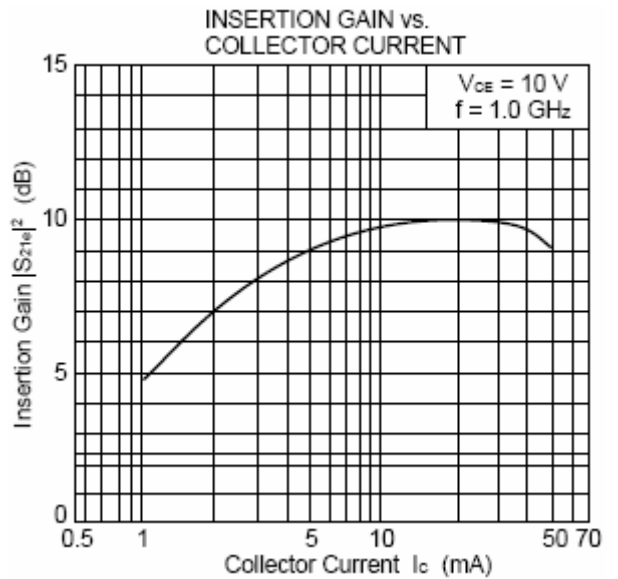
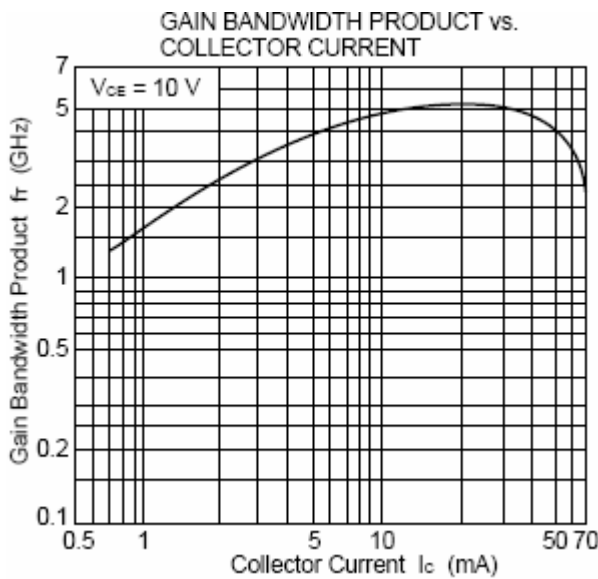
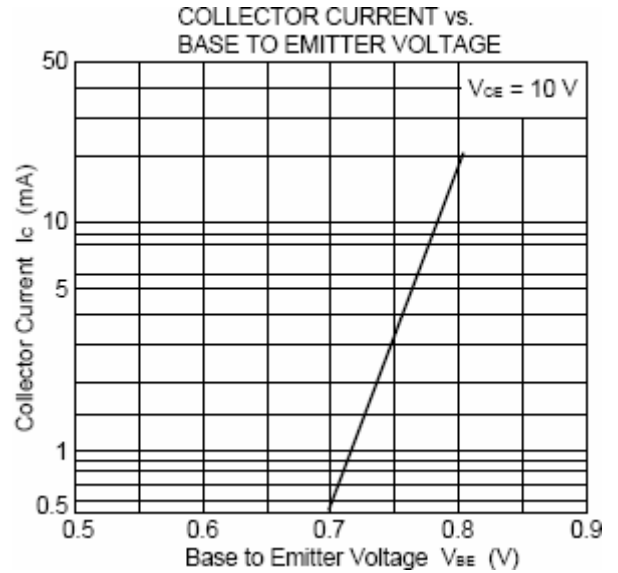
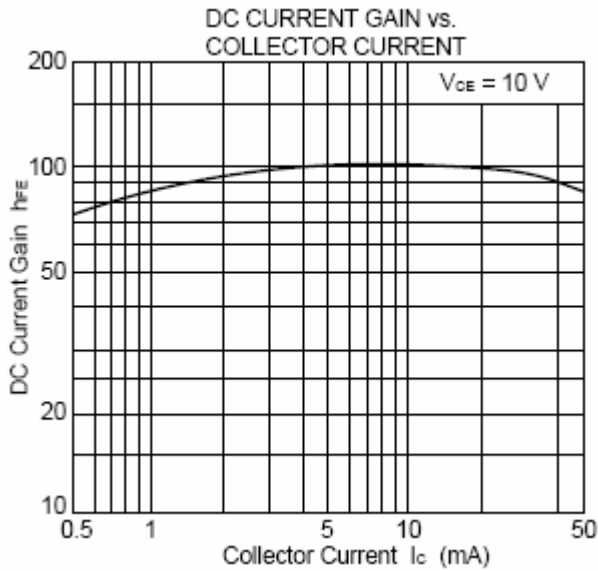
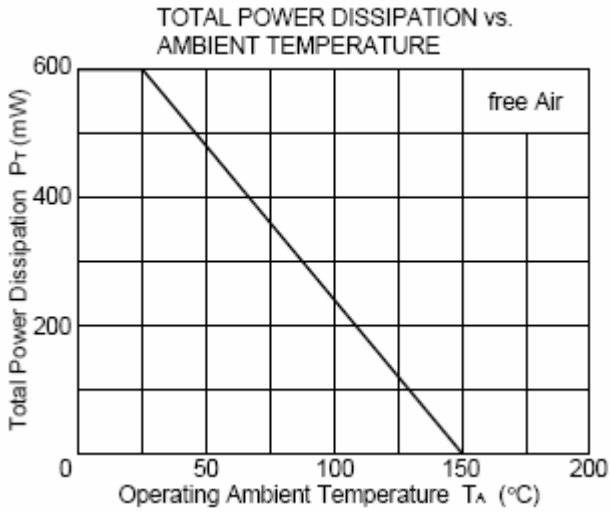
## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=15\text{V}; I_E=0$			0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=2\text{V}; I_C=0$			0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=20\text{mA}; V_{CE}=10\text{V}$	40		200	
$f_T$	Current-Gain—Bandwidth Product	$I_C=20\text{mA}; V_{CE}=10\text{V}$		5		GHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1.0\text{MHz}$		0.7	0.9	pF
$ S_{21e} ^2$	Insertion Power Gain	$I_C=20\text{mA}; V_{CE}=10\text{V}; f=1.0\text{GHz}$	8	10		dB
MAG	Maximum Available Gain	$I_C=20\text{mA}; V_{CE}=10\text{V}; f=1.0\text{GHz}$		11.5		dB
NF	Noise Figure	$I_C=5\text{mA}; V_{CE}=10\text{V}; f=1.0\text{GHz}$		1.5	3.0	dB

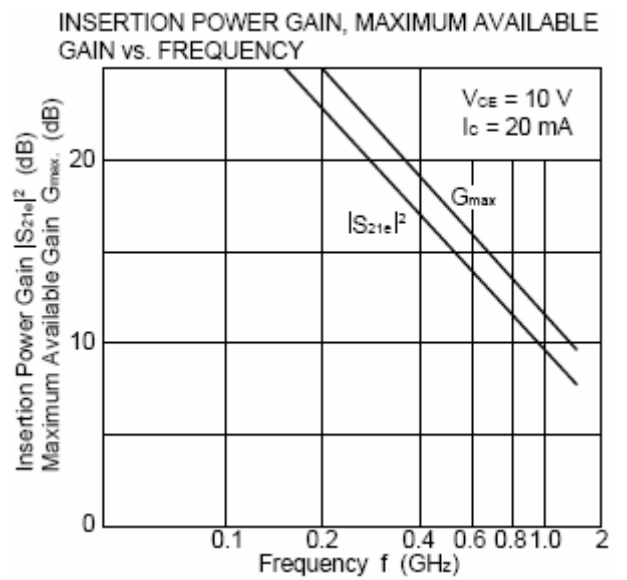
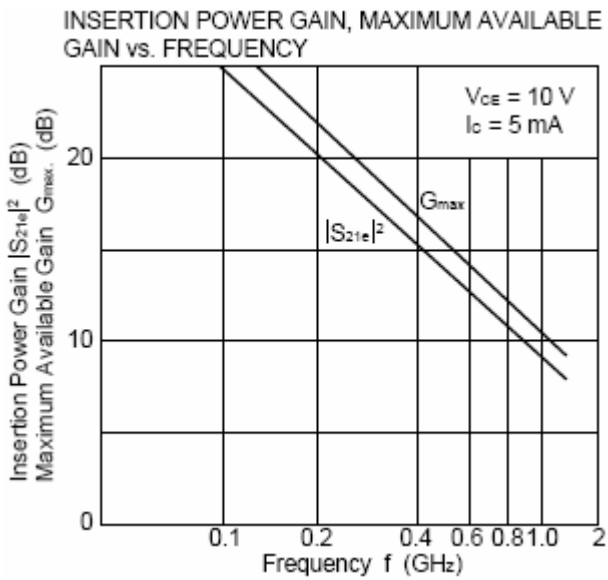
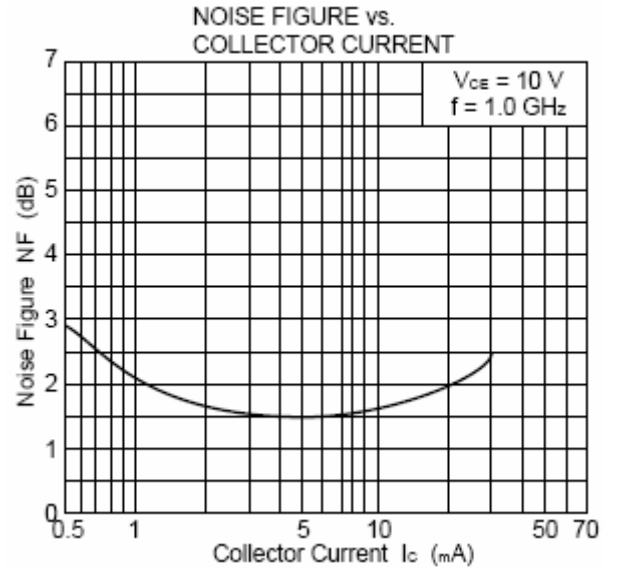
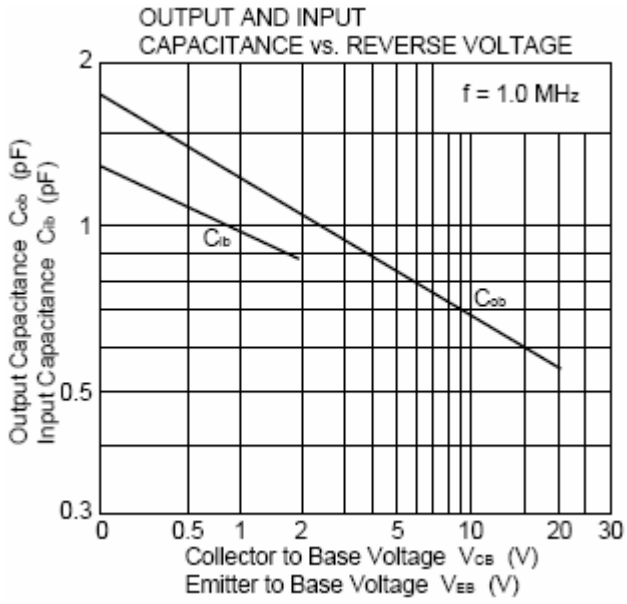
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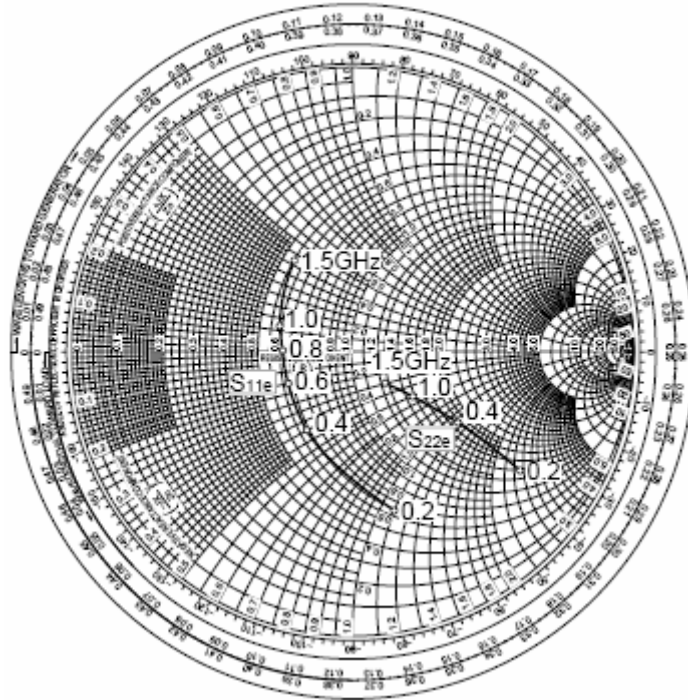


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S-PARAMETER

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



S-PARAMETER

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

