

## isc Silicon NPN RF Transistor

## 2SC2570A

## DESCRIPTION

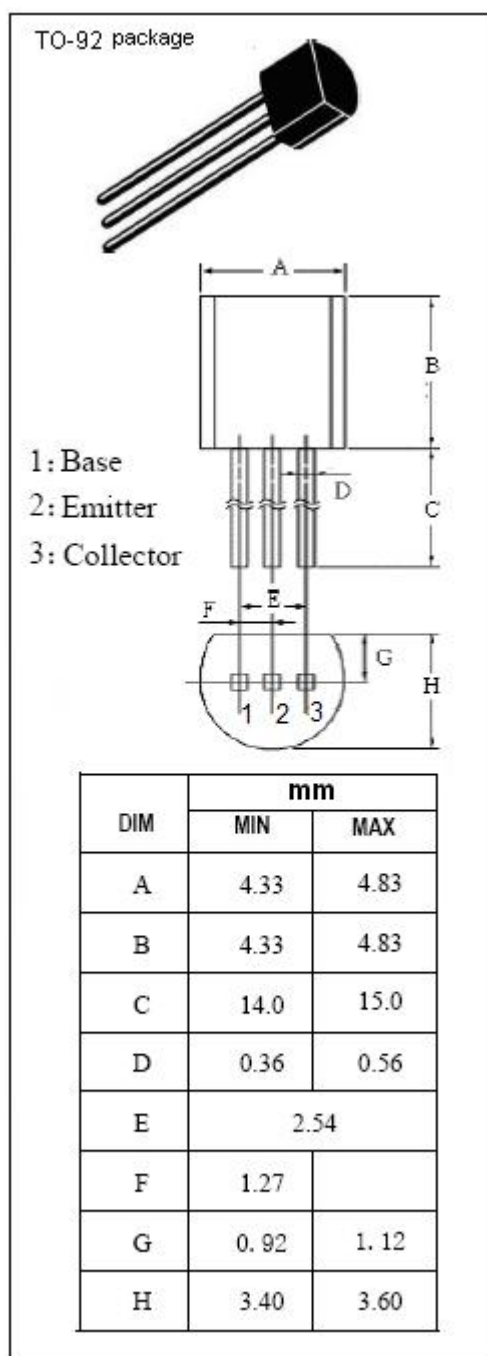
- Low Noise and High Gain  
NF = 1.5 dB TYP.  
Ga = 8 dB TYP. @f = 1.0 GHz,  $V_{CE} = 10\text{ V}$ ,  $I_C = 5\text{ mA}$
- Wide Dynamic Range  
NF = 1.9 dB TYP.  
Ga = 9 dB TYP. @f = 1.0 GHz,  $V_{CE} = 10\text{ V}$ ,  $I_C = 15\text{ mA}$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	25	V
$V_{CEO}$	Collector-Emitter Voltage	12	V
$V_{EBO}$	Emitter-Base Voltage	3.0	V
$I_C$	Collector Current-Continuous	70	mA
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	0.6	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



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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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