

**Silicon NPN RF Transistor**

**2SC5463**

**DESCRIPTION**

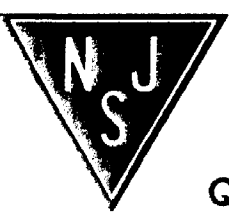
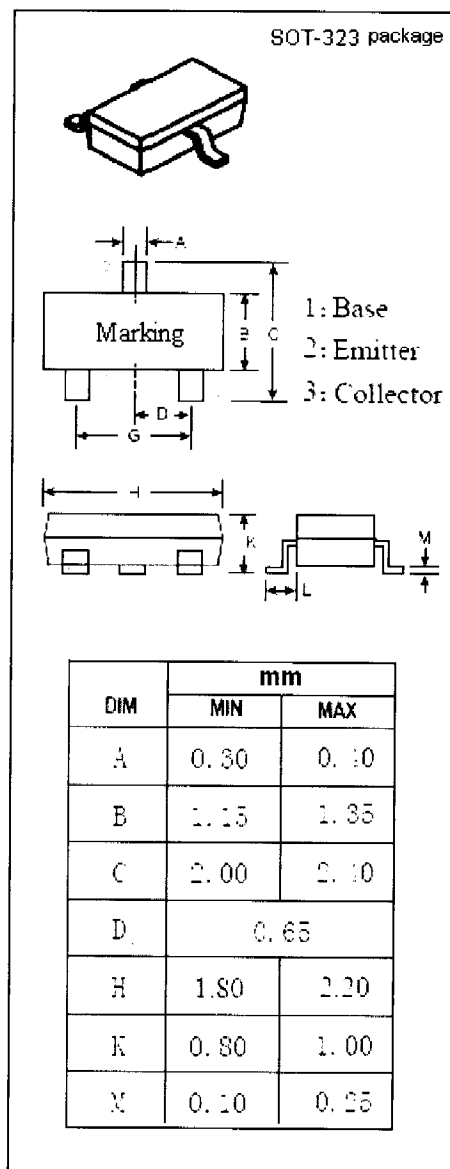
- Low Noise Figure  
 NF = 1.1 dB TYP. @V<sub>CE</sub> = 8 V, I<sub>C</sub> = 5 mA, f = 1 GHz
- High Gain  
 $|S_{21e}|^2 = 12$  dB TYP. @V<sub>CE</sub> = 8 V, I<sub>C</sub> = 15 mA, f = 1 GHz

**APPLICATIONS**

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

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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	20	V
V <sub>CEO</sub>	Collector-Emitter Voltage	12	V
V <sub>EB0</sub>	Emitter-Base Voltage	3	V
I <sub>C</sub>	Collector Current-Continuous	60	mA
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	0.1	W
T <sub>J</sub>	Junction Temperature	125	°C
T <sub>stg</sub>	Storage Temperature Range	-55~125	°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	$V_{CB}=10\text{V}; I_E=0$			1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=1\text{V}; I_C=0$			1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=15\text{mA}; V_{CE}=8\text{V}$	80		240	
$f_T$	Current-Gain—Bandwidth Product	$I_C=15\text{mA}; V_{CE}=8\text{V}$	5	7		GHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=8\text{V}; f=1\text{MHz}$		0.8		pF
$C_{re}$	Reverse Transfer Capacitance	$I_E=0; V_{CB}=8\text{V}; f=1\text{MHz}$		0.55		pF
$ S_{21e} ^2$	Insertion Power Gain	$I_C=15\text{mA}; V_{CE}=8\text{V}; f=500\text{MHz}$	9.5	12.5		dB
$ S_{21e} ^2$	Insertion Power Gain	$I_C=15\text{mA}; V_{CE}=8\text{V}; f=1\text{GHz}$	8	12		dB
NF	Noise Figure	$I_C=5\text{mA}; V_{CE}=8\text{V}; f=500\text{MHz}$		1		dB
NF	Noise Figure	$I_C=5\text{mA}; V_{CE}=8\text{V}; f=1\text{GHz}$		1.1	2	dB

#### ◆ $h_{FE}$ Classification

O	Y
80-160	120-240