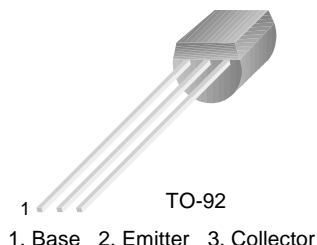


KSC2753

KSC2753

Low Noise Amplifier for Vhf/uhf

- High Current Gain Bandwidth Product : $f_T=5\text{GHz}$
- $NF=1.5\text{dB}$, $IS_{21e}I^2 = 16\text{dB}$ at $f=500\text{MHz}$
- $NF=1.7\text{dB}$, $IS_{21e}I^2 = 10.5\text{dB}$ at $f=1000\text{MHz}$



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	17	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current	70	mA
I_B	Base Current	30	mA
P_C	Collector Dissipation	300	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB}=10\text{V}$, $I_E=0$			1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=1\text{V}$, $I_C=0$			1	μA
h_{FE}	DC Current Gain	$V_{CE}=10$, $I_C=20\text{mA}$	30		180	
f_T	Current Gain Bandwidth Product	$V_{CE}=10\text{V}$, $I_C=20\text{mA}$		5		GHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		1.1		pF
C_{RE}	Reverse Transfer Capacitance	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		0.65		pF
$IS_{21e}I^2$ (1)	Insertion Gain	$V_{CE}=10\text{V}$, $I_C=20\text{mA}$, $f=500\text{MHz}$		16		dB
$IS_{21e}I^2$ (2)		$V_{CE}=10\text{V}$, $I_C=20\text{mA}$, $f=1000\text{MHz}$		10.5		dB
NF(1)	Noise Figure	$V_{CE}=10\text{V}$, $I_C=5\text{mA}$, $f=500\text{MHz}$		1.5		dB
NF(2)		$V_{CE}=10\text{V}$, $I_C=5\text{mA}$, $f=1000\text{MHz}$		1.7		dB

Typical Characteristics

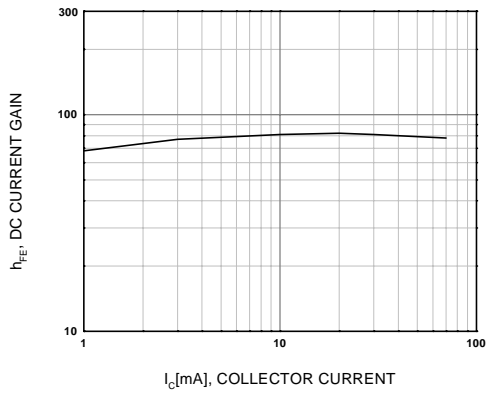


Figure 1. DC Current Gain

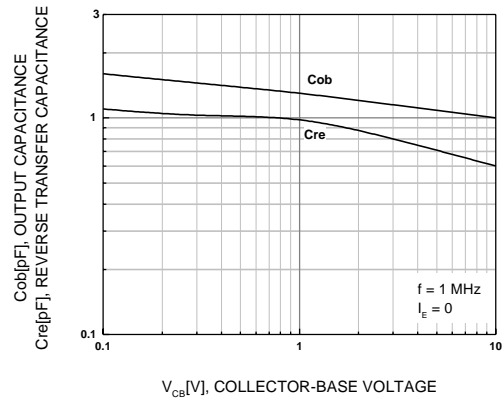


Figure 2. C_{ob} , C_{re} - V_{CB}

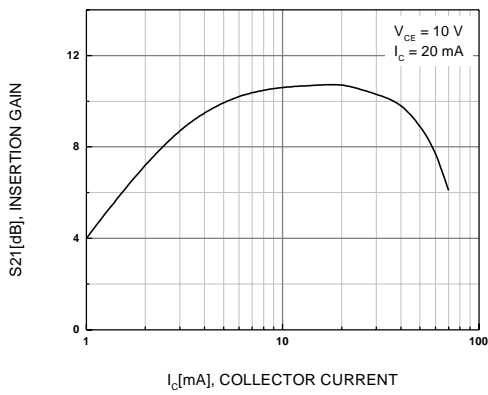


Figure 3. Insertion Gain

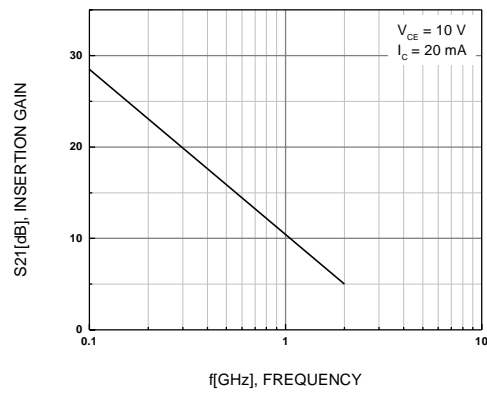


Figure 4. $|S_{21e}|^2$ - f

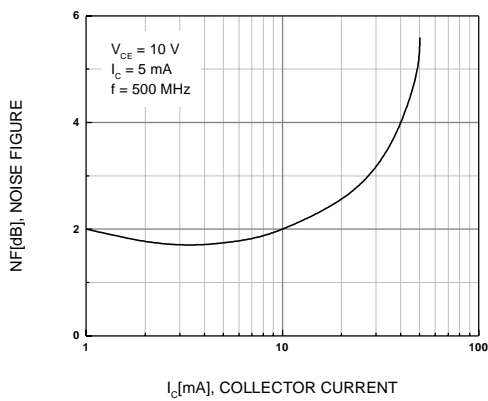


Figure 5. Noise Figure

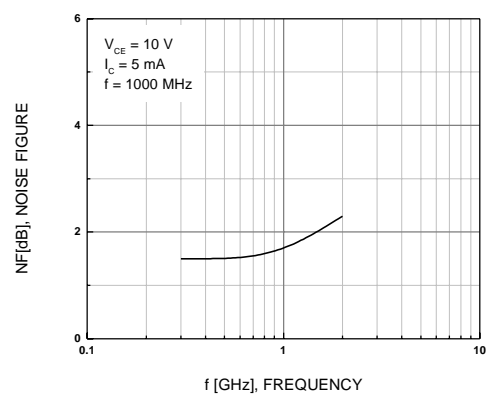


Figure 6. NF - f

Typical Characteristics (Continued)

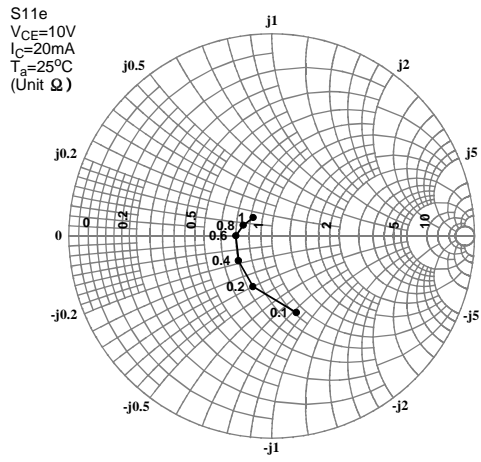


Figure 7. S11

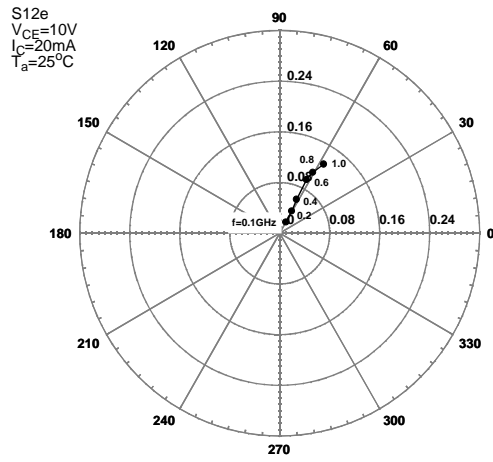


Figure 8. S12

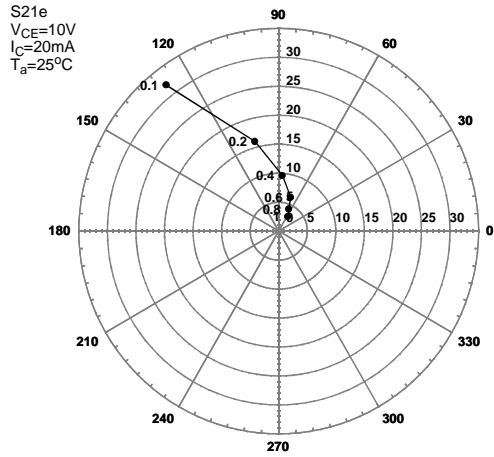


Figure 9. S21

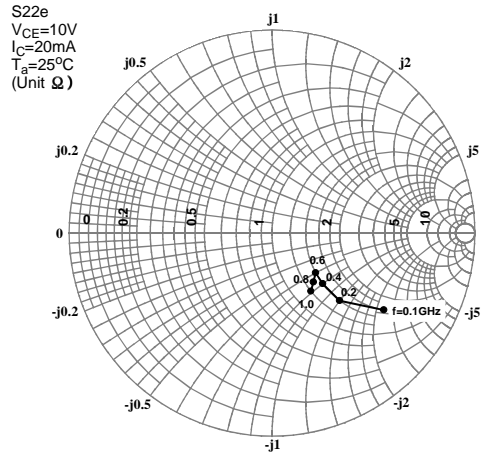


Figure 10. S22

Package Dimensions

TO-92



Dimensions in Millimeters

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