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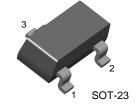
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KSC2223

High Frequency Amplifier

- Very small size to assure good space factor in Hybrid IC applications
- f_T=600MHz (TYP) at I_C=1mA
 C_{ob}=1pF (TYP) at V_{CB}=6V
- NF=3dB (TYP) at f=100MHz



1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a =25°C unless otherwise noted

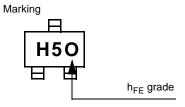
Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	30	V
V _{CEO}	Collector-Emitter Voltage	20	V
V _{EBO}	Emitter-Base Voltage	4	V
I _C	Collector Current	20	mA
P _C	Collector Power Dissipation	150	mW
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a =25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I _{CBO}	Collector Cut-off Current	$V_{CB=}30V$, $I_{E}=0$			0.1	μΑ
h _{FE}	DC Current Gain	V _{CE} =6V, I _C =1mA	40	90	180	
V _{CE} (sat)	Collector Emitter Saturation Voltage	I _C =10mA, I _B =1mA		0.1	0.3	V
C _{ob}	Output Capacitance	V _{CB} =6V, I _E =0, f=1MHz		1		pF
f _T	Current Gain Bandwidth Product	V _{CE} =6V, I _C =1mA	400	600		MHz
C _{c·rbb}	Time Constant	V _{CB} =6V, I _C =1mA f=31.9MHz		12		ps
NF	Noise Figure	V_{CE} =6V, I_{C} =1mA f=100MHz, R_{S} =50 Ω		3		dB

h_{FE} Classification

Classification	R	0	Y
h _{FE}	40 ~ 80	60 ~ 120	90 ~ 180



Typical Characteristics

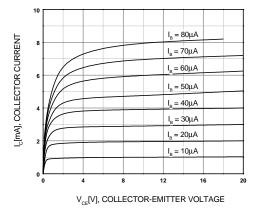


Figure 1. Static Characteristic

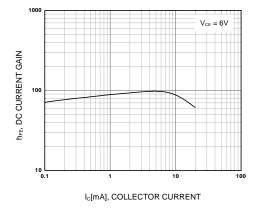


Figure 2. DC current Gain 1

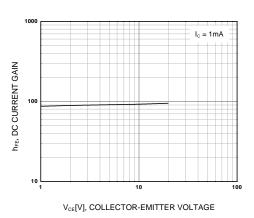


Figure 3. DC current Gain 2

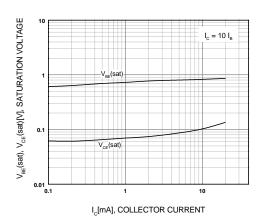


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

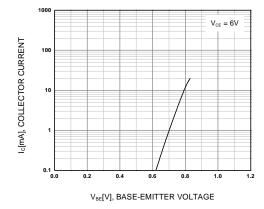


Figure 5. Base-Emitter On Voltage

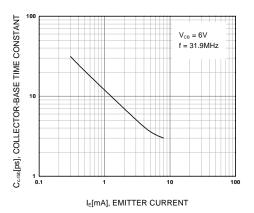


Figure 6. Collector-Base Time Constant

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Typical Characteristics (Continued)

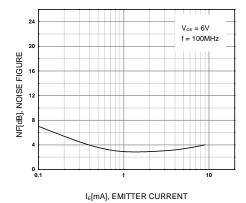


Figure 7. Noise Figure

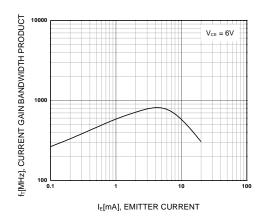


Figure 8. Current Gain Bandwidth Product

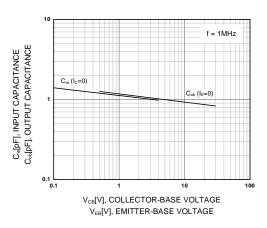


Figure 9. Input and Output Capacitance

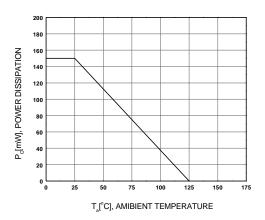
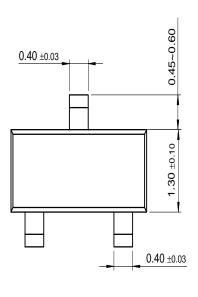
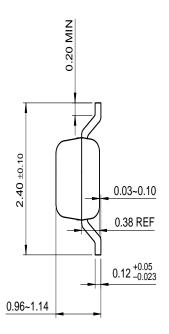


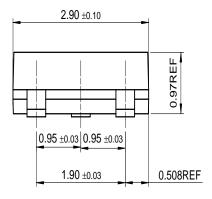
Figure 10. Power Derating

Package Dimensions

SOT-23







Dimensions in Millimeters

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