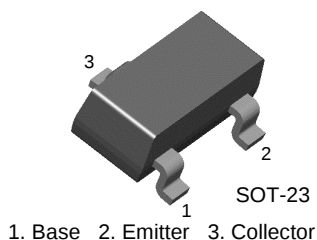


KSC2755

KSC2755

RF AMP, FOR VHF & TV TUNER

- Low NF, High G_{PE}
- Forward AGC Capability to 30 dB
- NF=2.0dB (TYP.), G_{PE} =23dB (TYP.) at f=200MHz



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	20	mA
P_C	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

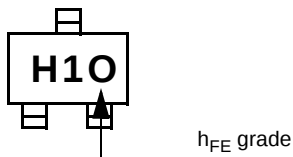
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB}=20\text{V}, I_E=0$			0.1	μA
h_{FE}	DC Current Gain	$V_{CE}=10\text{V}, I_C=3\text{mA}$	60	120	240	
f_T	Current Gain Bandwidth Product	$V_{CE}=10\text{V}, I_C=3\text{mA}$	400	600		MHz
C_{RE}	Reverse Transfer Capacitance	$f=1\text{MHz}, V_{CB}=10\text{V}, I_E=0$		0.3	0.5	pF
G_{PE}	Power Gain	$V_{CE}=10\text{V}, I_C=3\text{mA}$ $f=200\text{MHz}$	20	23		dB
I_{AGC}	AGC Current	$f=200\text{MHz}$ I_E at $G_R=-30\text{dB}$		-10	-12	mA
NF	Noise Figure	$V_{CE}=10\text{V}, I_C=3\text{mA}$ $f=200\text{MHz}$		2.0	0.3	dB

h_{FE} Classification

Classification	R	O	Y
h_{FE}	60 ~ 120	90 ~ 180	120 ~ 240

Marking



Typical Characteristics

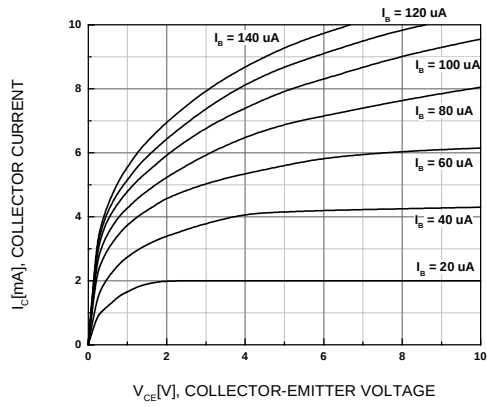


Figure 1. Static Characteristics

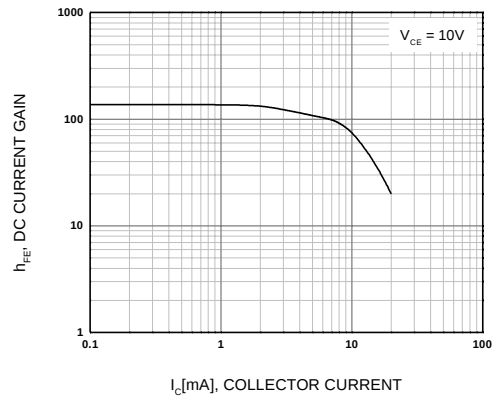


Figure 2. DC Current Gain

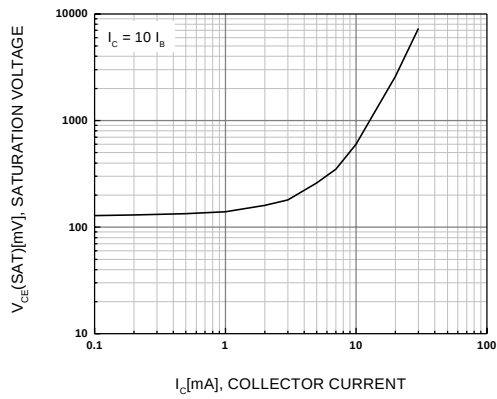


Figure 3. Collector-Emitter Saturation Voltage

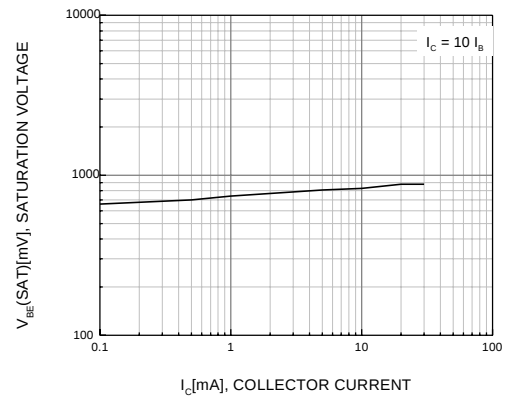


Figure 4. Base-Emitter Saturation Voltage

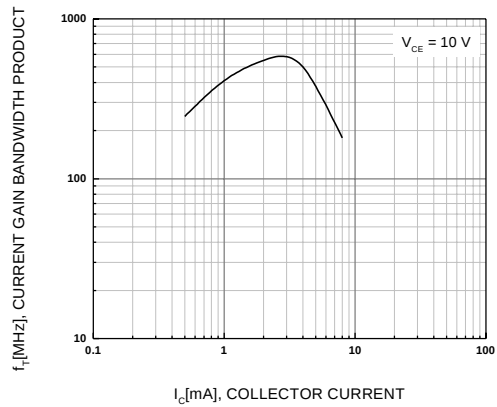


Figure 5. $f_T - I_C$

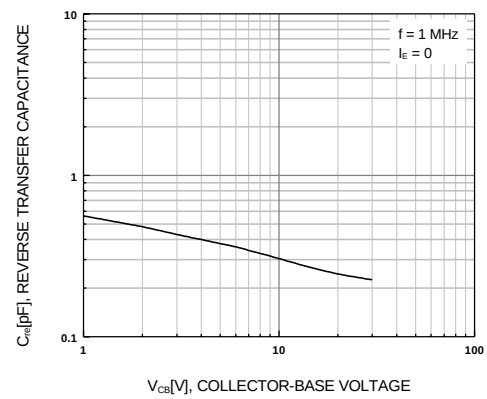


Figure 6. $C_{re} - V_{CB}$

Typical Characteristics (Continued)

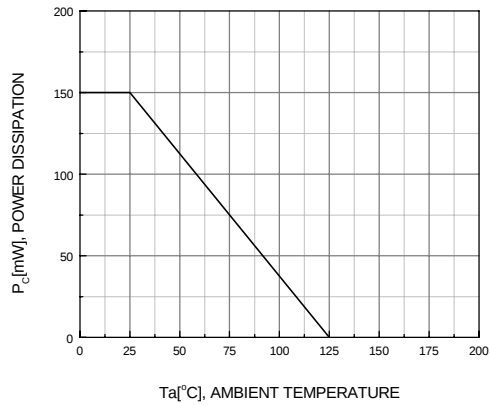
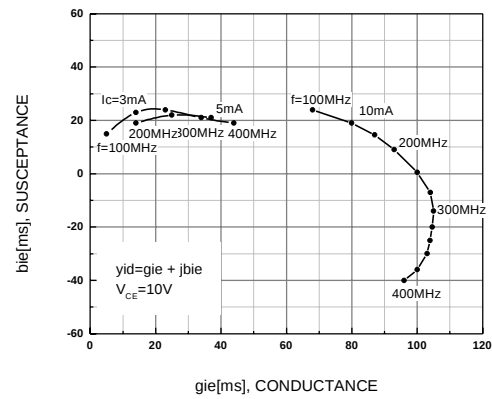
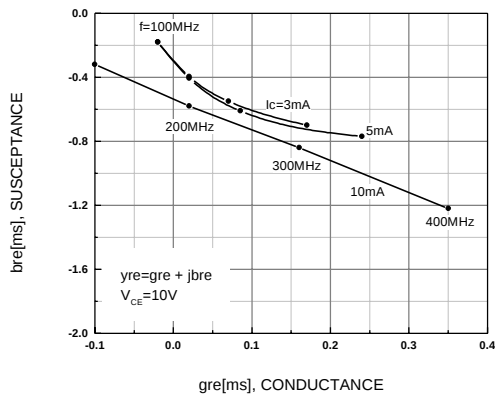
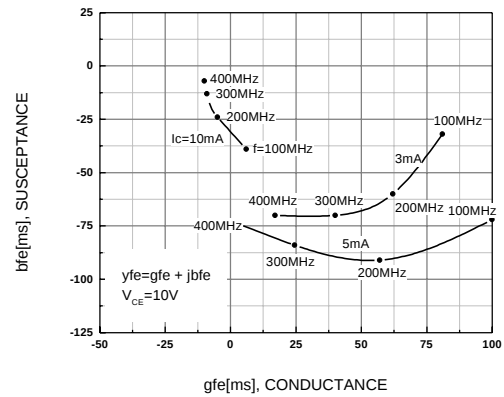
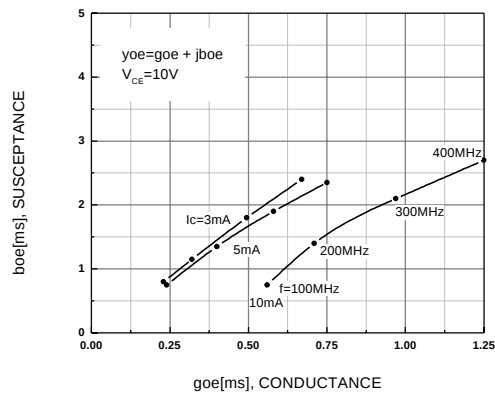
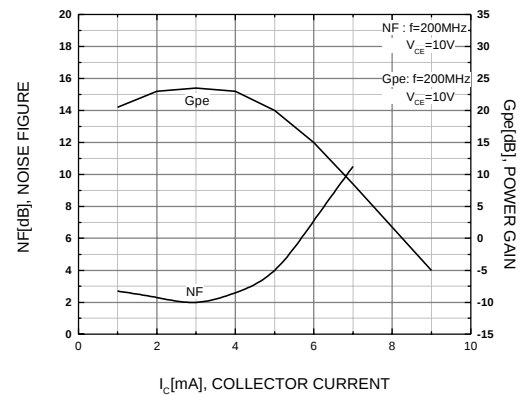
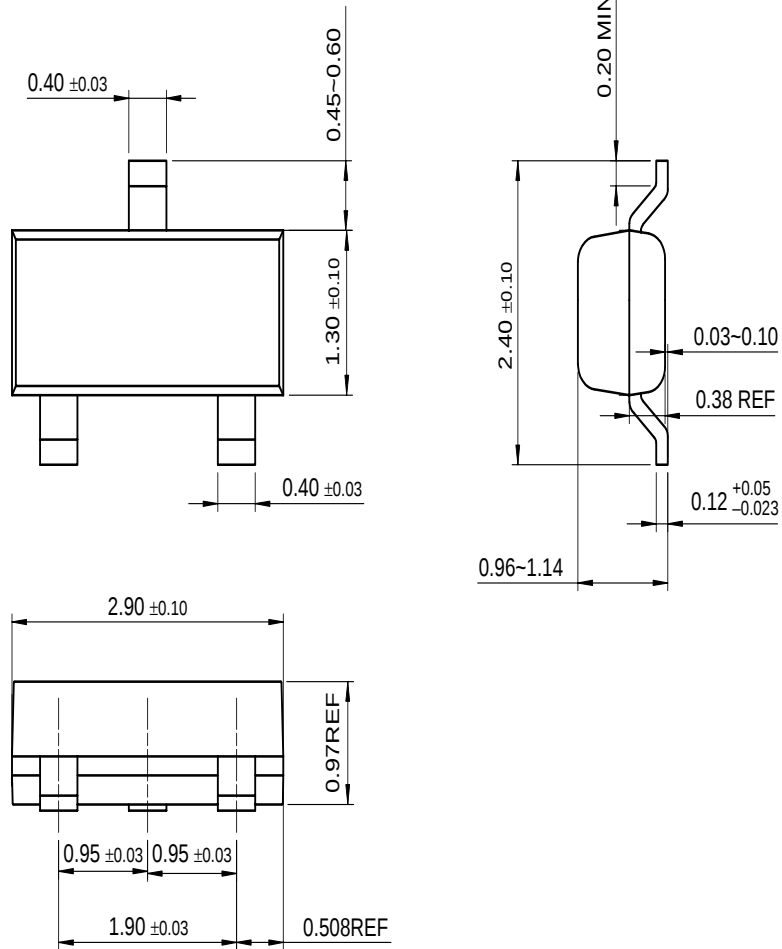


Figure 7. Power Derating

Figure 8. $y_{ie} - f$ Figure 9. $y_{re} - f$ Figure 10. $y_{fe} - f$ Figure 11. $y_{oe} - f$ Figure 12. $G_{pe}, NF - I_c$

Package Dimensions

SOT-23



Dimensions in Millimeters

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