THE DATASHEET OF

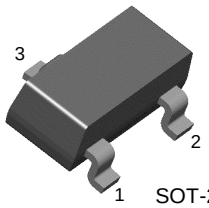
KSC3123OMTF

FAIRCHILD
SEMICONDUCTOR®

KSC3123

Mixer for UHF TV Tuner

- G_{CE}=23dB
- C_{RE}=0.4pF



SOT-23

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	3	V
I_C	Collector Current	50	mA
I_B	Base Current	25	mA
P_C	Collector Power Dissipation	150	mW
T_J	Junction Temperature	1500	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

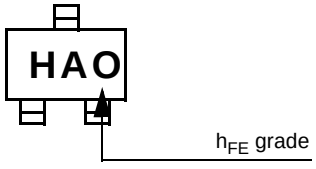
Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=1mA, I_B=0	20			V
I_{CBO}	Collector Cut-off Current	V_{CB}=25V, I_E=0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=3V, I_C=0			1	μA
h_{FE}	DC Current Gain	V_{CE}=10V, I_C=5mA	60		240	
f_T	Current Gain Bandwidth Product	V_{CE}=10V, I_C=5mA	900	1400		MHz
C_{RE}	Reverse Transfer Capacitance	V_{CB}=10V, I_E=0, f=1MHz		0.4	0.5	pF
G_{CE}	Conversion Gain	V_{CC}=12V, f=200MHz f_L=260MHz	20	23		dB
NF	Output Capacitance	V_{CE}=12V, f=200MHz, f_L=260MHz		3.8	5.5	dB

h_{FE} Classification

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

Marking



Typical Characteristics

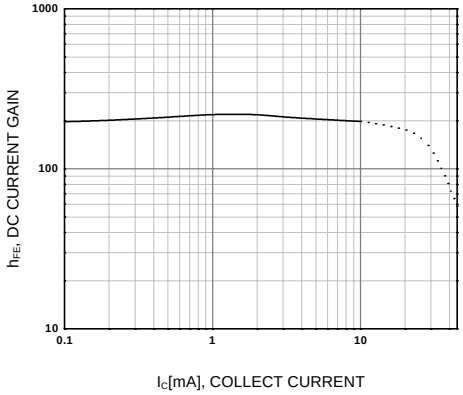


Figure 1. DC current Gain

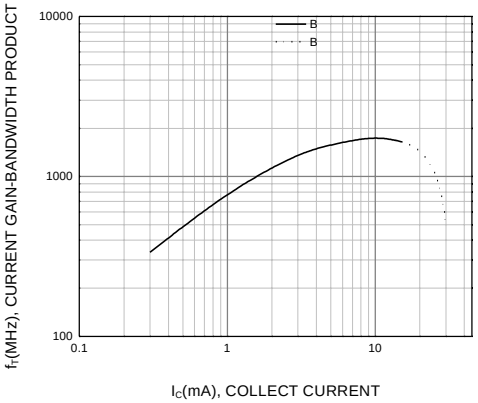


Figure 2. Current Gain Bandwidth Product

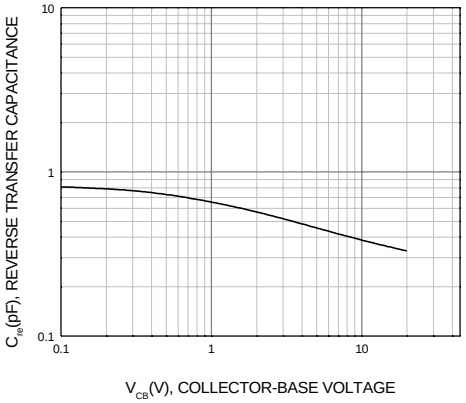


Figure 3. C_{RE}-V_{CB}

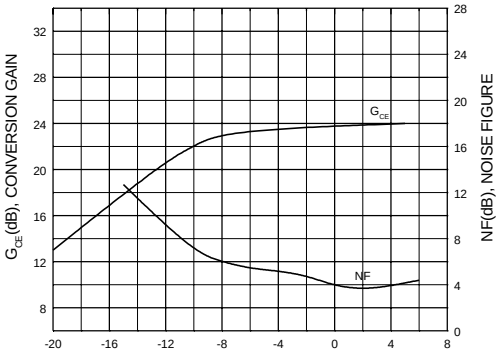


Figure 4. G_{CE}, NF-

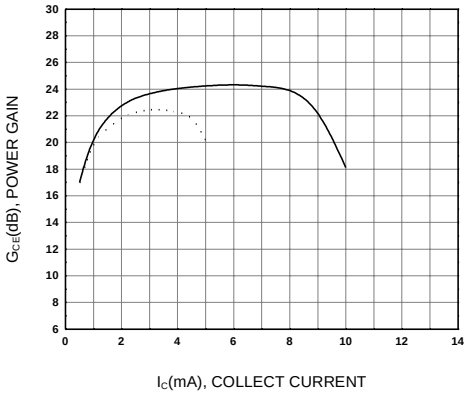


Figure 5. G_{CE}-I_C

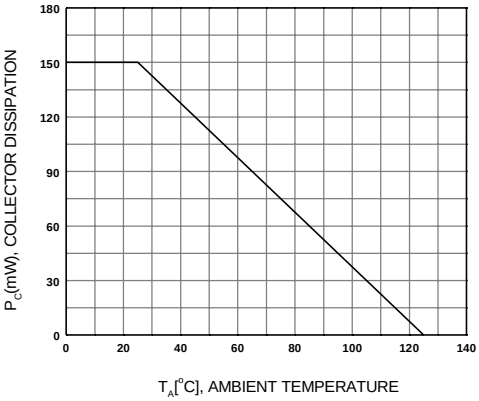


Figure 6. P_C-T_A

Typical Characteristics (Continued)

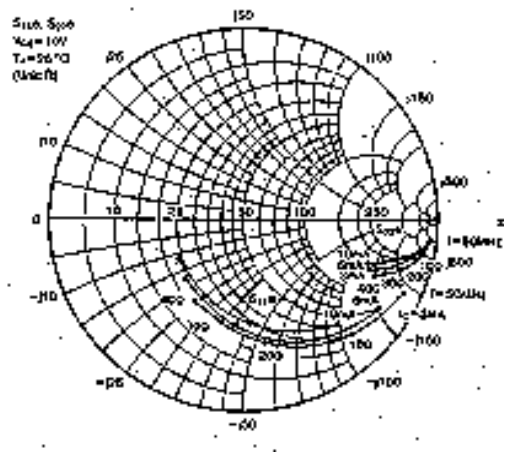


Figure 7.

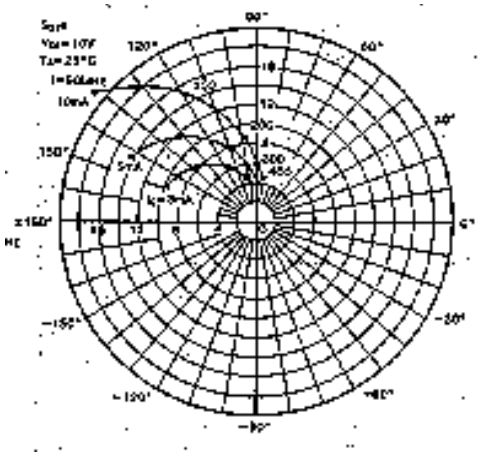


Figure 8.

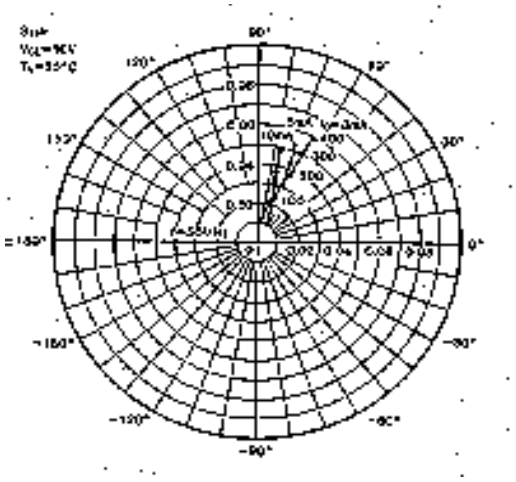
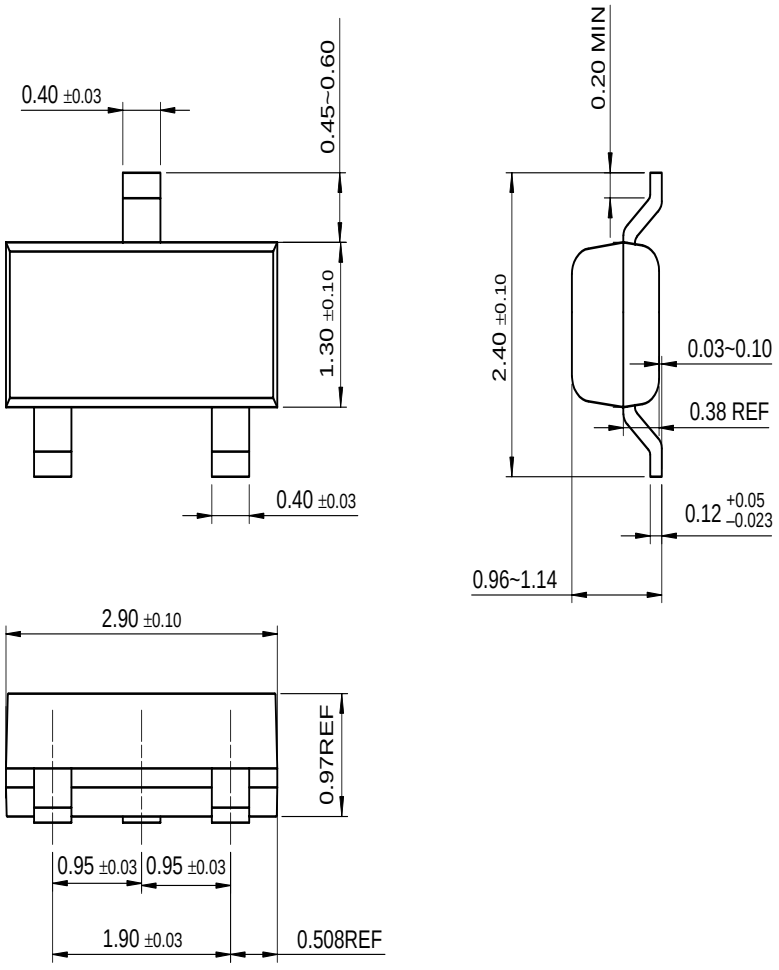


Figure 9.

Package Dimensions

SOT-23



Dimensions in Millimeters

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