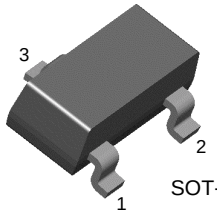
FAIRCHILD
SEMICONDUCTOR®

KSC3120

Mixer for UHF TV Tuner

- G_{CE}=17dB (TYP.)
- C_{RE}=0.6pF (TYP.)



SOT-23

1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

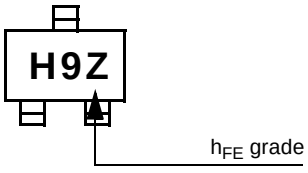
Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	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 (T_C=25°C)	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.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=1mA, I_B=0	15			V
I_{CBO}	Collector Cut-off Current	V_{CB}=30V, I_E=0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=2V, I_C=0			1	μA
h_{FE}	DC Current Gain	V_{CE}=10V, I_C=5mA	40	100	200	
f_T	Current Gain Bandwidth Product	V_{CE}=10V, I_C=2mA	1500	2400		MHz
C_{RE}	Reverse Transfer Capacitance	V_{CB}=10V, I_E=0, f=1MHz		0.6	0.9	pF
G_{CE}	Conversion Gain	V_{CC}=10V, I_C=2mA f=800MHz, f_L=830MHz	12	17		dB
NF	Noise Figure	V_{CC}=10V, I_C=2mA f=800MHz, f_L=830MHz		8		dB

Marking



Typical Characteristics

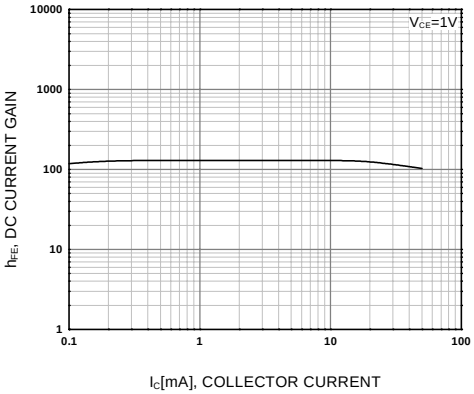


Figure 1. DC current Gain

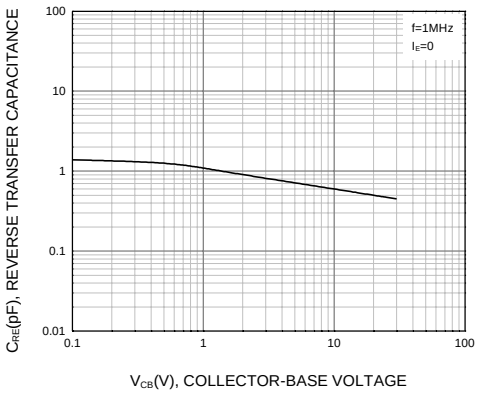


Figure 2. C_{RE}-V_{CB} Characteristic

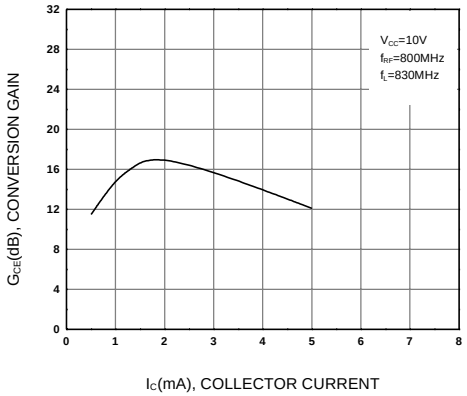


Figure 3. G_{CE}-I_C Characteristic

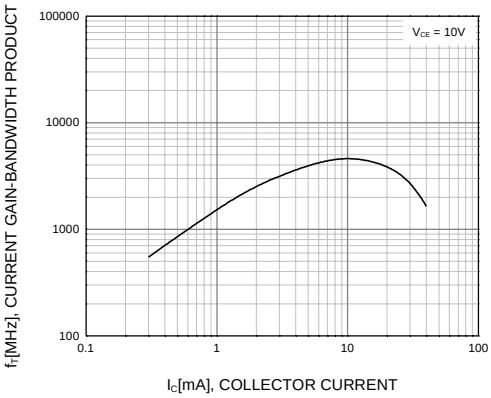


Figure 4. Current Gain Bandwidth Product

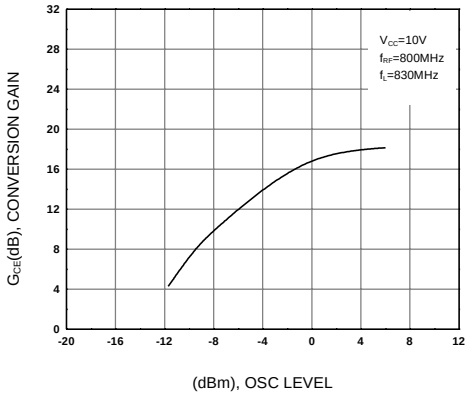


Figure 5. OSC Level

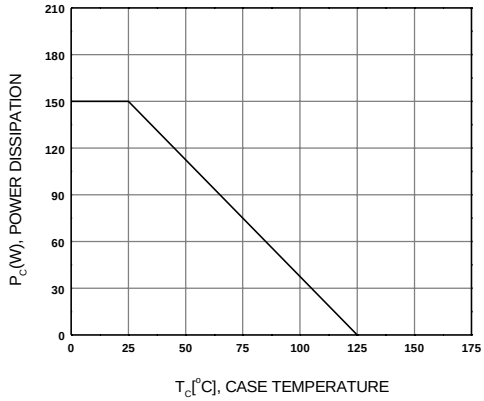
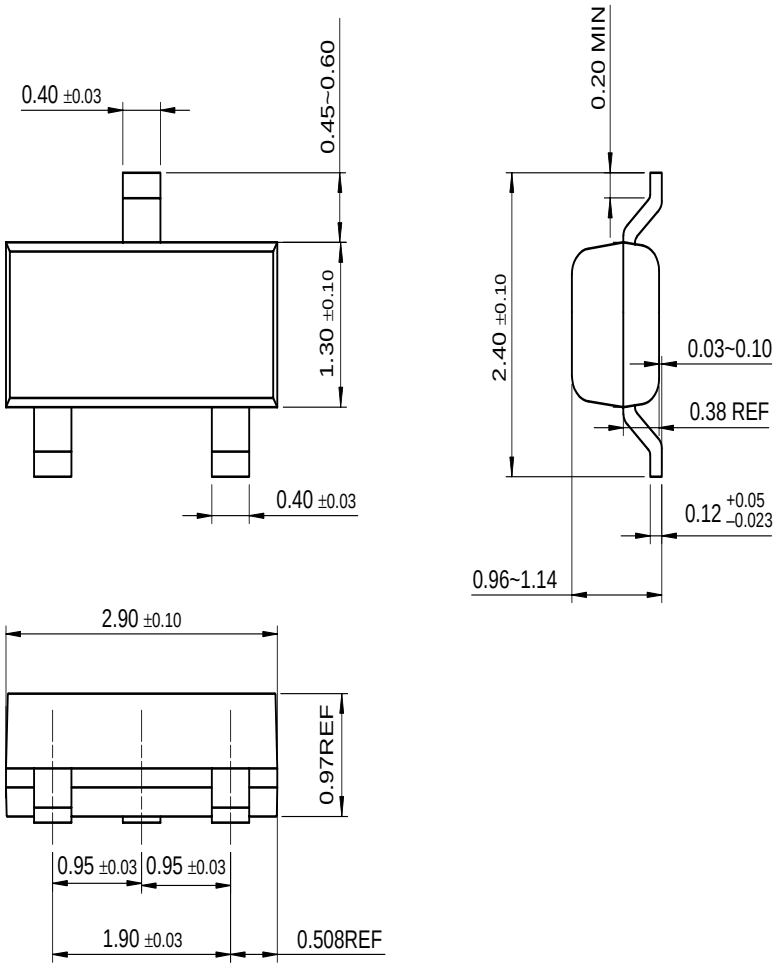


Figure 6. Power Derating

Package Demensions

SOT-23



Dimensions in Millimeters

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GTO™
HiSeC™
ISOPLANAR™
LittleFET™
MicroFET™
MICROWIRE™
OPTOLOGIC™
OPTOPLANAR™
PACMAN™
POP™
Power247™
PowerTrench®
QFET™
QS™
QT Optoelectronics™
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