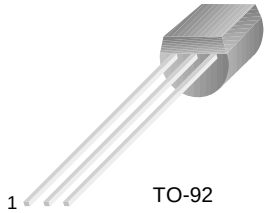
FAIRCHILD
SEMICONDUCTOR TM

KSC1222

Low Frequency Low Noise Amplifier

- Collector-Base Voltage : V_{CBO}=50V
- Low Noise Level : NL=40mV (MAX.)



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1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	50	mA
P_C	Collector Dissipation	250	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_{CBO}	Collector-Base Breakdown Voltage	I_C=100μA, I_E=0	50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=10mA, I_B=0	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	5			V
I_{CBO}	Collector Cut-off Current	V_{CB}=50V, I_E=0			50	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}=5V, I_C=0			100	nA
h_{FE}	DC Current Gain	V_{CE}=3V, I_C=0.5mA	120		1000	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=20mA, I_B=2mA		0.1	0.2	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE}=3V, I_C=0.5mA		0.62	0.7	V
f_T	Current Gain Bandwidth Product	V_{CE}=3V, I_C=1mA	50	100		MHz
NL	Noise Level	V_{CE}=12V, I_C= 0.1mA R_S=25KΩ A_V=80dB, f=1KHz		27	4.0	mV

h_{FE} Classification

Classification	Y	G	L	V
h_{FE}	120 ~ 240	200 ~ 400	350 ~ 700	600 ~ 1000

Typical Characteristics

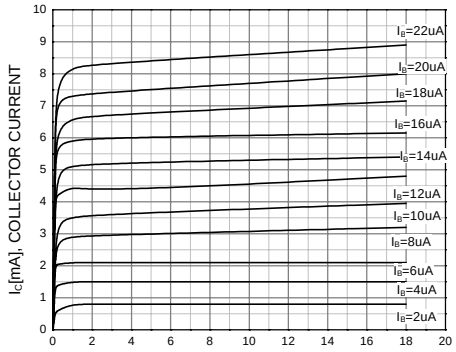

Figure 1. Static Characteristic

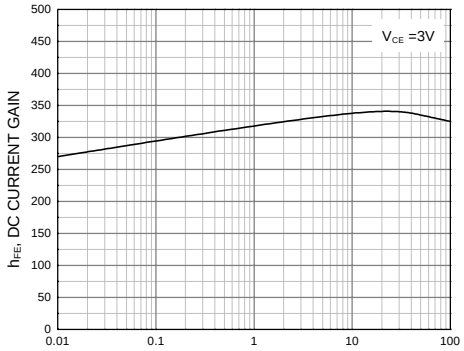

Figure 2. DC current Gain

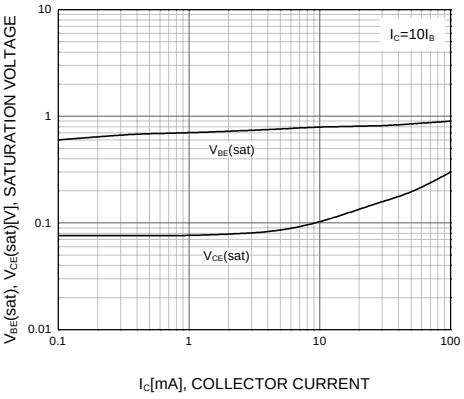

Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

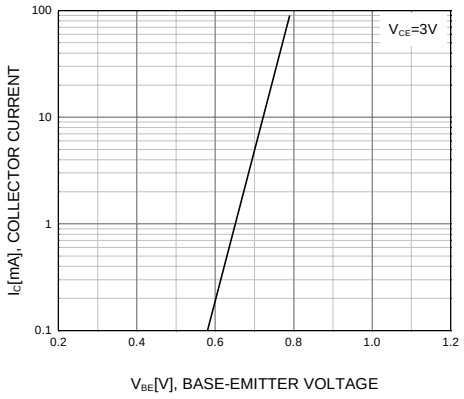

Figure 4. Base-Emitter On Voltage

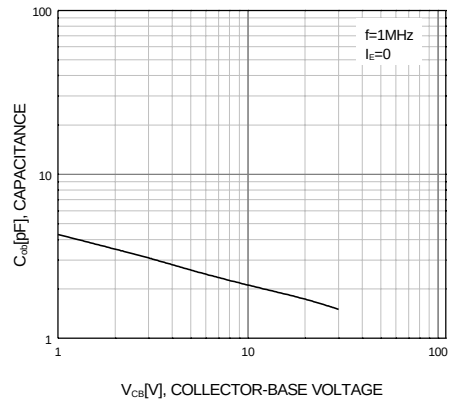

Figure 5. Output Capacitance

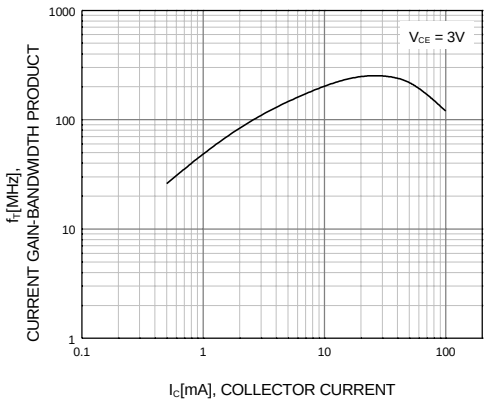

Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

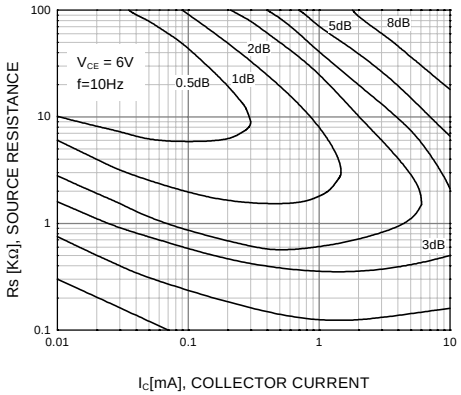

Figure 7. Noise Figure

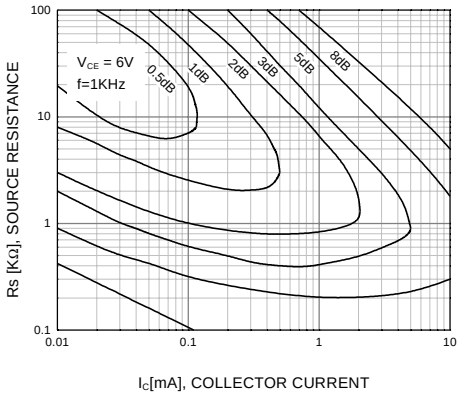

Figure 8. Noise Figure

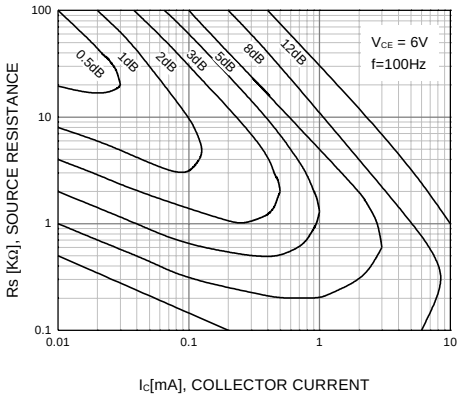

Figure 9. Noise Figure

Package Demensions

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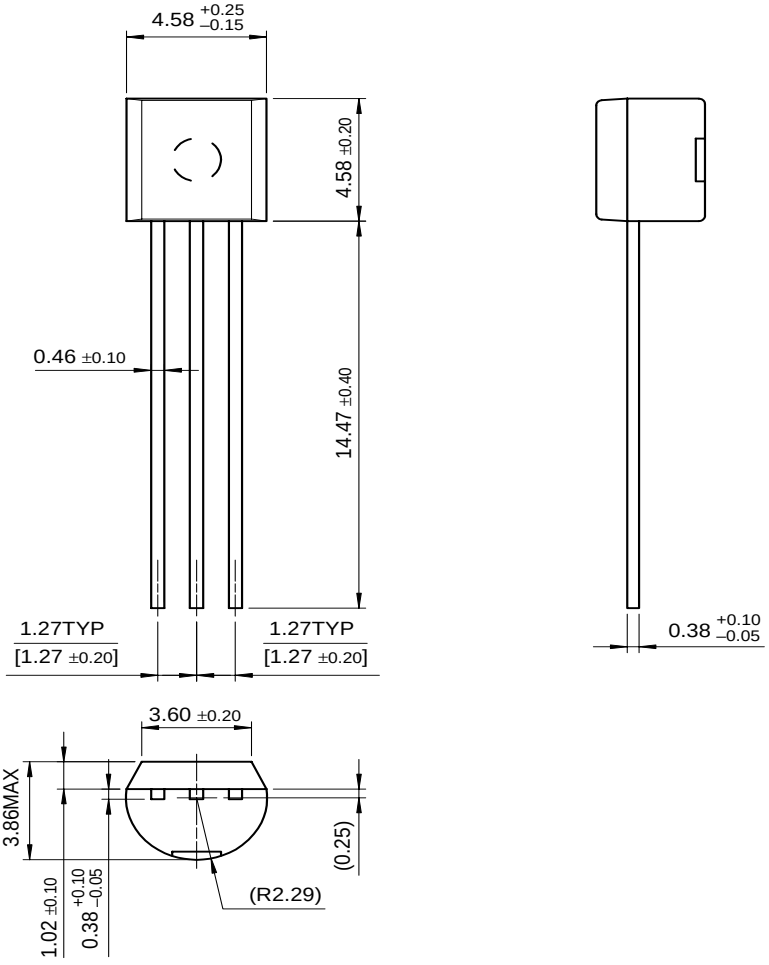

Dimensions in Millimeters

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