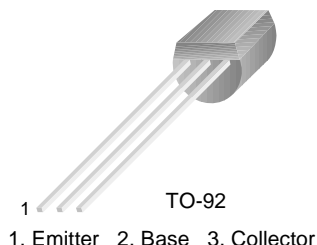


## KSC900

### Low Frequency & Low Noise Amplifier

- Collector-Base Voltage :  $V_{CBO}=30V$
- Low Noise Level :  $NL=50mV$  (MAX.)



### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	25	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	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ C$

#### Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	25			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu A, I_C=0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=25V, I_E=0$			50	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=3V, I_C=0$			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	$V_{CE}=3V, I_C=1mA$		100		MHz
NL	Noise Level	$V_{CC}=12V, I_C=0.1mA$ $R_S=25k\Omega$ $A_V=80dB, f=1KHz$		30	50	mV

### $h_{FE}$ Classification

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

# Typical Characteristics

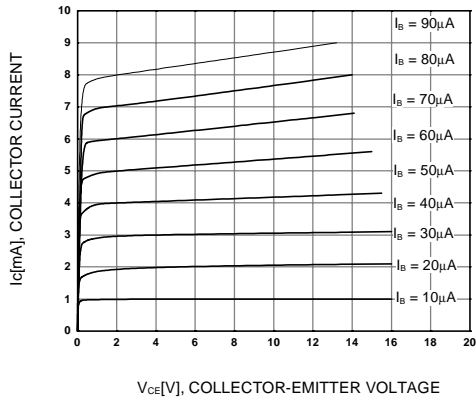


Figure 1. Static Characteristic

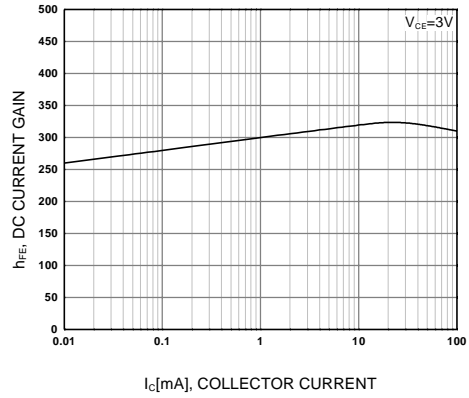


Figure 2. DC current Gain

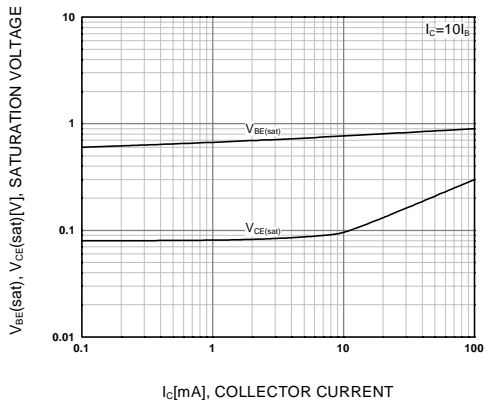


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

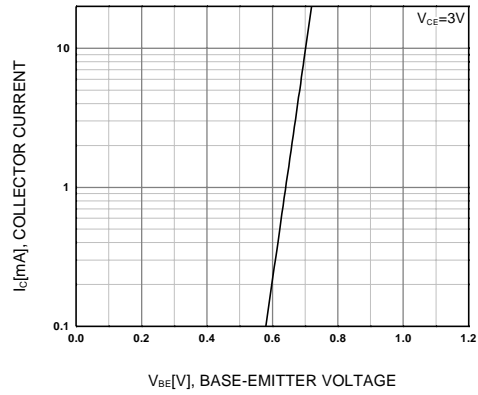


Figure 4. Base-Emitter On Voltage

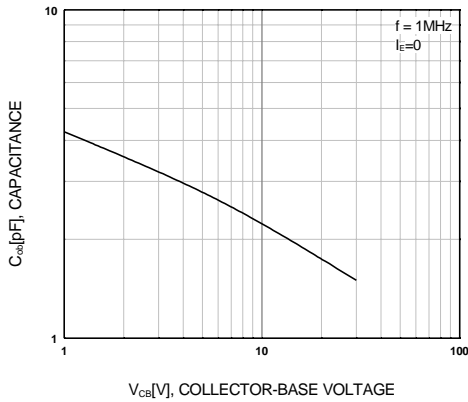


Figure 5. Collector Output Capacitance

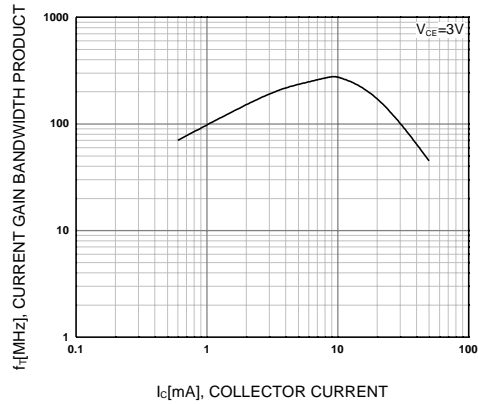


Figure 6. Current Gain Bandwidth Product

# Typical Characteristics (Continued)

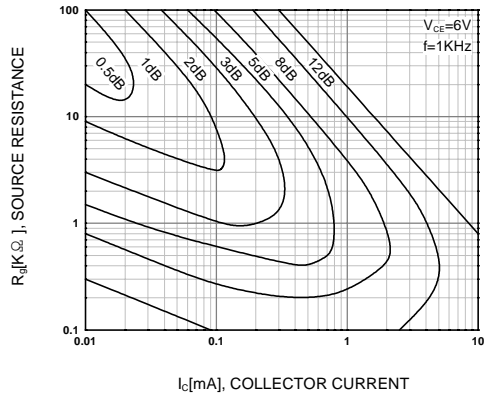


Figure 7. Noise Figure

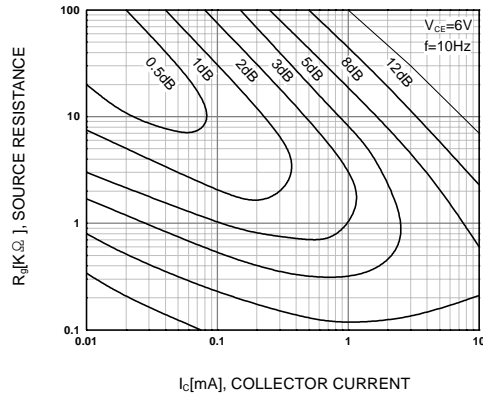


Figure 8. Noise Figure

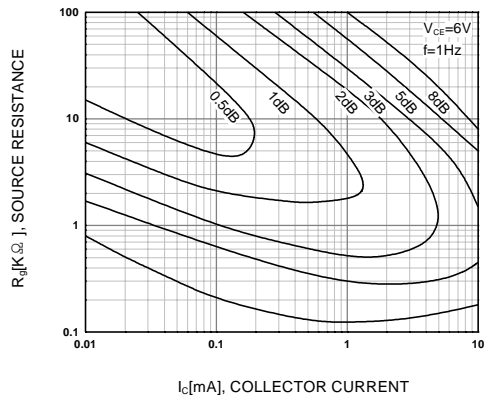
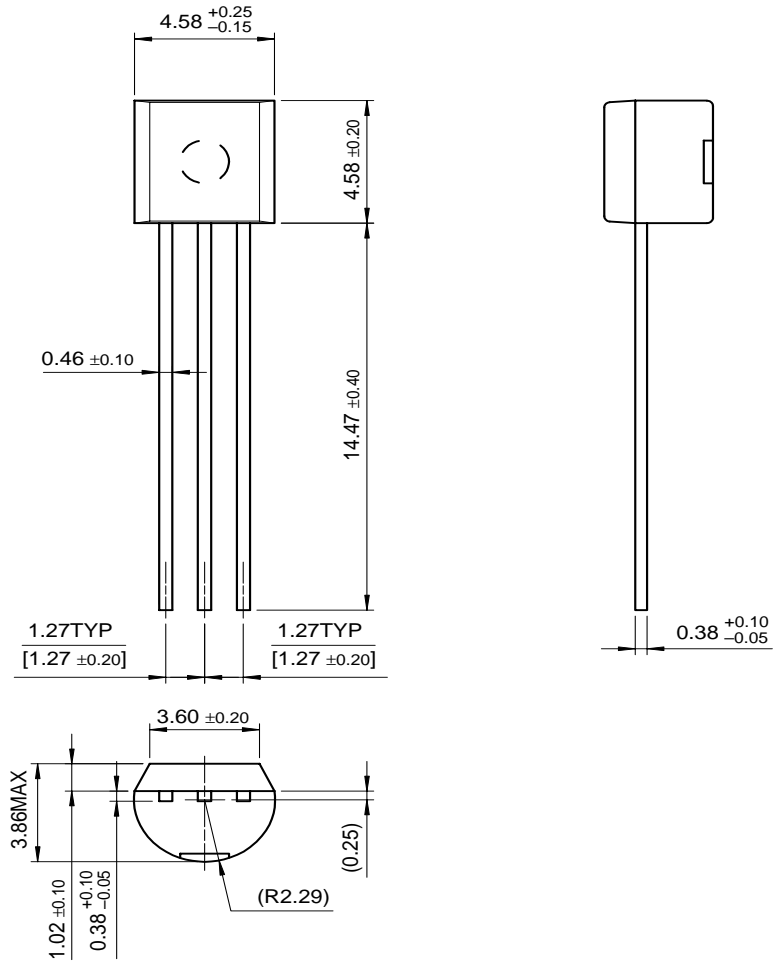


Figure 9. Noise Figure

# Package Dimensions

KSC900

## TO-92



Dimensions in Millimeters

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