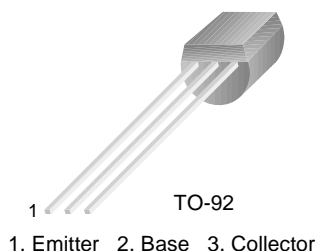


## SS9015

### Low Frequency, Low Noise Amplifier

- Complement to SS9014



### PNP Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a=25^\circ\text{C}$ 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	-100	mA
$P_C$	Collector Power Dissipation	450	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
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-50			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	-45			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -50\text{V}, I_E = 0$			-50	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$			-50	nA
$h_{FE}$	DC Current Gain	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	60		1000	
$V_{CE}(\text{sat})$	Collector-Base Saturation Voltage	$I_C = -100\text{mA}, I_B = -5\text{mA}$			-0.7	
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -100\text{mA}, I_B = -5\text{mA}$			-1.0	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	-0.6		-0.75	V
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0$ $f=1\text{MHz}$		4.5	7.0	pF
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	100	190		MHz
NF	Noise Figure	$V_{CE} = -5\text{V}, I_C = -0.2\text{mA}$ $f=1\text{KHz}, R_S=1\text{K}\Omega$		0.7	10	dB

#### $h_{FE}$ Classification

Classification	A	B	C	D
$h_{FE}$	60 ~ 150	100 ~ 300	200 ~ 600	400 ~ 1000

# Typical Characteristics

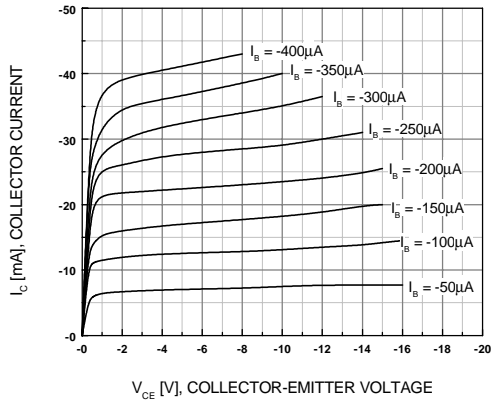


Figure 1. Static Characteristic

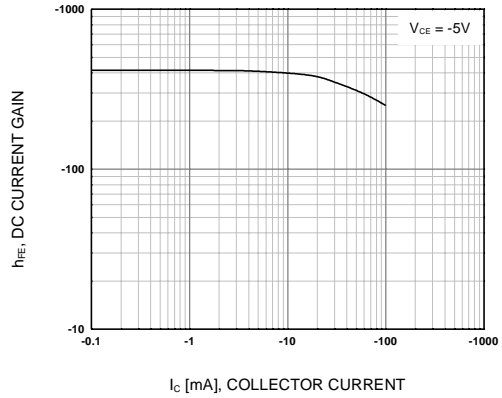


Figure 2. DC current Gain

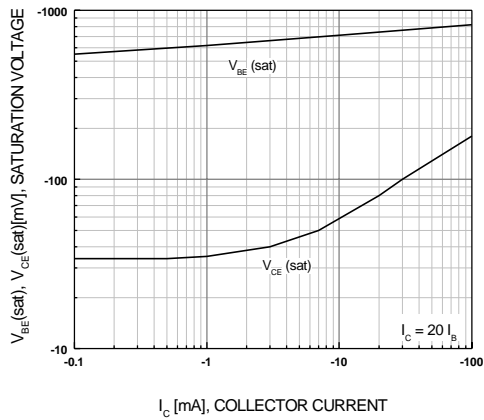


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

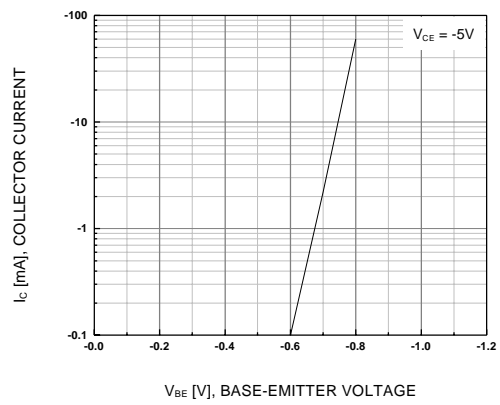


Figure 4. Base-Emitter On Voltage

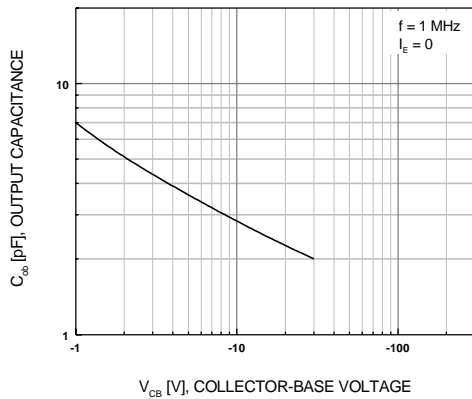


Figure 5. Collector Output Capacitance

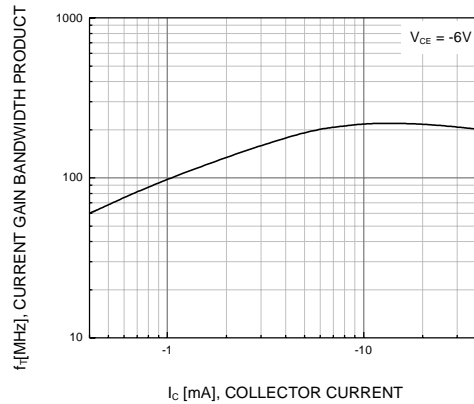


Figure 6. Current Gain Bandwidth Product

# Package Dimensions

SS9015

## TO-92



Dimensions in Millimeters

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