



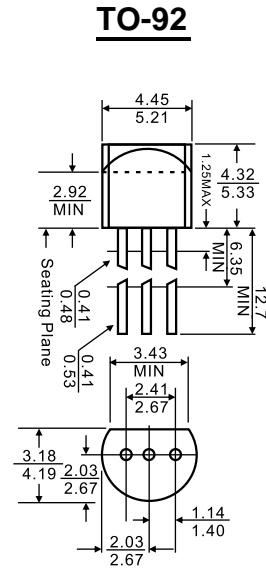
1. COLLECTOR
2. BASE
3. EMITTER

## Features

- ◇ Amplifier dissipation NPN Silicon

### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage BC307	-45	V
	BC308/309	-25	
$V_{EBO}$	Emitter-Base Voltage BC307	-6	V
	BC308/309	-5	
$I_C$	Collector Current -Continuous	-0.1	A
$P_C$	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$



Dimensions in inches and (millimeters)

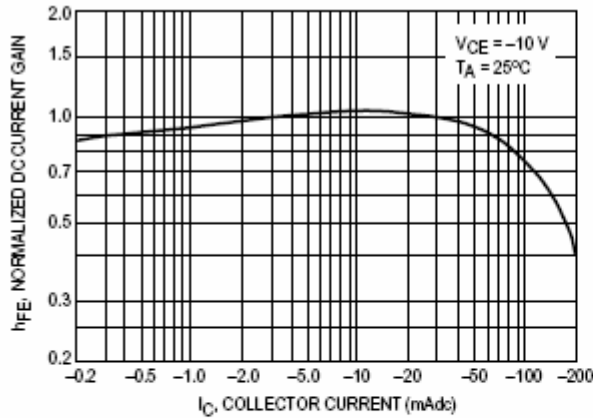
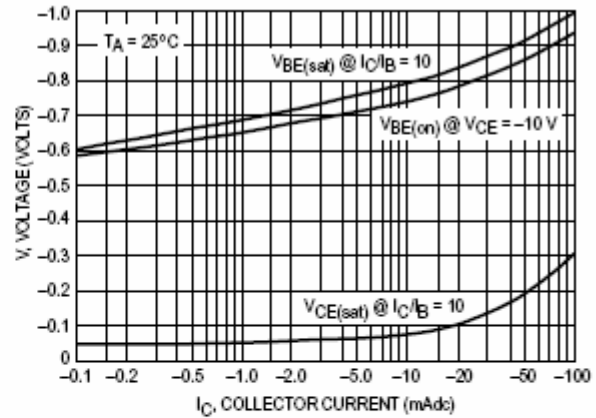
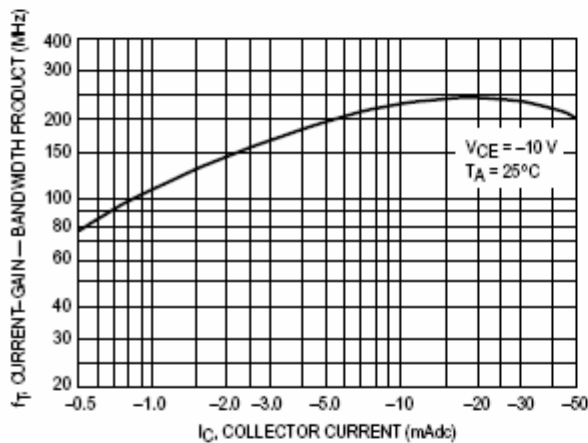
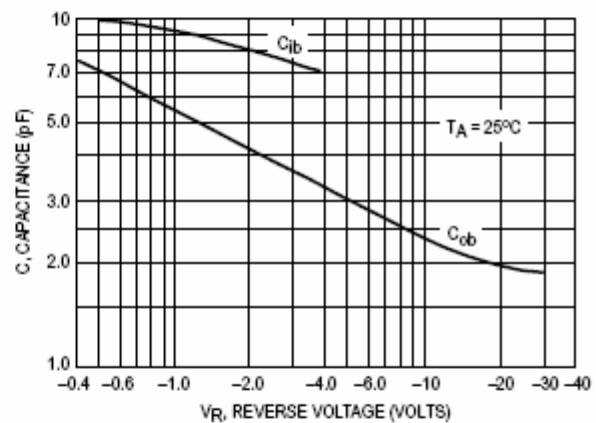
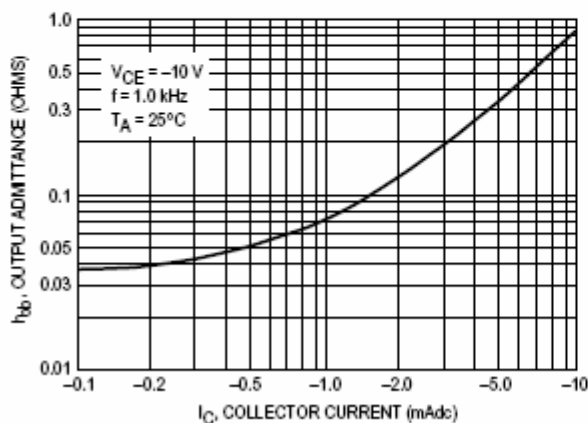
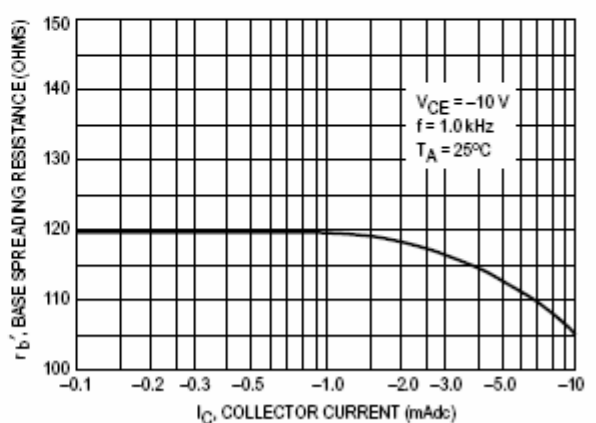
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$ BC307	-50			V
		BC308/309	-30			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-2\text{mA}, I_B=0$ BC307	-45			V
		BC308/309	-25			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-45\text{V}, I_E=0$ BC307			-15	nA
		$V_{CB}=-25\text{V}, I_E=0$ BC308/309				
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-15	nA
DC current gain	$h_{FE}$	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	120		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.3	V
		$I_C=-100\text{mA}, I_B=-5\text{mA}$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.75	V
		$I_C=-100\text{mA}, I_B=-5\text{mA}$			-1	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	-0.55		-0.75	V
Transition frequency	$f_T$	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=50\text{MHz}$		130		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$			6	pF
Noise figure	NF	$V_{CE}=-5\text{V}, I_C=-0.2\text{mA}, f=1\text{KHz}, R_G=2\text{K}\Omega$ BC307/BC308			10	dB
		BC309			4	
		$V_{CE}=-5\text{V}, I_C=-0.2\text{mA}, f=30-15\text{KHz}, R_G=2\text{K}\Omega$ BC309			4	

### CLASSIFICATION OF $h_{FE}$

Rank	A	B	C
Range	120-220	180-460	380-800

## Typical Characteristics


**Figure 1. Normalized DC Current Gain**

**Figure 2. "Saturation" and "On" Voltages**

**Figure 3. Current-Gain — Bandwidth Product**

**Figure 4. Capacitances**

**Figure 5. Output Admittance**

**Figure 6. Base Spreading Resistance**