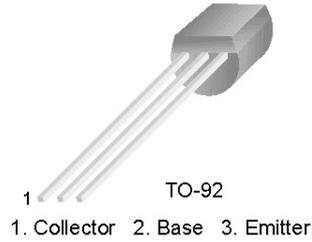


Switching and Amplifier Applications

.Low Noise: BC309



PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings Ta=25 unless otherwise noted

Symbol	Parameter	Value	Units
V _{CES}	Collector-Emitter Voltage		
	:BC307	-50	V
	:BC308/309	-30	V
V _{CEO}	Collector-Emitter Voltage		
	:BC307	-45	V
	:BC308/309	-25	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current (DC)	-100	mA
P _C	Collector Power Dissipation	500	mW
T _J	Junction Temperature	150	
T _{STG}	Storage Temperature	-55~150	

Electrical Characteristics Ta=25 unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C =-2mA, I _B =0				
	:BC307		-45			V
	:BC308/309		-25			V
BV _{CES}	Collector-Emitter Breakdown Voltage	I _C =-10μA, V _{BE} =0				
	:BC307		-50			V
	:BC308/309		-30			V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E =-10μA, I _C =0	-5			V
I _{CES}	Collector Cut-off Current					
	:BC307	V _{CE} =-45V, V _{BE} =0		-2	-15	nA
	:BC308/309	V _{CE} =-25V, V _{BE} =0		-2	-15	nA
h _{FE}	DC Current Gain	V _{CE} =-5V, I _C =-2mA	120		800	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =-10mA, I _B =-0.5mA			-0.3	V
		I _C =-100mA, I _B =-5mA		-0.5		V
V _{BE(sat)}	Collector-Base Saturation Voltage	I _C =-10mA, I _B =-0.5mA		-0.7		V
		I _C =-100mA, I _B =-5mA		-0.85		V
V _{BE(on)}	Base-Emitter On Voltage	V _{CE} =-5V, I _C =-2mA	-0.55	-0.62	-0.7	V
f _T	Current Gain Bandwidth Product	V _{CE} =-5V, I _C =-10mA, f=50MHz		130		MHz
C _{ob}	Output Capacitance	V _{CB} =-10V, I _E =0, f=1MHz			6	pF
C _{ib}	Input Capacitance	V _{EB} =-0.5V, I _C =0, f=1MHz		12		pF
NF	Noise Figure					
	:BC307/308	V _{CE} =-5V, I _C =-0.2mA,			10	dB
	:BC309	R _G =2kΩ, f=1KHz			4	dB
	:BC309	V _{CE} =-5V, I _C =-0.2mA		2	4	dB
		R _G =2K Ω, f=30~15kHz				

hFE Classification

Classification	A	B	C
h_{FE}	120~220	180~460	380~800

Typical Characteristics

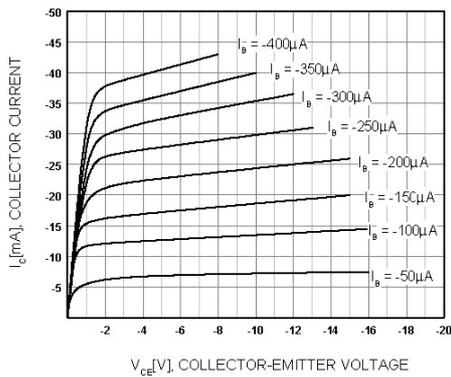


Figure 1. Static Characteristic

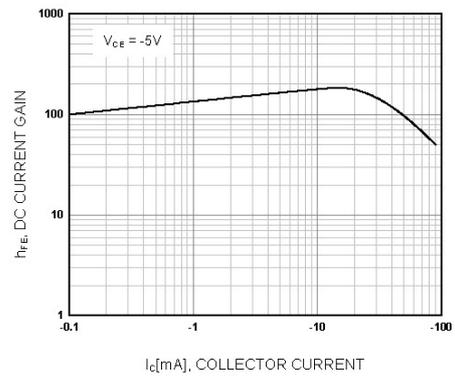


Figure 2. DC current Gain

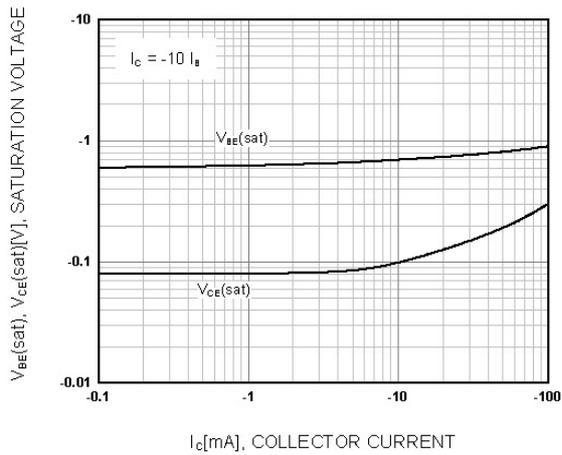


Figure 1. Static Characteristic

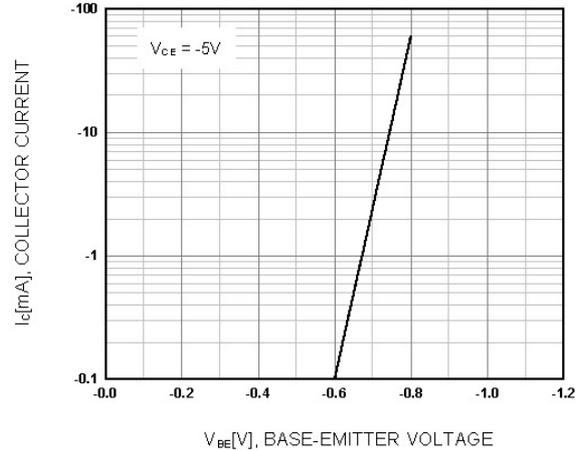


Figure 2. DC current Gain

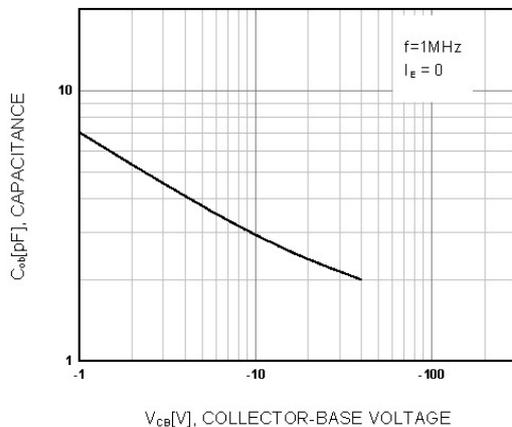


Figure 5. Collector Output Capacitance

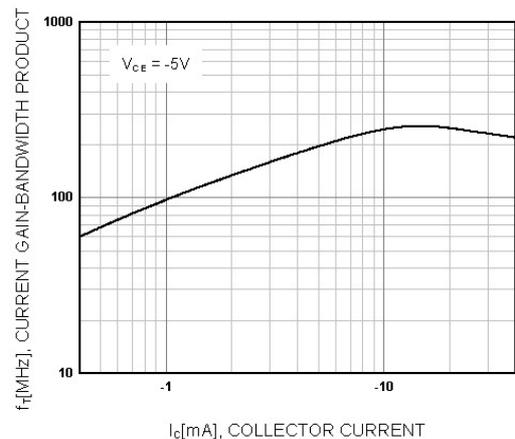


Figure 6. Current Gain Bandwidth Product

Package Dimensions

TO-92

