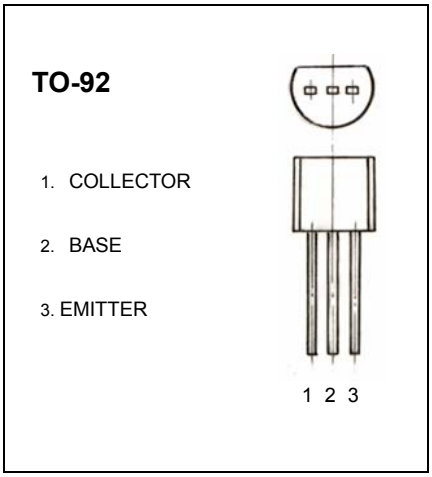
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

BC307/308/309 TRANSISTOR (PNP)



FEATURES

Amplifier dissipation NPN Silicon

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

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

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

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

CLASSIFICATION OF h_{FE}

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

Typical Characteristics

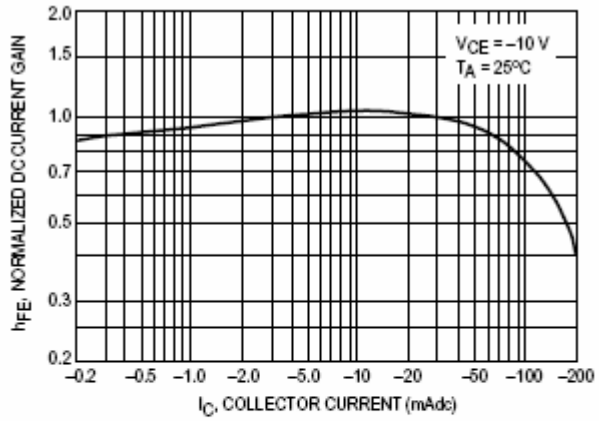


Figure 1. Normalized DC Current Gain

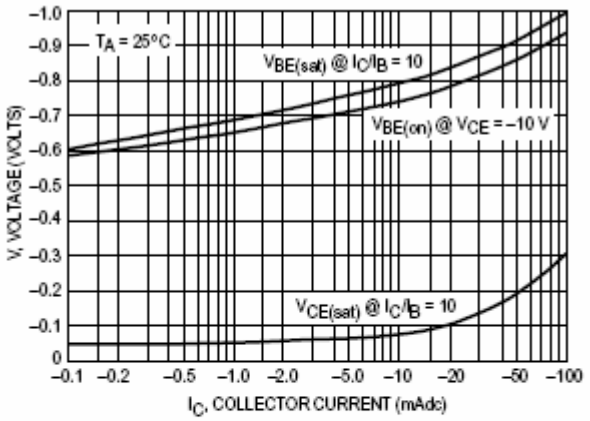


Figure 2. "Saturation" and "On" Voltages

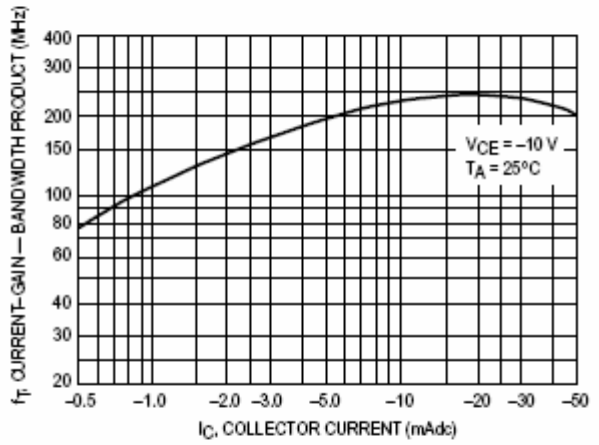


Figure 3. Current–Gain — Bandwidth Product

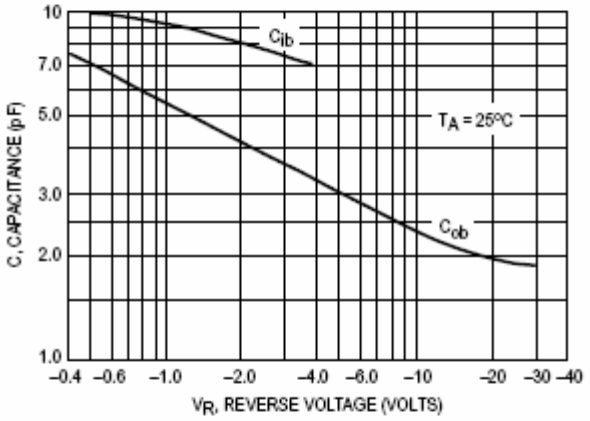


Figure 4. Capacitances

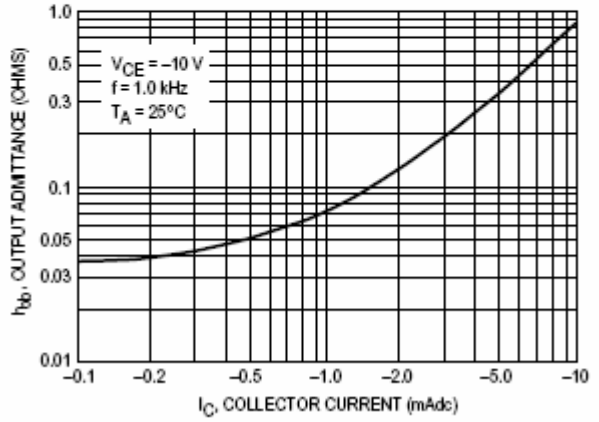


Figure 5. Output Admittance

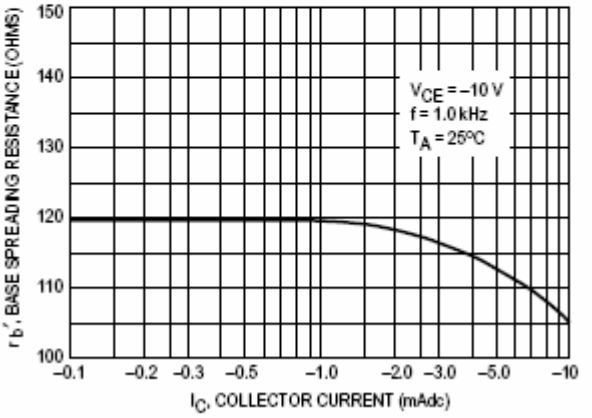


Figure 6. Base Spreading Resistance