

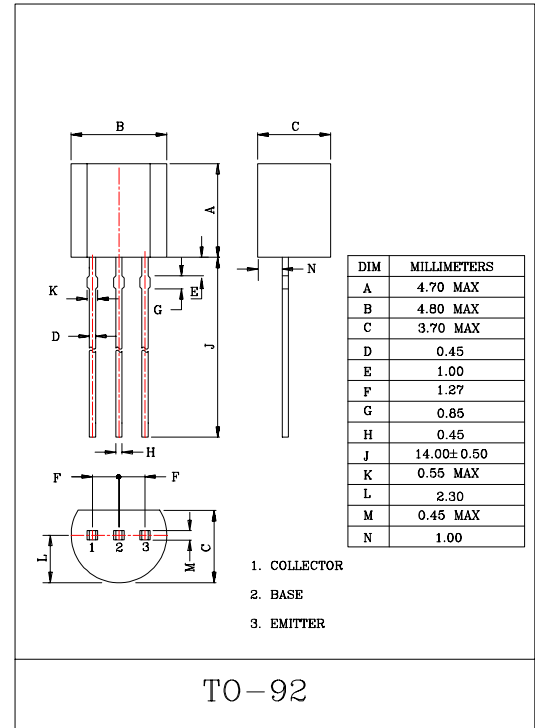
GENERAL PURPOSE APPLICATION.
LOW NOISE AMPLIFIER APPLICATION.

FEATURES

- High Voltage : BC307 $V_{CE0} = -45V$.
- Low Noise : BC309 $NF = 0.2dB(Typ.)$, $3dB(Max.)$
($V_{CE} = -6V$, $I_C = -0.1mA$, $f = 1kHz$).
- For Complementary with NPN type BC237/238/239.

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	BC307	V_{CBO}	-50	V
	BC308		-30	
	BC309		-30	
Collector-Emitter Voltage	BC307	V_{CEO}	-45	V
	BC308		-25	
	BC309		-20	
Emitter-Base Voltage	BC307	V_{EBO}	-5	V
	BC308		-5	
	BC309		-5	
Collector Current	BC307	I_C	-100	mA
	BC308		-100	
	BC309		-50	
Emitter Current	BC307	I_E	100	mA
	BC308		100	
	BC309		50	
Collector Power Dissipation		P_C	625	mW
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 ~ 150	$^\circ C$



BC307/8/9

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=-50V, I_E=0$	-	-	-15	nA
DC Current Gain (Note)	BC307	h_{FE}	$V_{CE}=-5V, I_C=-2mA$	120	-	460	
	BC308			120	-	800	
	BC309			180	-	800	
Collector-Emitter Saturation Voltage	BC307	$V_{CE(sat)}$	$I_C=-100mA, I_B=-5mA$	-	-	-0.6	V
	BC308			-	-	-0.6	
	BC309		$I_C=-10mA, I_B=-0.5mA$	-	-	-0.2	
Base-Emitter Saturation Voltage	BC307	$V_{BE(sat)}$	$I_C=-100mA, I_C=-5mA$	-	-	-1.0	V
	BC308			-	-	-1.0	
	BC309		$I_C=-10mA, I_B=-0.5mA$	-	-	-0.8	
Base-Emitter Voltage		$V_{BE(ON)}$	$V_{CE}=-5V, I_C=-2mA$	-0.55	-	-0.7	V
Transition Frequency		f_T	$V_{CE}=-5V, I_C=-10mA,$ $f=100MHz$	-	200	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=-10V, f=1MHz$	-	-	6.0	pF
Noise Figure	BC307	NF	$V_{CE}=-6V, I_C=-0.1mA$ $R_g=10k\Omega, f=1kHz$	-	1.0	10	dB
	BC308			-	1.0	10	
	BC309			-	0.2	3.0	

NOTE : According to the value of h_{FE} the BC307, BC308, BC309 are classified as follows.

CLASSIFICATION		A	B	C
h_{FE}	BC307	120~220	180~460	-
	BC308	120~220	180~460	380~800
	BC309	-	180~460	380~800