ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Type	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage (I_C = 2.0 mAdc, I_B = 0)	BC 307 BC 308 BC 309	BV_{CEO}	45 25 20	– – –	– – –	Vdc
Emitter-Base Breakdown Voltage (I_E = 100μAdc, I_C = 0)	BC 307 BC 308 BC 309	BV_{EBO}	5 5 5	– – –	– – –	Vdc
Collector-Emitter Leakage Current (V_{CES} = 20 V)	BC 307 BC 308 BC 309	I_{CES}	– – –	2 2 2	100 100 100	nA
(V_{CES} = 20 V, T_A = 125°C)	BC 307 BC 308 BC 309		– – –	– – –	4 4 4	μA
ON CHARACTERISTICS						
DC Current Gain (I_C = 10 μ Adc, V_{CE} = 5 Vdc)	BC 307 A/308 A/309 A BC 307 B/308 B/309 B	h_{FE}	– –	90 270	– –	
(I_C = 2 mAdc, V_{CE} = 5 Vdc)	BC 307 BC 308 BC 309 BC 307 VI/308 VI BC 307 A/308 A/309 A BC 307 B/308 B/309 B		70 70 120 70 120 180	– – – 140 170 290	460 460 460 170 220 460	
(I_C = 100 mAdc, V_{CE} = 5 Vdc)	BC 307 A/308 A/309 A BC 307 B/308 B/309 B		– –	120 180	– –	
Collector-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 0,5 mAdc)		V_{CE} (sat)	–	0.10	–	Vdc
(I_C = 10 mAdc, I_B = see Note 1)			–	0.30	0.60	
(I_C = 100 mAdc, I_B = 5 mAdc)			–	0.25	–	
Base-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 0.5 mAdc)		V_{BE} (sat)	–	0.70	–	Vdc
(I_C = 100 mAdc, I_B = 5 mAdc)			–	1.00	–	
Base-Emitter on Voltage (I_C = 2 mAdc, V_{CE} = 5 Vdc)		V_{BE} (on)	0.55	0.62	0.70	Vdc

Note 1 : I_C = 10 mAdc on the constant base current characteristic, which yields the point I_C = 11 mAdc, V_{CE} = 1 V

BC 307
BC 308
BC 309

PNP SILICON ANNULAR TRANSISTORS

. . . designed for general purpose use in audio, radio, and television applications.

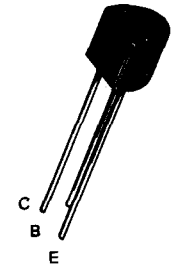
- High Breakdown Voltage—

  BV_{CEO} = 20, 25, 45 Vdc (Min) @ I_C = 2.0 mAdc
- Low Collector-Emitter Saturation Voltage—

  $V_{CE\ (sat)}$ = 0.35 Vdc (Typ) @ I_C = 100 mAdc
- Low Collector - Base capacitance

  C_{cbo} = 6.0 pF (Max) @ V_{CB} =10 Vdc
- Complementary to NPN BC 237, BC 238, BC 239
- One-Piece, Injection-Molded Unibloc† Package

PNP SILICON AMPLIFIER TRANSISTORS

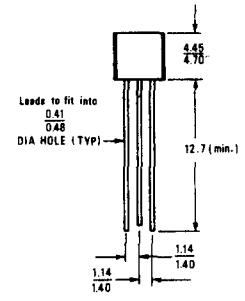


MAXIMUM RATINGS

Rating	Symbol	Type	Value	Unit
Collector-Emitter Voltage	V_{CEO}	BC 307 BC 308 BC 309	45 25 20	Vdc
Collector-Emitter Voltage	V_{CES}	BC 307 BC 308 BC 309	50 30 25	Vdc
Emitter-Base Voltage	V_{EB}	all	5.0	Vdc
Collector Current - Continuous Peak	I_C I_{CM}	all	0.10 0.20	A
Base Current - Continuous	I_B	all	0.05	Adc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	all	0.30 2.40	Watts mW/°C
Operating and Storage Junction Temperature range	T_J,T_{stg}	all	-55 to + 150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol		Max	Unit
Thermal Resistance, Junction to Ambient	θ_{JA}		0.416	°C/mW



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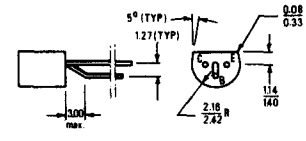

All dimensions in Millimeters

DYNAMIC CHARACTERISTICS / SMALL SIGNAL CHARACTERISTICS

Characteristic	Type	Symbol	Min	Typ	Max	Unit
Current-Gain – Bandwidth Product (I_C= 10 mAdc, V_{CE}= 5 Vdc, f = 50 MHz)		f_T				MHz
	BC 307		–	280	–	
	BC 308		–	320	–	
	BC 309		–	360	–	
Collector-Base Capacitance (V_{CB}= 10 Vdc, I_C= 0, f = 1 MHz)		C_{cbo}	–	–	6.0	pF
Noise Figure (I_C= 0.2 mAdc, V_{CE}= 5 Vdc, R_S= 2 Kohms, f = 30 Hz to 15 KHz)		NF				dB
	BC 309		–	2	4	
(I_C= 0,2 mAdc, V_{CE}= 5 Vdc, R_S= 2 Kohms; f = 1 KHz, f = 200 Hz)						
	BC 307		–	–	10	
	BC 308		–	–	10	
	BC 309		–	–	4	
Input Impedance (I_C= 2 mAdc, V_{CE}= 5 Vdc, f = 1 KHz)		$h_{ie}(h_{11e})$				kΩ
	BC 307 VI/308 VI		0.4	2.0	3.0	
	BC 307 A/308 A/309 A		1.2	2.7	4.5	
	BC 307 B/308 B/309 B		3.0	4.5	8.0	
Voltage Feedback Ratio (I_C= 2 mAdc, V_{CE}= 5 Vdc, f = 1 KHz)		$h_{re}(h_{12e})$				10^{-4}
	BC 307 VI/308 VI		–	2.5	–	
	BC 307 A/308 A/309 A		–	3.0	–	
	BC 307 B/308 B/309 B		–	3.5	–	
Small Signal Current Gain (I_C= 2 mAdc, V_{CE}= 5 Vdc f = 1 KHz)		$h_{fe}(h_{21e})$				–
	BC 307 VI/308 VI		75	110	150	
	BC 307 A/308 A/309 A		125	220	260	
	BC 307 B/308 B/309 B		240	330	500	
Output Admittance (I_C= 2 mAdc, V_{CE}= 5 Vdc, f= 1 KHz)		$h_{oe}(h_{22e})$				μmhos
	BC 307 VI/308 VI		–	20	40	
	BC 307 A/308 A/309 A		–	25	50	
	BC 307 B/308 B/309 B		–	30	70	

BC 307
BC 308
BC 309

FIGURE 1 – NORMALIZED DC CURRENT GAIN

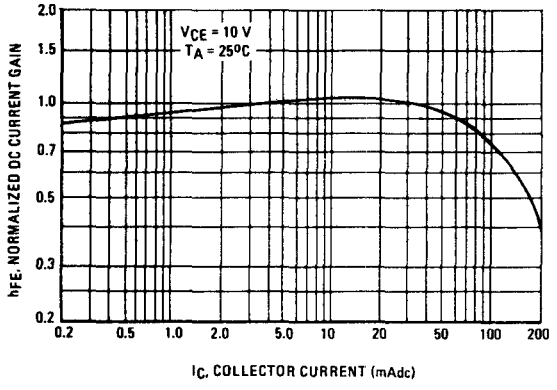

FIGURE 2 – "SATURATION" AND "ON" VOLTAGES

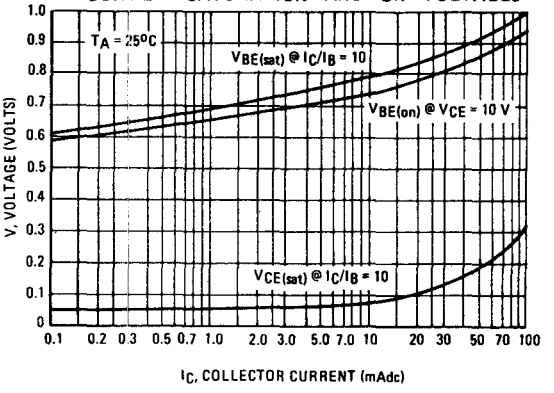

FIGURE 3 – CURRENT-GAIN–BANDWIDTH PRODUCT

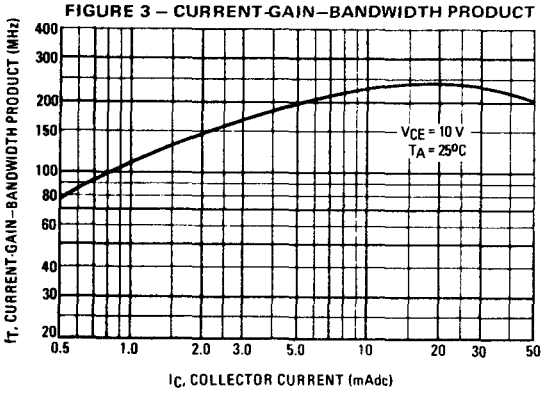

FIGURE 4 – CAPACITANCES

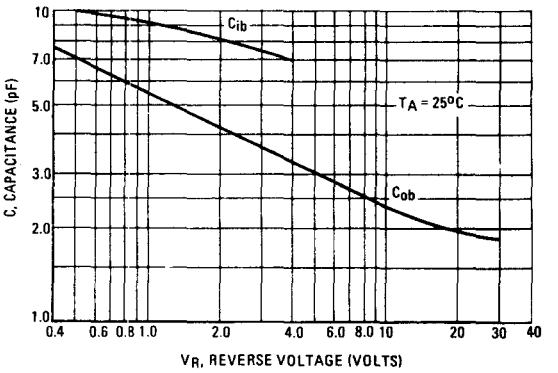

FIGURE 5 – OUTPUT ADMITTANCE

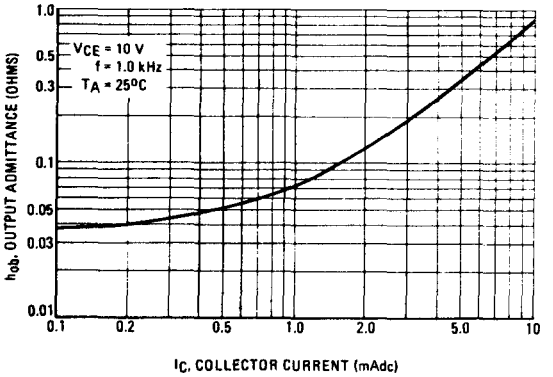

FIGURE 6 – BASE SPREADING RESISTANCE