SILICON PLANAR PNP

BC 204
BC 205
BC 206

GENERAL PURPOSE AMPLIFIERS

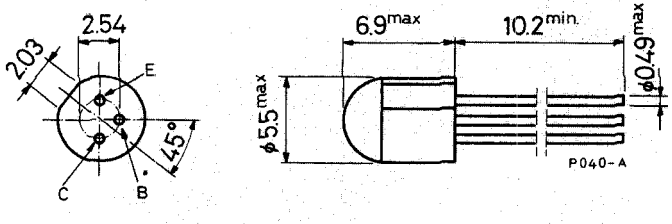
The BC 204, BC 205 and BC 206 are silicon planar epitaxial PNP transistors in TO-18 epoxy package. They are intended for general amplifier applications and TV signal processing.

ABSOLUTE MAXIMUM RATINGS

		BC 204	BC 205 BC 206
V_{CBO}	Collector-base voltage ($I_E = 0$)	-50 V	-25 V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	-45 V	-20 V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	-5 V	
I_C	Collector current	-100 mA	
→ P_{tot}	Total power dissipation at $T_{amb} \leq 25$ °C	0.3 W	
	at $T_{case} \leq 25$ °C	0.5 W	
T_{stg}	Storage temperature	-55 to 125 °C	
T_j	Junction temperature	125 °C	

MECHANICAL DATA

Dimensions in mm



TO-18 epoxy

BC 204
BC 205
BC 206

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	200	°C/W
→$R_{th\ j\text{-}amb}$	Thermal resistance junction-ambient	max	330	°C/W

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO} Collector cutoff current (I_E = 0)	for **BC 204**				
	V_{CB} = -45 V			-50	nA
	V_{CB} = -45 V T_{amb} = 65 °C			-3	μA
	for **BC 205-BC 206**				
	V_{CB} = -20 V			-50	nA
	V_{CB} = -20 V T_{amb} = 65 °C			-3	μA
$V_{(BR)\ CBO}$ Collector-base breakdown voltage (I_E = 0)	I_C = -10 μA				
	for **BC 204**	-50			V
	for **BC 205-BC 206**	-25			V
$V_{(BR)\ CEO}$ Collector-emitter breakdown voltage (I_B = 0)	I_C = -5 mA				
	for **BC 204**	-45			V
	for **BC 205-BC 206**	-20			V
$V_{(BR)\ EBO}$ Emitter-base breakdown voltage (I_C = 0)	I_E = -10μA	-5			V
$V_{CE\ (sat)}$ Collector-emitter saturation voltage	I_C = -10 mA				
	I_B = -0.5 mA		-0.1	-0.3	V
V_{BE} Base-emitter voltage	I_C = -2 mA V_{CE} = -5 V	-0.55	-0.65	-0.75	V

ELECTRICAL CHARACTERISTICS (continued)

Parameter		Test conditions	Min.	Typ.	Max.	Unit
h_{FE}	DC current gain	I_C = -2 mA V_{CE} = -5 V				
		for **BC 204**	50	160	450	—
		for **BC 204** Gr. VI	50	90	120	—
		for **BC 204** Gr. A	110	180	220	—
		for **BC 204** Gr. B	200	300	450	—
		for **BC 205**	110	270	450	—
		for **BC 205** Gr. A	110	180	220	—
		for **BC 205** Gr. B	200	350	450	—
		for **BC 206**	200	400		—
		for **BC 206** Gr. B	200	350	450	—
		I_C = -10 μA V_{CE} = -5 V				
		for **BC 204**		110		—
		for **BC 204** Gr. VI		80		—
		for **BC 204** Gr. A		130		—
		for **BC 204** Gr. B		200		—
		for **BC 205**		200		—
		for **BC 205** Gr. A		130		—
		for **BC 205** Gr. B		270		—
		for **BC 206**		320		—
		for **BC 206** Gr. B		270		—
f_T	Transition frequency	I_C = -10 mA V_{CE} = -5 V		160		MHz
C_{CBO}	Collector-base capacitance	I_E = 0 V_{CB} = -10 V f = 1 MHz		4		pF
NF	Noise figure	I_C = -200 μA V_{CE} = -5 V f = 1 kHz B = 200 Hz				
		for **BC 204/205**		2	10	dB
		for **BC 206**		1	4	dB