

BC307/308/309

PNP EPITAXIAL SILICON TRANSISTOR

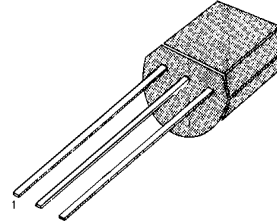
SWITCHING AND AMPLIFIER APPLICATIONS

- LOW NOISE: BC309

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

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

TO-92



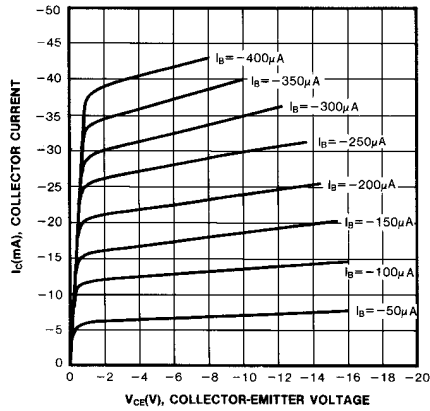
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Emitter Breakdown Voltage : BC307	BV _{CEO}	I _C = -2mA, I _B =0	-45			V
: BC308/309			-25			V
Collector Emitter Breakdown Voltage : BC307	BV _{CES}	I _C = -10μA, I _B =0	-50			V
: BC308/309			-30			V
Emitter Base Breakdown Voltage	BV _{EBO}	I _E = -10μA, I _B =0	-5			V
Collector Cut-off Current : BC307	I _{CES}	V _{CE} = -45V, I _B =0		-2	-15	nA
: BC238/239		V _{CE} = -25V, I _B =0		-2	-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		-0.5		V
Collector Base Saturation Voltage	V _{BE} (sat)	I _C = -10mA, I _B = -0.5mA		-0.7		V
		I _C = -100mA, I _B = -5mA		-0.85		V
Base Emitter On Voltage	V _{BE} (on)	V _{CE} = -5V, I _C = -2mA	-0.55	-0.62	-0.7	V
Current Gain Bandwidth Product	f _T	V _{CE} = -5V, I _C = -10mA		130		MHz
Collector Base Capacitance	C _{CB0}	V _{CB} = -10V, f=1MHz			6	pF
Emitter Base Capacitance	C _{EB0}	V _{EB} = -0.5V, f=1MHz		12		pF
Noise Figure : BC237/238	NF	V _{CE} = -5V, I _C = -0.2mA, R _G =2KΩ, f=1KHz			10	dB
: BC239					4	dB
: BC239	NF	V _{CE} = -5V, I _C = -0.2mA, R _G =2KΩ, f=30~15KHz		2	4	dB

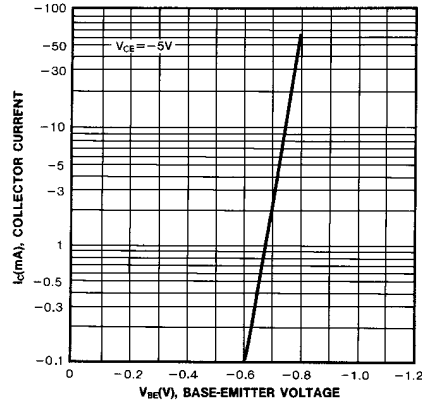
h_{FE} CLASSIFICATION

Classification	A	B	C
h _{FE}	120-220	180-460	380-800

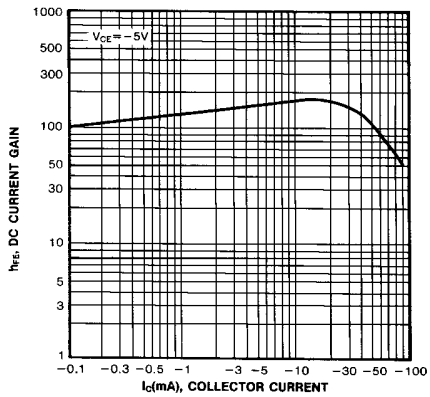
STATIC CHARACTERISTIC



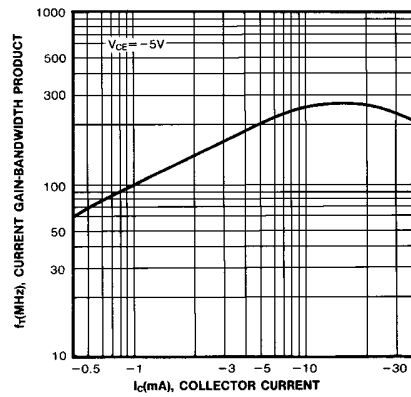
BASE-EMITTER ON VOLTAGE



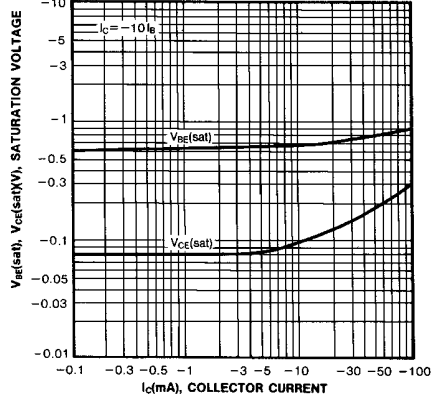
DC CURRENT GAIN



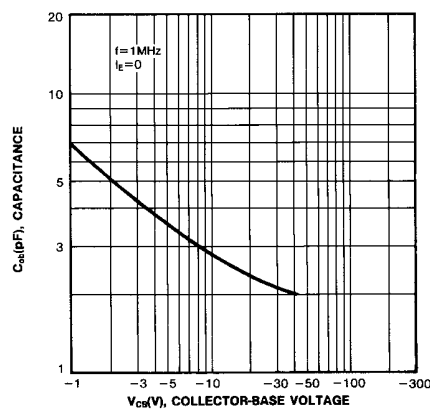
CURRENT GAIN-BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



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