

PNP small signal transistor

BCX71H

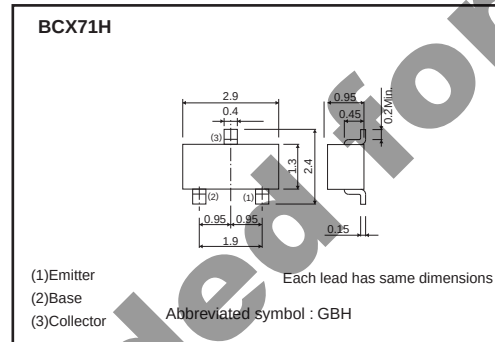
●Features

- 1) Ideal for switching and AF amplifier applications.
- 2) Complements the BCX70.

●Packaging specifications

Type	Package	Taping
	Code	T116
	Basic ordering unit (pieces)	3000
BCX70H		○

●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	-45	V
Collector-emitter voltage	V_{CEO}	-45	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-0.2	A
Collector power dissipation	P_C	0.2	W
		0.35	W *
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 to 150	°C

* Mounted on a 7×5×0.6 mm CERAMIC SUBSTRATE

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	-45	—	—	V	$I_C = -2mA$
Emitter-base breakdown voltage	BV_{EBO}	-5	—	—	V	$I_C = -10\mu A$
Collector-emitter cutoff current	I_{CES}	—	—	-0.1	μA	$V_{CE} = -45V$
Emitter-base cutoff current	I_{EBO}	—	—	-0.1	μA	$V_{EB} = -4V$
Collector-emitter saturation voltage	$V_{CE(sat)1}$	—	—	-0.25	V	$I_C/I_B = -10mA/-0.25mA$
	$V_{CE(sat)2}$	—	—	-0.55	V	$I_C/I_B = -50mA/-1.25mA$
Base-emitter saturation voltage	$V_{BE(sat)1}$	—	—	-0.85	V	$I_C/I_B = -10mA/-0.25mA$
	$V_{BE(sat)2}$	—	—	-1.05	V	$I_C/I_B = -50mA/-1.25mA$
Base-emitter voltage	$V_{BE(on)}$	-0.6	—	-0.75	V	$V_{CE} = -5V, I_C = -2mA$
DC current transfer ratio	h_{FE}	140	—	310	—	$V_{CE} = -5V, I_C = -2mA$
		80	—	—	—	$V_{CE} = -5V, I_C = -50mA$
Transition frequency	f_T	—	180	—	MHz	$V_{CE} = -5V, I_E = -10mA, f = 100MHz$
Collector output capacitance	C_{ob}	—	—	6	pF	$V_{CB} = -10V, f = 1MHz$
Noise figure	NF	—	—	6	dB	$V_{CE} = -5V, I_C = -200\mu A, f = 1kHz, R_g = 2k\Omega$
Collector-base cutoff current	I_{CBO}	—	—	-20	μA	$V_{CB} = -45V, T_a = 150^\circ C$

●Electrical characteristics

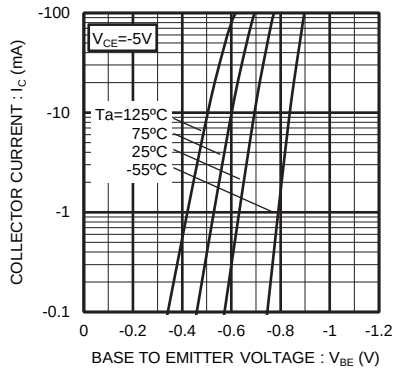


Fig1. Grounded Emitter Propagation Characteristics

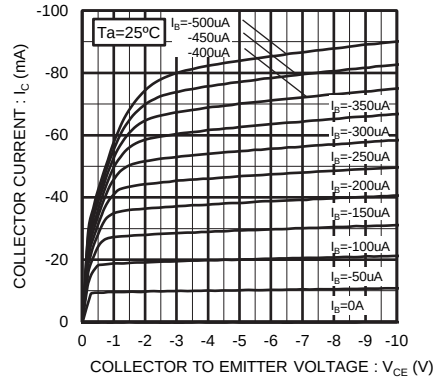


Fig2. Grounded Emitter Output Characteristics

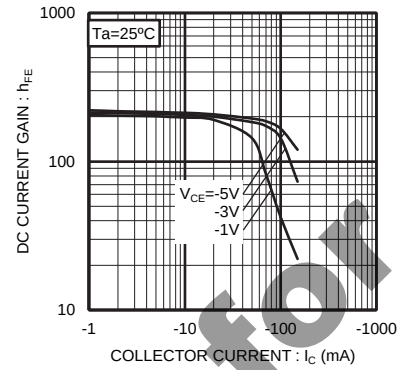


Fig3. DC Current Gain vs. Collector Current (I)

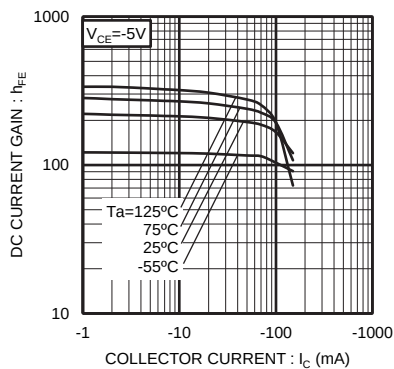


Fig4. DC Current Gain vs. Collector Current (II)

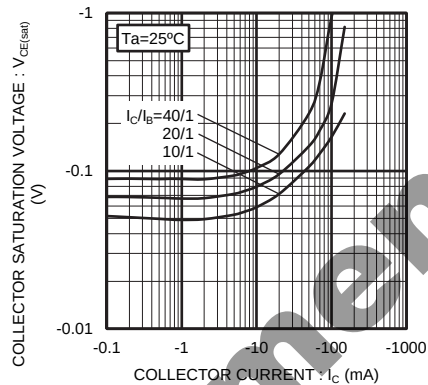


Fig5. Collector Saturation Voltage vs. Collector Current (I)

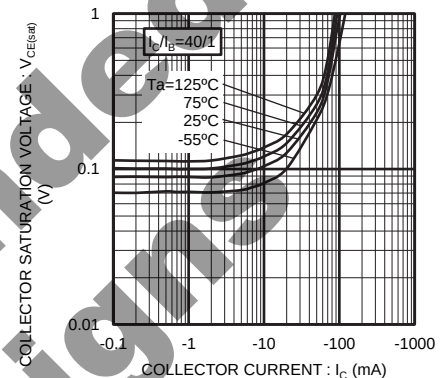


Fig6. Collector Saturation Voltage vs. Collector Current (II)

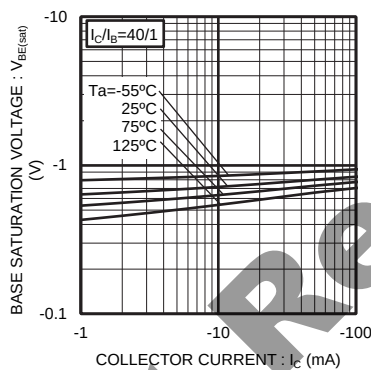


Fig7. Base Saturation Voltage vs. Collector Current

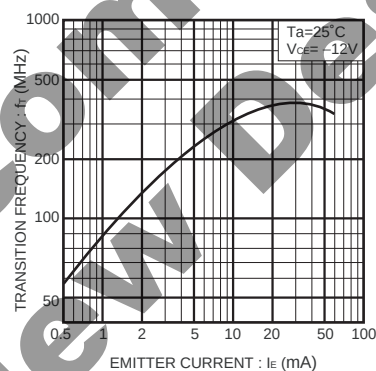
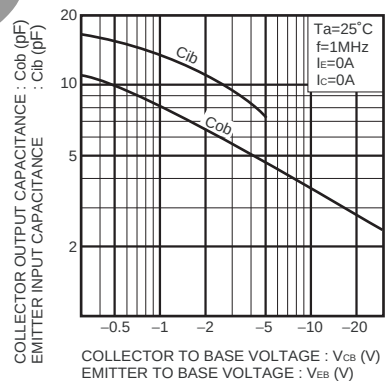


Fig8. Gain bandwidth product vs. emitter current

Fig9. Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

Notes

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