

NPN small signal transistor

BCX70J, K

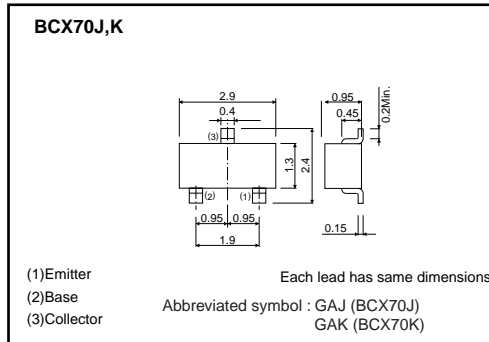
●Features

- 1) Ideal for switching and AF amplifier applications.
- 2) Complements the BCX71.

●Packaging specifications

Type	Package	Taping
	Code	T116
	Basic ordering unit (pieces)	3000
BCX71J, K		○

●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	45	V
Collector-emitter voltage	V _{CEO}	45	V
Emitter-base voltage	V _{EB0}	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

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	45	–	–	V	$I_C = 2\text{mA}$
Emitter-base breakdown voltage	BV_{EBO}	5	–	–	V	$I_C = 10\mu\text{A}$
Collector-emitter cutoff current	I_{CES}	–	–	0.1	μA	$V_{CE} = 45\text{V}$
Emitter-base cutoff current	I_{EBO}	–	–	0.1	μA	$V_{EB} = 4\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)1}$	–	–	0.35	V	$I_C/I_B = 10\text{mA}/0.25\text{mA}$
	$V_{CE(sat)2}$	–	–	0.55	V	$I_C/I_B = 50\text{mA}/1.25\text{mA}$
Base-emitter saturation voltage	$V_{BE(sat)1}$	–	–	0.85	V	$I_C/I_B = 10\text{mA}/0.25\text{mA}$
	$V_{BE(sat)2}$	–	–	1.05	V	$I_C/I_B = 50\text{mA}/1.25\text{mA}$
Base-emitter voltage	$V_{BE(on)}$	0.55	–	0.75	V	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$
DC current transfer ratio	h_{FE1}	250	–	630	–	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$
	h_{FE2}	90	–	–	–	$V_{CE} = 5\text{V}, I_C = 50\text{mA}$
Transition frequency	f_T	125	–	–	MHz	$V_{CE} = 5\text{V}, I_E = 10\text{mA}, f = 100\text{MHz}$
Collector output capacitance	C_{ob}	–	–	4.5	pF	$V_{CB} = 10\text{V}, f = 1\text{MHz}, I_E = 0\text{A}$
Noise figure	NF	–	–	6	dB	$V_{CE} = 5\text{V}, I_C = 200\mu\text{A}, f = 1\text{kHz}, R_g = 2\text{k}\Omega$
Collector-base cutoff current	I_{CBO}	–	–	20	μA	$V_{CB} = 45\text{V}, T_a = 150^\circ\text{C}$

This parts are classified into the categories below and given h_{FE} item.

Part. No	BCX70J	BCX70K
h_{FE1}	250 to 460	380 to 630
h_{FE2}	90 or more	125 or more

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