

# NPN small signal transistor

## BCX70J, K

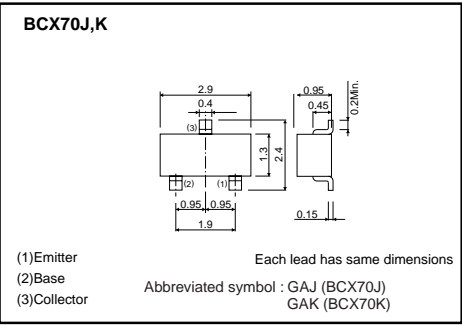
●Features

- 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 <sub>CBO</sub>	45	V
Collector-emitter voltage	V <sub>CEO</sub>	45	V
Emitter-base voltage	V <sub>EB0</sub>	5	V
Collector current	I <sub>C</sub>	0.2	A
Collector power dissipation	P <sub>C</sub>	0.2	W
		0.35	W *
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-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	$\mu\text{A}$	$V_{CE} = 45\text{V}$
Emitter-base cutoff current	$I_{EBO}$	—	—	0.1	$\mu\text{A}$	$V_{EB} = 4\text{V}$
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	$\mu\text{A}$	$V_{CB} = 45\text{V}$ , $T_a = 150^\circ\text{C}$

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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