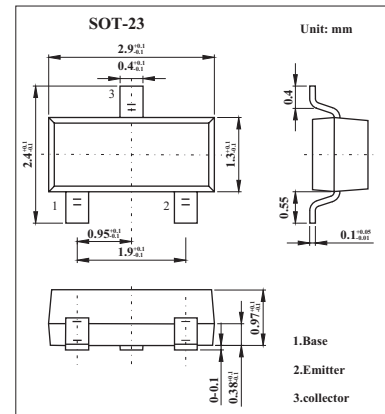


## NPN General Purpose Transistors

## BCX70 series

## ■ Features

- Low current (max. 100 mA).
- Low voltage (max. 45 V).

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	45	V
Collector-emitter voltage	$V_{CE0}$	45	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_C$	100	mA
Peak collector current	$I_{CM}$	200	mA
Peak base current	$I_{BM}$	200	mA
Collector dissipation	$P_C$	250	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$
Operating ambient temperature	$T_{amb}$	-65 to +150	$^\circ\text{C}$
Thermal resistance from junction to ambient *	$R_{th(j-a)}$	500	K/W

\* Transistor mounted on an FR4 printed-circuit board.

## BCX70 series

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	ICBO	IE = 0; VCB = 45 V			20	nA
	ICBO	IE = 0; VCB = 45 V; Tj = 150 °C			20	μA
Emitter cutoff current	IEBO	IC = 0; VEB = 4 V			20	nA
	BCX70G	hFE IC = 10 μA; VCE = 5 V				
	BCX70H		40			
	BCX70J		30			
	BCX70K		100			
DC current gain	BCX70G	hFE IC = 2 mA; VCE = 5 V	120		220	
	BCX70H		180		310	
	BCX70J		250		460	
	BCX70K		380		630	
DC current gain	BCX70G	hFE IC = 50 mA; VCE = 1 V	50			
	BCX70H		70			
	BCX70J		90			
	BCX70K		100			
Collector-emitter saturation voltage	VCE(sat)	IC = 10 mA; IB = 0.25 mA	50		350	mV
		IC = 50mA; IB = 1.25 mA	100		550	mV
Base to emitter saturation voltage	VBE(sat)	IC = 10 mA; IB = 0.25 mA	600		850	mV
		IC = 50mA; IB = 1.25 mA	700		1050	mV
Base to emitter voltage	VBE	IC = 2 mA; VCE = 5 V	550	650	750	mV
Collector capacitance	Cc	IE = ie = 0; VCB = 10 V; f = 1 MHz		1.7		pF
Emitter capacitance	Ce	IC = ic = 0; VEB = 0.5 V; f = 1 MHz		11		pF
Transition frequency *	fT	IC = 10 mA; VCE = 5 V; f = 100 MHz	100	250		MHz
Noise figure	NF	IC = 200 μA; VCE = 5 V; Rs = 2 kΩ; f = 1 kHz; B = 200 Hz		2	6	dB

\* Pulse test: tp ≤ 300 μs; d ≤ 0.02.

## ■ hFE Classification

Type Number	BCX70G	BCX70H	BCX70J	BCX70K
Marking	AG	AH	AJ	AK