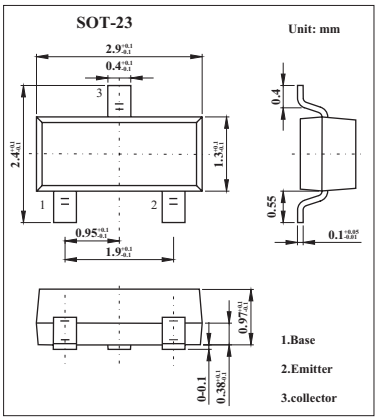
PNP General Purpose Transistors

BCX71H/J/K



Features

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

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	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	-100	mA
Peak collector current	I_{CM}	-200	mA
Peak base current	I_{BM}	-200	mA
Total power dissipation	P_{tot}	250	mW
Storage temperature	T_{stg}	-65 to +150	℃
Junction temperature	T_j	150	℃
Operating ambient temperature	R_{amb}	-65 to +150	℃
Thermal resistance from junction to ambient *	$R_{th\ j\text{-}a}$	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

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■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current		I_{CBO}	I_E = 0; V_{CB} = -45 V			-20	nA
		I_{CBO}	I_E = 0; V_{CB} = -45 V; T_{amb} = 150 ℃			-20	μA
Emitter cutoff current		I_{EBO}	I_C = 0; V_{EB} = -4 V			-20	nA
DC current gain	BCX71H	h_{FE}	I_C = -10 μA; V_{CE} = -5 V	30			
	BCX71J			40			
	BCX71K			100			
DC current gain	BCX71H	h_{FE}	I_C = -2 mA; V_{CE} = -5 V	180		310	
	BCX71J			250		460	
	BCX71K			380		630	
DC current gain	BCX71H	h_{FE}	I_C = -50 mA; V_{CE} = -1 V; *	80			
	BCX71J			100			
	BCX71K			110			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = -10 mA; I_B = -0.25 mA	-60		-250	mV
			I_C = -50 mA; I_B = -1.25 mA; *	-120		-550	mV
Base to emitter saturation voltage		$V_{BE(sat)}$	I_C = -10 mA; I_B = -0.25 mA	-600		-850	mV
			I_C = -50 mA; I_B = -1.25 mA; *	-680		-1050	mV
Base to emitter voltage		V_{BE}	I_C = -2 mA; V_{CE} = -5 V	-600	-650	-750	mV
Collector capacitance		C_C	I_E = Ie = 0; V_{CB} = -10 V; f = 1 MHz		4.5		pF
Emitter capacitance		C_e	I_C = Ic = 0; V_{EB} = -0.5 V; f = 1 MHz		11		pF
Transition frequency		f_T	I_C = -10 mA; V_{CE} = -5 V; f = 100 MHz	100			MHz
Noise figure		NF	I_C = -200 μA; V_{CE} = -5 V; R_S = 2 kΩ;f = 1 kHz; B = 200 Hz		2	6	dB

* Pulse test: tp ⩽ 300 μs; d ⩽ 0.02.

■ h_{FE} Classification

TYPE	BCX71H	BCX71J	BCX71K
Marking	BH	BJ	BK