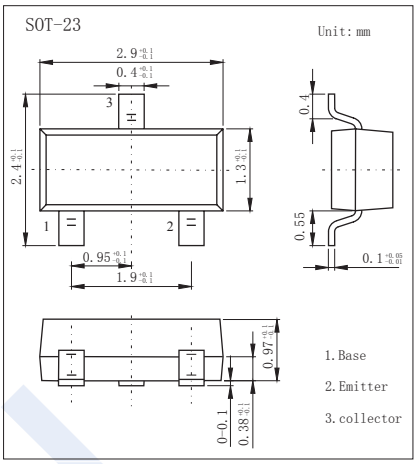
PNP Transistors

BCX71 (KCX71)



■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V)
- Low noise.
- NPN complements: BCX70 series.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-45	V
Collector - Emitter Voltage	V_{CEO}	-45	
Emitter - Base Voltage	V_{EBO}	-5	
Collector Current - Continuous	I_C	-100	mA
Peak Collector Current	I_{CM}	-200	
Peak Base Current	I_{BM}	-200	
Collector Power Dissipation	P_C	250	mW
Thermal Resistance Junction to Ambient (Note.1)	$R_{\theta JA}$	500	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-55 to 150	

Note.1:Transistor mounted on an FR4 printed-circuit board.

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■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage		V_{CBO}	I_C= -100 μA， I_E=0	-45			V
Collector- emitter breakdown voltage		V_{CEO}	I_C= -1 mA， I_B=0	-45			
Emitter - base breakdown voltage		V_{EBO}	I_E= -100 μ A， I_C=0	-5			
Collector-base cut-off current		I_{CBO}	V_{CB}= -45 V , I_E=0			-20	nA
			V_{CB}= -45 V , I_E=0,T_{amb} = 150℃			-20	uA
Emitter cut-off current		I_{EBO}	V_{EB}= -4V , I_C=0			-20	nA
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=-10 mA, I_B=- 0.25mA	-60		-250	mV
			I_C=-50 mA, I_B= -1.25mA (Note.1)	-120		-550	
Base - emitter saturation voltage		$V_{BE(sat)}$	I_C=-10 mA, I_B=- 0.25mA	-600		-850	
			I_C=-50 mA, I_B= -1.25mA (Note.1)	-680		-1050	
Base - emitter voltage		V_{BE}	V_{CE}= -5V, I_C= -2mA	-600	-650	-750	
			V_{CE}= -5V, I_C= -10uA		-550		
			V_{CE}= -1V, I_C= -50mA (Note.1)		-720		
DC current gain	BCX71H	h_{FE}	V_{CE}= -5V, I_C= -10uA	30			
	BCX71J			40			
	BCX71K			100			
DC current gain	BCX71H		V_{CE}= -5V, I_C= -2mA	180		310	
	BCX71J			250		460	
	BCX71K			380		630	
DC current gain	BCX71H		V_{CE}= -1V, I_C= -50mA (Note.1)	80			
	BCX71J			100			
	BCX71K			110			
Collector capacitance		C_c	V_{CB}=-10V,I_E=Ie=0,f=1MHz		4.5		pF
Emitter capacitance		C_e	V_{EB}=-0.5 V,I_C=Ic=0,f=1MHz		11		
Noise figure		NF	I_C = −200 μA; V_{CE} = −5 V; R_S = 2 kΩ;f = 1 kHz; B = 200 Hz		2	6	dB
Transition frequency		f_T	V_{CE}= -5V, I_C= -10mA,f=100MHz	100			MHz

Note.1: Pulse test: tp ⩽ 300 μs; δ ⩽ 0.02.

■ Classification of $h_{fe(2)}$

Type	BCX71H	BCX71J	BCX71K
Range	180-310	250-460	380-630
Marking	BH*	BJ*	BK*