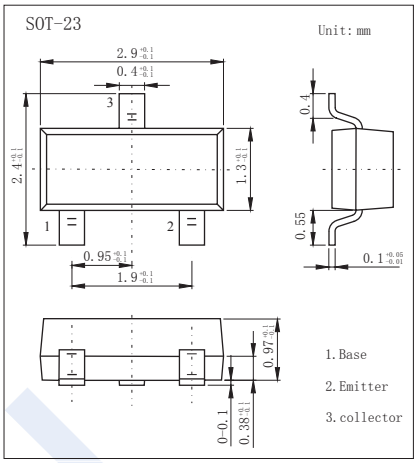
PNP Transistors

BCW69~BCW70 (KCW69~KCW70)



■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V).
- NPN complements: BCW71 and BCW72.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-50	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 From Junction to Ambient (Note.1)	$R_{th(j-a)}$	500	K/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	-50			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}= -20 V , I_E=0			-100	nA
		V_{CB}= -20 V , I_E=0,T_J=100℃			-10	uA
Emitter cut-off current	I_{EBO}	V_{EB}= -5V , I_C=0			-100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-10 mA, I_B=-0.5mA		-80	-300	mV
		I_C=-50 mA, I_B=-2.5mA(Note.1)		-150		
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=-10 mA, I_B=-0.5mA		-720		
		I_C=-50 mA, I_B=-2.5mA(Note.1)		-810		
Base - emitter voltage	V_{BE}	V_{CE}= -5V, I_C= -2mA	-600		-750	
DC current gain BCW69	h_{FE}	V_{CE}= -5V, I_C= -10uA		90		
BCW70				150		
DC current gain BCW69		V_{CE}= -5V, I_C= -2mA	120		260	
BCW70			215		500	
Collector capacitance	C_c	V_{CB}= -10V,I_E=ie=0, f=1MHz		4.5		pF
Noise figure	NF	V_{CE}= -5V,I_C=-200uA,RS=2KΩ f=1MHz,B=200Hz			10	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	BCW69	BCW70
Range	120-260	215-500
Marking	H1*	H2*