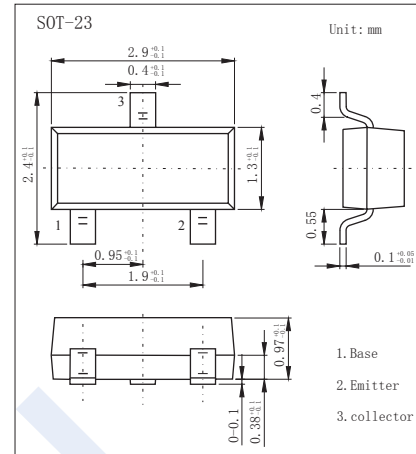


PNP Transistors

BCW69~BCW70 (KCW69~KCW70)

■ Features

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

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	-50	V
Collector - Emitter Voltage	V_{CE0}	-45	
Emitter - Base Voltage	V_{EB0}	-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	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-55 to 150	

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

PNP Transistors

BCW69~BCW70 (KCW69~KCW70)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	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 _{EB0}	I _E = -100 μA, I _C =0	-5			
Collector-base cut-off current	I _{CB0}	V _{CB} = -20 V, I _E =0			-100	nA
		V _{CB} = -20 V, I _E =0, T _J =100°C			-10	μA
Emitter cut-off current	I _{EB0}	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 BCW70	h _{FE}	V _{CE} = -5V, I _C = -10μA		90	
					150	
DC current gain	BCW69 BCW70	h _{FE}	V _{CE} = -5V, I _C = -2mA	120		260
				215		500
Collector capacitance	C _c	V _{CB} = -10V, I _E =I _C =0, f=1MHz		4.5		pF
Noise figure	NF	V _{CE} = -5V, I _C =-200μA, R _S =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: t_p ≤ 300 μs; δ ≤ 0.02.

■ Classification of h_{FE}(2)

Type	BCW69	BCW70
Range	120-260	215-500
Marking	H1*	H2*