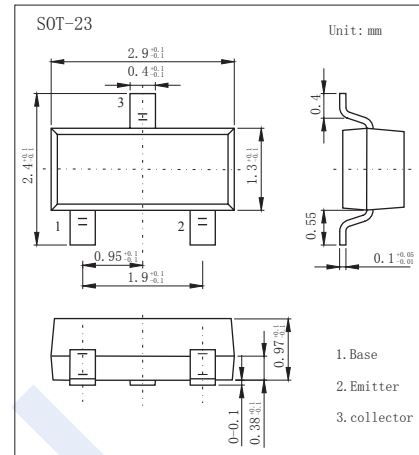


## PNP Transistors

## BCW29~BCW30 (KCW29~KCW30)

## ■ Features

- Low current (max. 100 mA)
- Low voltage (max. 32 V)
- NPN complements: BCW31 and BCW32.

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-32	V
Collector - Emitter Voltage	$V_{CE0}$	-32	
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 Junction to Ambient (Note.1)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
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

## BCW29~BCW30 (KCW29~KCW30)

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CBO</sub>	I <sub>C</sub> = -100 μA, I <sub>E</sub> =0	-32			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = -2 mA, I <sub>B</sub> =0	-32			
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> =0	-5			
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -32 V, I <sub>E</sub> =0			-100	nA
		V <sub>CB</sub> = -32 V, I <sub>E</sub> =0, T <sub>amb</sub> = 100°C			-10	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> =0			-100	nA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-10 mA, I <sub>B</sub> =- 0.5mA		-80	-300	mV
		I <sub>C</sub> =-50 mA, I <sub>B</sub> = -2.5mA		-150		
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-10 mA, I <sub>B</sub> =- 0.5mA		-720		
		I <sub>C</sub> =-50 mA, I <sub>B</sub> = -2.5mA		-810		
Base - emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -2mA	-600		-750	
DC current gain	BCW29 BCW30	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10μA		90	
					150	300
DC current gain	BCW29 BCW30	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -2mA	120		260
				215		500
Collector capacitance	C <sub>c</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =I <sub>C</sub> =0, f=1MHz		4.5		pF
Noise figure	NF	I <sub>C</sub> = -200 μA; V <sub>CE</sub> = -5 V; R <sub>s</sub> = 2 kΩ; f = 1 kHz; B = 200 Hz			10	dB
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA, f=100MHz	100			MHz

■ Classification of h<sub>FE</sub>(2)

Type	BCW29	BCW30
Range	120-260	215-500
Marking	C1*	C2*