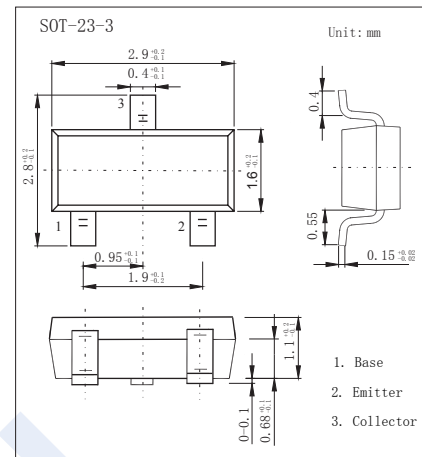


NPN Transistors

BCW71~BCW72 (KCW71~KCW72)

■ Features

- Low current (100 mA)
- Low voltage (45 V)
- Low noise.
- PNP complements: BCW69 and BCW70.

■ 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_{thja}	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.

NPN Transistors

BCW71~BCW72 (KCW71~KCW72)

■ 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 _{CE0}	I _c = 2 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		120	250	mV
		I _c =50 mA, I _B =2.5mA		210		
Base - emitter saturation voltage	V _{BE(sat)}	I _c =10 mA, I _B =0.5mA		750		
		I _c =50 mA, I _B =2.5mA		850		
Base - emitter voltage	V _{BE}	V _{CE} = 5V, I _c = 2mA	550		700	
DC current gain	BCW71 BCW72	h _{FE}	V _{CE} = 5V, I _c = 10μA		90	
					150	
DC current gain	BCW71 BCW72	h _{FE}	V _{CE} = 5V, I _c = 2mA	110		220
				200		450
Collector capacitance	C _c	V _{CB} = 10V, I _E =I _c = 0, f=1MHz		2.5		pF
Noise figure	NF	I _c = 200 μA; V _{CE} = 5 V; R _s = 2 kΩ; f = 1 kHz; B = 200 Hz			10	dB
Transition frequency	f _T	V _{CE} = 5V, I _c = 10mA, f=100MHz	100			MHz

■ Classification of h_{FE}(2)

Type	BCW71	BCW72
Range	110-220	200-450
Marking	K1*	K2*