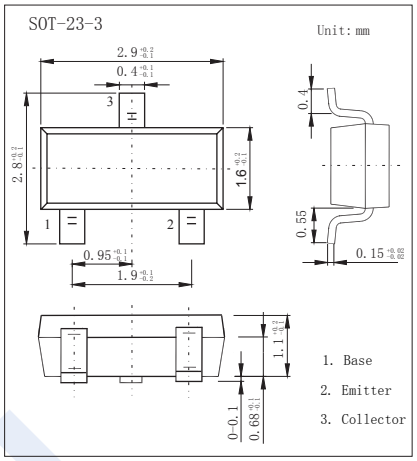
NPN Transistors

BCW71~BCW72 (KCW71~KCW72)



■ Features

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

■ Absolute Maximum Ratings 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_{thja}	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.

NPN Transistors

BCW71~BCW72 (KCW71~KCW72)

■ 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= 2 mA, I_B= 0	45			V
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	5			V
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		120	250	mV
		I_C=50 mA, I_B=2.5mA		210		mV
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=10 mA, I_B=0.5mA		750		mV
		I_C=50 mA, I_B=2.5mA		850		mV
Base - emitter voltage	V_{BE}	V_{CE}= 5V, I_C= 2mA	550		700	mV
DC current gain BCW71	h_{FE}	V_{CE}= 5V, I_C= 10uA		90		
DC current gain BCW72				150		
DC current gain BCW71		V_{CE}= 5V, I_C= 2mA	110		220	
DC current gain BCW72			200		450	
Collector capacitance	C_c	V_{CB}= 10V, I_E=Ie= 0,f=1MHz		2.5		pF
Noise figure	NF	I_C = 200 u A; 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*