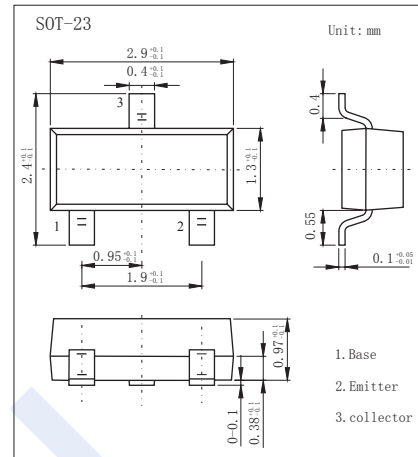


NPN Transistors

BCW65 (KCW65)

■ Features

- Collector Current Capability $I_c=800\text{mA}$
- Collector Emitter Voltage $V_{CE0}=32\text{V}$
- General Purpose Transistor

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	60	V
Collector - Emitter Voltage	V_{CE0}	32	
Emitter - Base Voltage	V_{EB0}	5	
Collector Current - Continuous	I_c	800	mA
Collector Power Dissipation	P_c	225	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

NPN Transistors

BCW65 (KCW65)

■ 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	60			V	
Collector- emitter breakdown voltage	V _{CEO}	I _C = 10 mA, I _B = 0	32				
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _C = 0	5				
Collector-base cut-off current	I _{CBO}	V _{CB} = 32 V, I _E = 0			20	nA	
Emitter cut-off current	I _{EBO}	V _{EB} = 4V, I _C =0			20		
Collector-emitter saturation voltage (Note.1)	V _{CE(sat)}	I _C =100 mA, I _B =10mA			0.3	V	
		I _C = 500 mA, I _B = 50mA			0.7		
Base - emitter saturation voltage (Note.1)	V _{BE(sat)}	I _C = 500 mA, I _B = 50mA			2		
DC current gain	BCW65A BCW65B/BCW65C	h _{FE(1)}	V _{CE} = 10V, I _C = 100μA (Note.1)	35			
				80			
DC current gain	BCW65A BCW65B/BCW65C	h _{FE(2)}	V _{CE} = 1V, I _C = 10mA (Note.1)	75			
				180			
DC current gain	BCW65A BCW65B BCW65C	h _{FE(3)}	V _{CE} = 1V, I _C = 100mA (Note.1)	100		250	
				160		400	
				250		630	
DC current gain	BCW65A BCW65B/BCW65C	h _{FE(4)}	V _{CE} = 2V, I _C = 500mA (Note.1)	35			
				100			
Collector output capacitance	C _{ob}	V _{CB} = 6V, I _E = 0, f=1MHz			12	pF	
Collector input capacitance	C _{ib}	V _{EB} = 0.5V, I _C = 0, f=1MHz			80		
Noise figure	NF	V _{CE} = 5V, I _C = 0.2mA R _S =1KΩ, f=1MHz, BW=200Hz			10	dB	
Transition frequency	f _T	V _{CE} = 10V, I _C = 20mA, f=100MHz	100			MHz	

Note.1: Pulse test: pulse width ≤300μs, duty cycle ≤2.0%.

■ Classification of h_{FE(3)}

Type	BCW65A	BCW65B	BCW65C
Range	100-250	160-400	250-630
Marking	EA	EB	EC