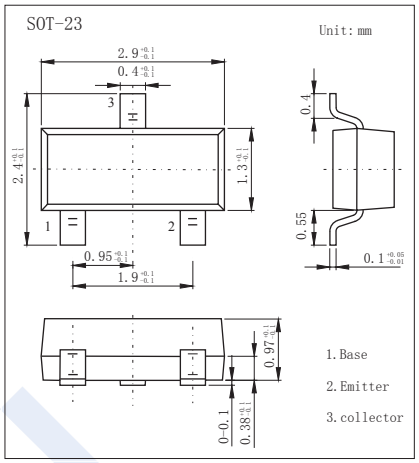
NPN Transistors

BCW65 (KCW65)



■ Features

- Collector Current Capability I_C=800mA
- Collector Emitter Voltage V_{CEO}=32V
- General Purpose Transistor

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	32	
Emitter - Base Voltage	V_{EBO}	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	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

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■ 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	60			V
Collector- emitter breakdown voltage		V_{CEO}	I_C= 10 mA, I_B= 0	32			
Emitter - base breakdown voltage		V_{EBO}	I_E= 100 μ A, 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	$h_{FE(1)}$	V_{CE}= 10V, I_C= 100uA (Note.1)	35			
	BCW65B/BCW65C			80			
DC current gain	BCW65A	$h_{FE(2)}$	V_{CE}= 1V, I_C= 10mA (Note.1)	75			
	BCW65B/BCW65C			180			
DC current gain	BCW65A	$h_{FE(3)}$	V_{CE}= 1V, I_C= 100mA (Note.1)	100		250	
	BCW65B			160		400	
	BCW65C			250		630	
DC current gain	BCW65A	$h_{FE(4)}$	V_{CE}= 2V, I_C= 500mA (Note.1)	35			
	BCW65B/BCW65C			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