

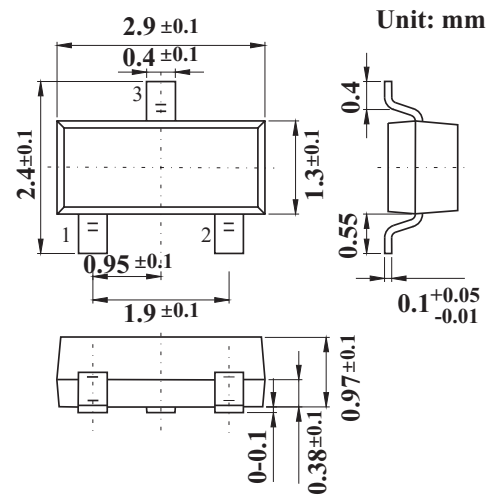
SOT-23 Plastic-Encapsulate Transistors

Features

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

MECHANICAL DATA

- Case style:SOT-23molded plastic
- Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

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	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to 150	

PACKAGE INFORMATION

Device	Package	Shipping
BCW65	SOT-23	3000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C=100\mu A, I_E=0$	60			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C=10\text{mA}, I_B=0$	32			
Emitter - base breakdown voltage	V_{EB0}	$I_E=100\mu A, I_C=0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB}=32\text{V}, I_E=0$			20	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			20	
Collector-emitter saturation voltage (Note.1)	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.3	V
		$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	
Base - emitter saturation voltage (Note.1)	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			2	
DC current gain BCW65A	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=100\mu A$ (Note.1)	35			
			80			
DC current gain BCW65B/BCW65C	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=10\text{mA}$ (Note.1)	75			
			180			
DC current gain BCW65A	$h_{FE(3)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$ (Note.1)	100		250	
			160		400	
			250		630	
DC current gain BCW65B/BCW65C	$h_{FE(4)}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$ (Note.1)	35			
			100			
Collector output capacitance	C_{ob}	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$			12	pF
Collector input capacitance	C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1\text{MHz}$			80	
Noise figure	NF	$V_{CE}=5\text{V}, I_C=0.2\text{mA}$ $R_S=1\text{K}\Omega, f=1\text{MHz}, BW=200\text{Hz}$			10	dB
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	100			MHz

Note.1: Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$.

Classification of $h_{FE(3)}$

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

