

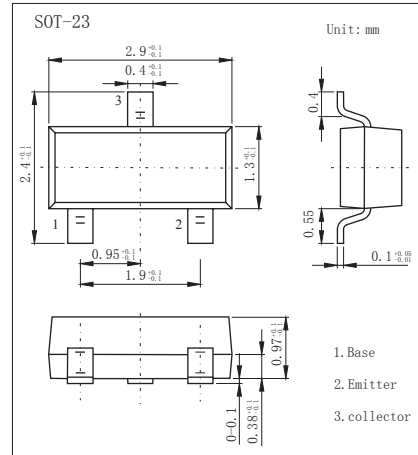


SOT-23 Plastic-Encapsulate Transistors

**BCW66 NPN Transistors**

■ Features

- BCW66 is subdivided into three groups F,G and H according to DC current gain
- Complementary to BCW68



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	75	V
Collector - Emitter Voltage	$V_{CE0}$	45	
Emitter - Base Voltage	$V_{EB0}$	5	
Collector Current - Continuous	$I_C$	800	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

# BCW66 NPN Transistors

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> = 100 μA, I <sub>E</sub> = 0	75			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = 10 mA, I <sub>B</sub> = 0	45			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = 100 μA, I <sub>c</sub> = 0	5			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = 45 V, I <sub>E</sub> = 0			20	nA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> = 4V, I <sub>c</sub> =0			20	
Collector-emitter saturation voltage (Note.1)	V <sub>CE(sat)</sub>	I <sub>c</sub> =100 mA, I <sub>B</sub> =10mA			0.3	V
		I <sub>c</sub> = 500 mA, I <sub>B</sub> = 50mA			0.7	
Base - emitter saturation voltage (Note.1)	V <sub>BE(sat)</sub>	I <sub>c</sub> = 500 mA, I <sub>B</sub> = 50mA			2	
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = 10V, I <sub>c</sub> = 100uA	F	35		
			G	50		
			H	80		
	h <sub>FE(2)</sub>	V <sub>CE</sub> = 1V, I <sub>c</sub> = 10mA	F	75		
			G	110		
			H	180		
	h <sub>FE(3)</sub>	V <sub>CE</sub> = 1V, I <sub>c</sub> = 100mA	F	100		250
			G	160		400
			H	250		630
	h <sub>FE(4)</sub>	V <sub>CE</sub> = 2V, I <sub>c</sub> = 500mA	F	35		
			G	60		
			H	100		
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f=1MHz			12	pF
Collector input capacitance	C <sub>ib</sub>	V <sub>EB</sub> = 0.5V, I <sub>c</sub> = 0, f=1MHz			80	
Noise figure	NF	V <sub>CE</sub> = 5V, I <sub>c</sub> = 0.2mA R <sub>S</sub> =1KΩ, BW=200Hz			10	dB
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>c</sub> = 20mA, f=100MHz	100			MHz

## ■ Classification of h<sub>FE(3)</sub>

Type	BCW66F	BCW66G	BCW66H
Range	100-250	160-400	250-630
Marking	EF	EG	EH

# BCW66 NPN Transistors

## Typical Characteristics

