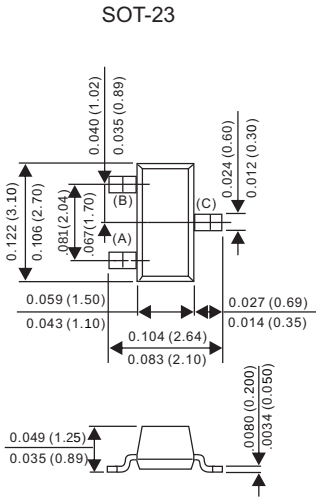
BCW66G

NPN Transistors

Features

- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Compliant to Halogen-free

Package outline



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : SOT-23

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	75	V
Collector-Emitter Breakdown Voltage	V_{CEO}	45	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Collector Current (Continuous)	I_C	0.8	A
Peak Pulse Current	I_{CM}	1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P_D	330	mW
Thermal Resistance Junction to Ambient *1	$R_{\theta JA}$	556	°C/W
Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 25.4mm * 19.05mm * 1.57mm FR4 P.C.B

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	75			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	45			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	7			V
Collector Cut-off Current	I_{CBO}	V_{CB} = 45V, I_E = 0			20	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 4V, I_C = 0			20	nA
DC Current Gain	h_{FE}	V_{CE} = 1V, I_C = 100mA	160		400	
		V_{CE} = 1V, I_C = 10mA	110			
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA			0.7	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA			2.0	V
Transition Frequency	f_T	V_{CE} = 10V, I_C = 20mA f = 100MHz	100			MHz

Ratings and Characteristic Curves (@ T_A = 25°C unless otherwise specified)

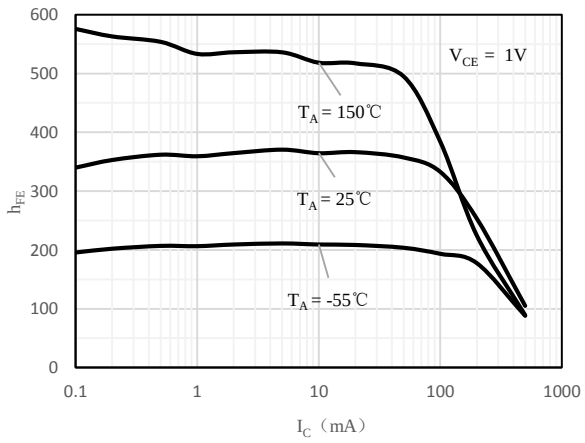


Fig 1 h_{FE} vs. I_C

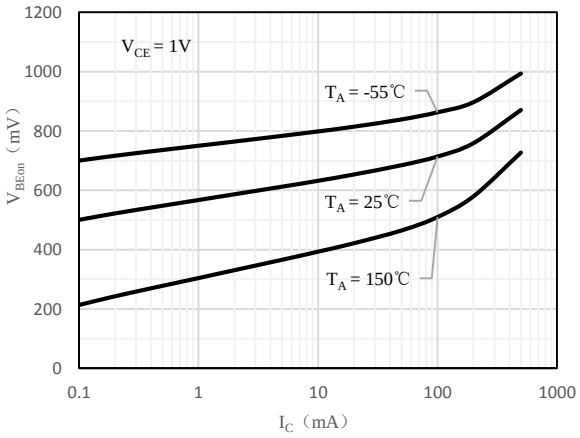


Fig 2 $V_{BE(ON)}$ vs. I_C

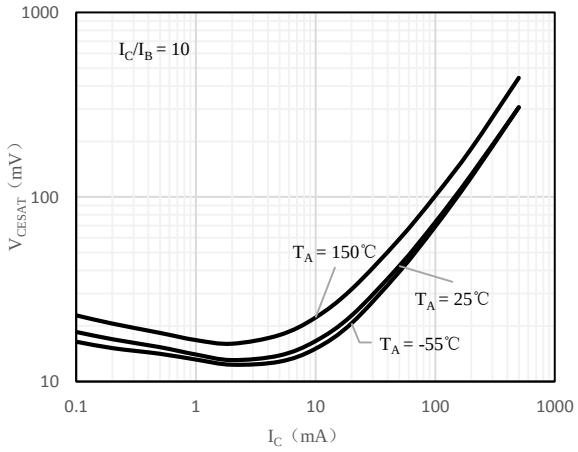


Fig 3 $V_{CE(sat)}$ vs. I_C

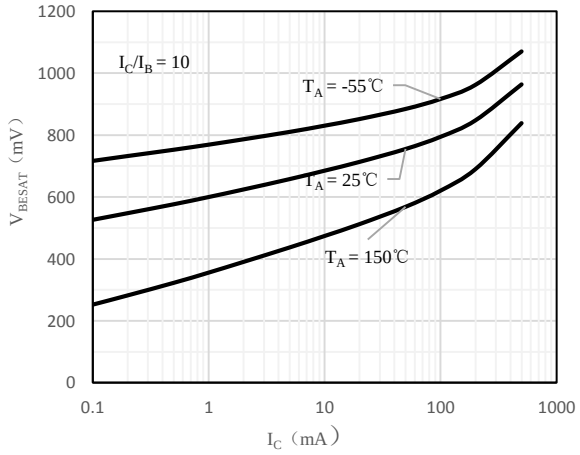
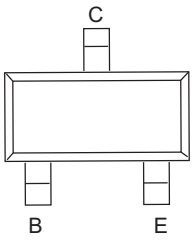
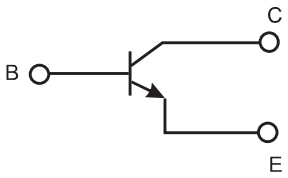


Fig 4 $V_{BE(sat)}$ vs. I_C

Pinning information

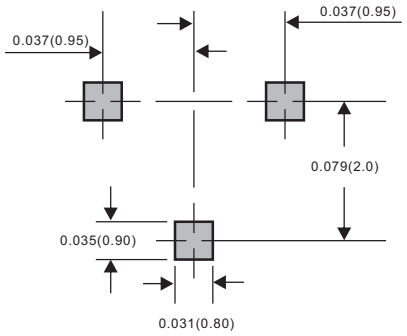
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
BCW66G	EG

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)