

SOT-23 Plastic-Encapsulate Transistor (PNP)

Feature

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

Mechanical Data

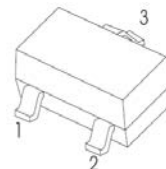
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-800	mA
P_C	Collector Power Dissipation	330	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	379	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

SOT-23

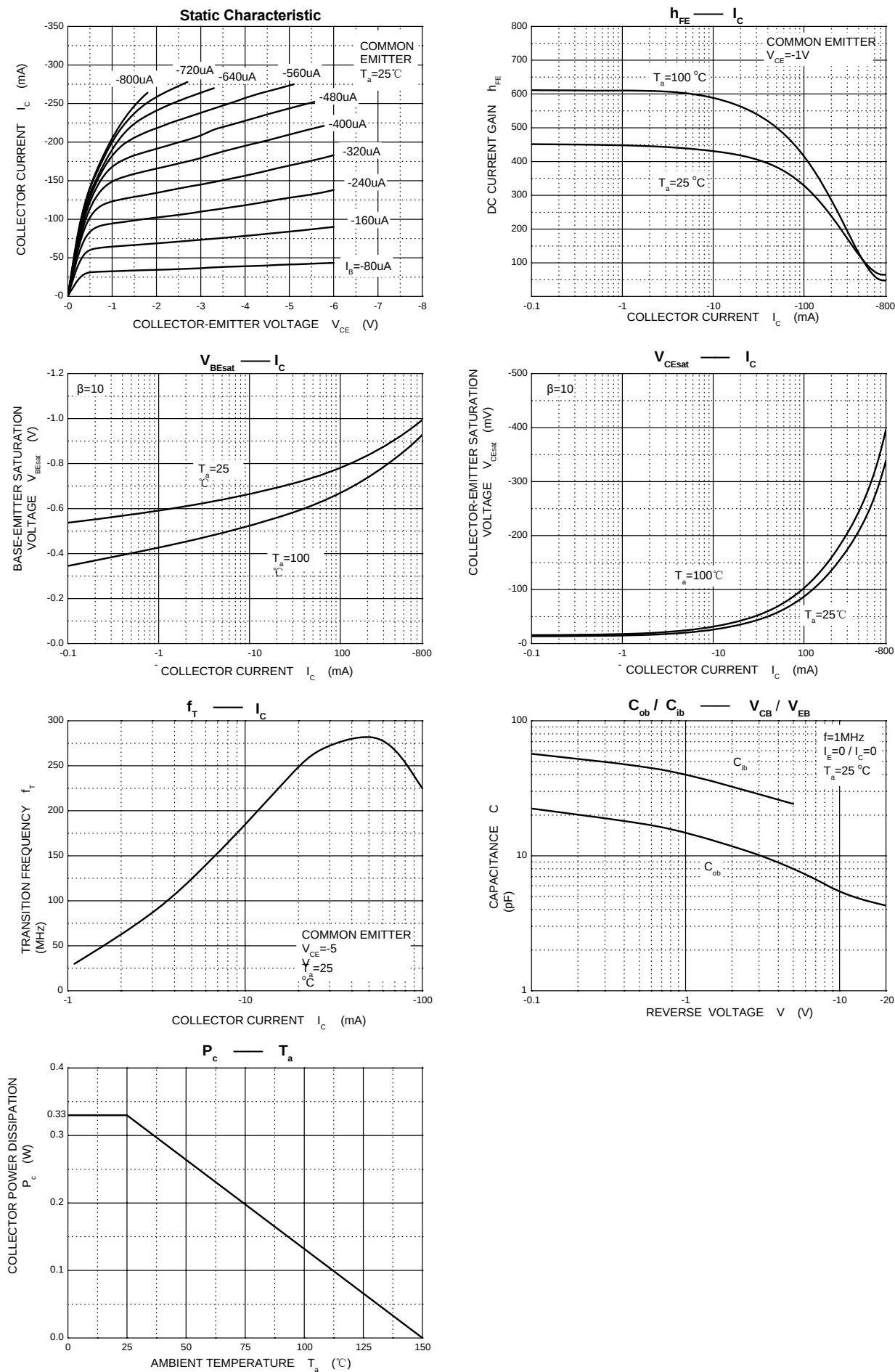
1. BASE
2. EMITTER
3. COLLECTOR



Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

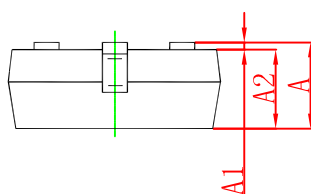
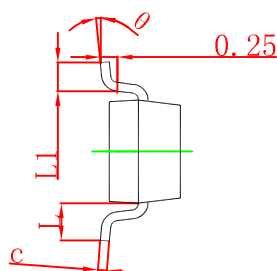
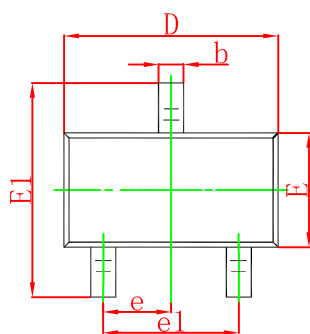
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\text{ }\mu\text{A}, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\text{ }\mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -45\text{V}, I_E = 0$			-0.02	μA
Collector cut-off current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-0.02	μA
DC current gain	h_{FE1}	$V_{CE} = -10\text{V}, I_C = -0.1\text{mA}$ BCW68-F BCW68-G BCW68-H	35 50 80			
	h_{FE2}	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$ BCW68-F BCW68-G BCW68-H	75 120 180			
	h_{FE3}	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$ BCW68-F BCW68-G BCW68-H	100 160 250		250 400 630	
	h_{FE4}	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$ BCW68-F BCW68-G BCW68-H	35 60 100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$			-0.	
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$			-1.2	
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-2	V
Transition frequency	f_T	$V_{CE} = -5\text{V}, I_C = -50\text{mA}, f = 20\text{MHz}$		200		MHz
Output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		6		pF
Input capacitance	C_{ib}	$V_{EB} = -0.5\text{V}, I_E = 0, f = 1\text{MHz}$		60		pF

Typical Characteristics



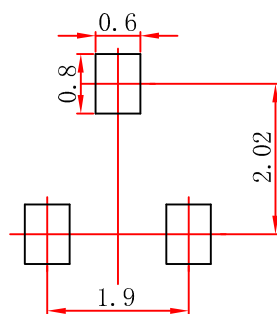


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Notes:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Classification of h_{FE}

Rank	BCW68-F	BCW68-G	BCW68-H
Range	100~250	160~400	250~630
Marking	DF	DG	DH