



Micro Commercial Components
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BCW68G

PNP Small Signal Transistor 330mW

Features

- Ideally Suited for Automatic Insertion
- 150°C Junction Temperature
- Low Current, Low Frequency
- Epitaxial Planar Die Construction

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Marking: DG
- Weight: 0.008 grams (approx.)

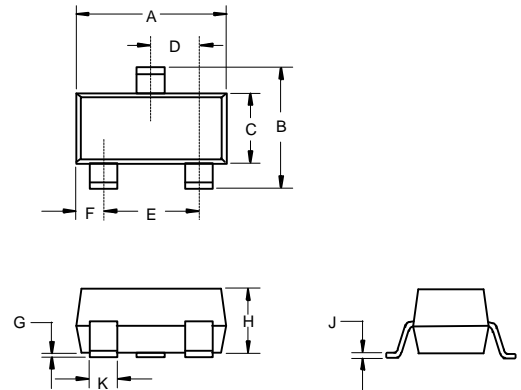
Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	-45	V
Collector-Base Voltage	V_{CBO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current(DC)	I_C	-800	mA
Peak Collector Current	I_{CM}	-1000	mA
Base Current(DC)	I_B	-100	mA
Peak Base Current	I_{BM}	-200	mA
Power Dissipation@ $T_s=79^\circ\text{C}$	P_d	330	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	285 ⁽¹⁾	°C/W
Thermal Resistance, Junction to Soldering Point	$R_{\theta JS}$	215	°C/W
Operating & Storage Temperature	T_j, T_{STG}	-55~150	°C

Notes:

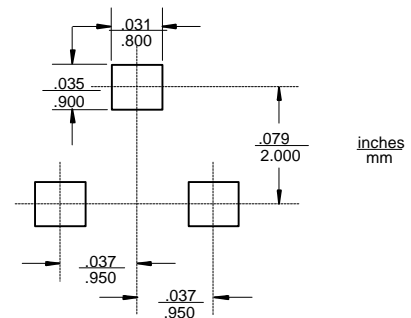
- (1) Valid provided that leads are kept at ambient temperature.

SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



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

	Symbol	Min.	TYP.	Max.	Unit
DC Current Gain ⁽¹⁾					
at $V_{CE} = 10\text{V}$, $I_C = 100\mu\text{A}$	h_{FE}	50	–	–	–
at $V_{CE} = 1\text{V}$, $I_C = 10\text{mA}$	h_{FE}	120	–	–	–
at $V_{CE} = 1\text{V}$, $I_C = 100\text{mA}$	h_{FE}	160	250	400	–
at $V_{CE} = 2\text{V}$, $I_C = 500\text{mA}$	h_{FE}	60	–	–	–
Collector-Emitter Saturation Voltage ⁽¹⁾					
at $I_C = 100\text{mA}$, $I_B = 10\text{mA}$	V_{CEsat}	–	–	0.3	V
at $I_C = 500\text{mA}$, $I_B = 50\text{mA}$	V_{CEsat}	–	–	0.7	V
Base-Emitter Saturation Voltage ⁽¹⁾					
at $I_C = 100\text{mA}$, $I_B = 10\text{mA}$	V_{BEsat}	–	–	1.25	V
at $I_C = 500\text{mA}$, $I_B = 50\text{mA}$	V_{BEsat}	–	–	2	V
Collector-Emitter Breakdown Voltage					
at $I_C = 10\text{mA}$, $I_B = 0$	$V_{(BR)CEO}$	45	–	–	V
Collector-Base Breakdown Voltage					
at $I_C = 10\mu\text{A}$, $I_B = 0$	$V_{(BR)CBO}$	60	–	–	V
Emitter-Base Breakdown Voltage					
at $I_E = 10\mu\text{A}$, at $I_C = 0$	$V_{(BR)EBO}$	5	–	–	V
Collector-Base Cut-off Current					
at $V_{CB} = 45\text{V}$, $I_E = 0$	I_{CBO}	–	–	20	nA
at $V_{CB} = 45\text{V}$, $I_E = 0$, $T_A = 150^\circ\text{C}$	I_{CBO}	–	–	20	μA
Emitter-Base Cut-off Current					
at $V_{EB} = 4\text{V}$, $I_C = 0$	I_{EBO}	–	–	20	nA
Gain-Bandwidth Product					
at $V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$, $f = 20\text{MHz}$	f_T	–	200	–	MHz
Collector-Base Capacitance					
at $V_{CB} = 10\text{V}$, $f = 1\text{MHz}$	C_{CB}	–	6	–	pF
Emitter-Base Capacitance					
at $V_{EB} = 0.5\text{V}$, $f = 1\text{MHz}$	C_{EB}	–	60	–	pF

Note: (1) Pulse test: $t \leq 300\mu\text{s}$, $D = 2\%$