

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Ideally Suited for Automatic Insertion
- 150°C Junction Temperature
- Low Current, Low Frequency
- Epitaxial Planar Die Construction
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

## 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 <sup>(1)</sup>	$^\circ\text{C/W}$
Thermal Resistance, Junction to Soldering Point	$R_{\theta JS}$	215	$^\circ\text{C/W}$
Operating & Storage Temperature	$T_j, T_{STG}$	-55~150	$^\circ\text{C}$

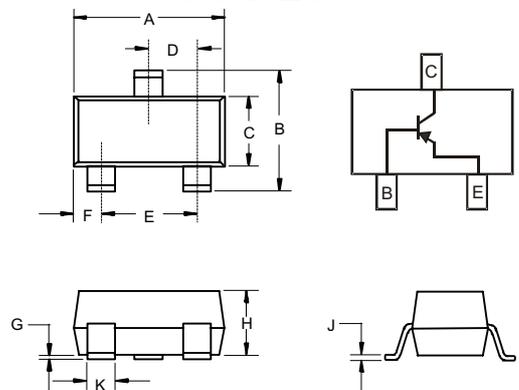
## Notes:

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

# BCW68G

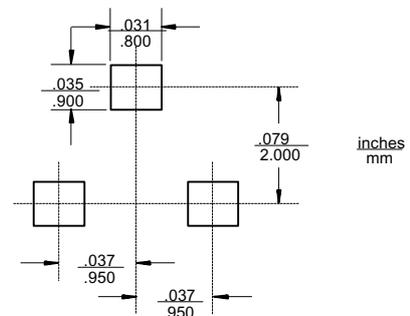
## PNP Small Signal Transistor 330mW

### SOT-23



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	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 <sup>(1)</sup> 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 <sup>(1)</sup> 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 <sup>(1)</sup> 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	$\mu\text{A}$
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:  $t \leq 300\mu\text{s}$ ,  $D = 2\%$



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### Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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