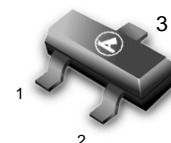
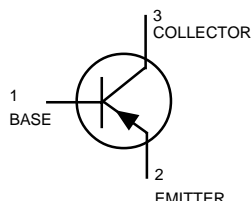


# General Purpose Transistors

## PNP Silicon

### BCW68GLT1



CASE 318-08, STYLE 6  
SOT-23 (TO-236AB)

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	$V_{CEO}$	– 45	Vdc
Collector–Base Voltage	$V_{CBO}$	– 60	Vdc
Emitter–Base Voltage	$V_{EBO}$	– 5.0	Vdc
Collector Current — Continuous	$I_C$	– 800	mAdc

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1) $T_A = 25^\circ\text{C}$	$P_D$	225	mW
Derate above $25^\circ\text{C}$		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$	$P_D$	300	mW
Derate above $25^\circ\text{C}$		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	$T_J, T_{stg}$	–55 to +150	$^\circ\text{C}$

### DEVICE MARKING

BCW68GLT1 = DH

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage ( $I_C = -10 \text{ mAdc}, I_B = 0$ )	$V_{(BR)CEO}$	– 45	—	—	Vdc
Collector–Emitter Breakdown Voltage ( $I_C = -10 \mu\text{Adc}, V_{EB} = 0$ )	$V_{(BR)CES}$	– 60	—	—	Vdc
Emitter–Base Breakdown Voltage ( $I_E = -10 \mu\text{Adc}, I_C = 0$ )	$V_{(BR)EBO}$	– 5.0	—	—	Vdc
Collector Cutoff Current ( $V_{CE} = -45 \text{ Vdc}, I_E = 0$ )	$I_{CES}$	—	—	– 20	nAdc
( $V_{CE} = -45 \text{ Vdc}, I_B = 0, T_A = 150^\circ\text{C}$ )		—	—	– 10	$\mu\text{Adc}$
Emitter Cutoff Current ( $V_{EB} = -4.0 \text{ Vdc}, I_C = 0$ )	$I_{EBO}$	—	—	– 20	nAdc

1. FR– 5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

**BCW68GLT1**
**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted) (Continued)

Characteristic	Symbol	Min	Typ	Max	Unit
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**DC CHARACTERISTICS**

DC Current Gain ( $I_C = -10 \text{ mAdc}$ , $V_{CE} = -1.0 \text{ Vdc}$ ) ( $I_C = -100 \text{ mAdc}$ , $V_{CE} = -1.0 \text{ Vdc}$ ) ( $I_C = -300 \text{ mAdc}$ , $V_{CE} = -1.0 \text{ Vdc}$ )	$h_{FE}$	120 160 60	— — —	400 — —	—
Collector–Emitter Saturation Voltage ( $I_C = -300 \text{ mAdc}$ , $I_B = -30 \text{ mAdc}$ )	$V_{CE(sat)}$	—	—	-1.5	Vdc
Base–Emitter Saturation Voltage ( $I_C = -500 \text{ mAdc}$ , $I_B = -50 \text{ mAdc}$ )	$V_{BE(sat)}$	—	—	-2.0	Vdc

**SMALL-SIGNAL CHARACTERISTICS**

Current–Gain — Bandwidth Product ( $I_C = -20 \text{ mAdc}$ , $V_{CE} = -10 \text{ Vdc}$ , $f = 100 \text{ MHz}$ )	$f_T$	100	—	—	MHz
Output Capacitance ( $V_{CB} = -10 \text{ Vdc}$ , $I_E = 0$ , $f = 1.0 \text{ MHz}$ )	$C_{obo}$	—	—	18	pF
Input Capacitance ( $V_{EB} = -0.5 \text{ Vdc}$ , $I_C = 0$ , $f = 1.0 \text{ MHz}$ )	$C_{ibo}$	—	—	105	pF
Noise Figure ( $V_{CE} = -5.0 \text{ Vdc}$ , $I_C = -0.2 \text{ mAdc}$ , $R_s = 1.0 \text{ k}\Omega$ , $f = 1.0 \text{ kHz}$ , $BW = 200 \text{ Hz}$ )	NF	—	—	10	dB