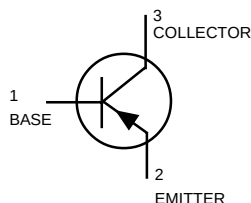


General Purpose Transistors

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°C		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$	P_D	300	mW
Derate above 25°C		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
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	μAdc
Emitter Cutoff Current ($V_{EB} = -4.0 \text{ Vdc}$, $I_C = 0$)	I_{EBO}	—	—	– 20	nAdc

1. FR– 5 = $1.0 \times 0.75 \times 0.062 \text{ in.}$

2. Alumina = $0.4 \times 0.3 \times 0.024 \text{ in.}$ 99.5% alumina.

BCW68GLT1

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

Characteristic	Symbol	Min	Typ	Max	Unit
ON 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