

NPN Silicon

- We declare that the material of product compliance with RoHS requirements.
Pb-Free package is available
 RoHS product for packing code suffix "G"
 Halogen free product for packing code suffix "H"
 Moisture Sensitivity Level 1

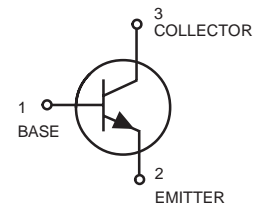


DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
BCW66GLT1	EG	3000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CE0}	45	Vdc
Collector-Base Voltage	V_{CBO}	75	Vdc
Emitter-Base Voltage	V_{EBO}	7.0	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	$^\circ\text{C}/\text{W}$
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	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

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 ($I_C = 10\ \mu\text{Adc}, V_{EB} = 0$)	$V_{(BR)CES}$	75	—	—	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
($V_{CE} = 45\text{ Vdc}, I_E = 0$) ($T_A = 150^\circ\text{C}$)		—	—	20	μAdc
Emitter Cutoff Current ($V_{EB} = 4.0\text{ Vdc}, I_C = 0$)	I_{EBO}	—	—	20	nAdc
($V_{EB} = 7.0\text{ Vdc}, I_C = 0$) (3)		—	—	100	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.
3. Added I_{EBO} test to guarantee quality for oxide defects



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

Characteristic	Symbol	Min	Typ	Max	Unit
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ON CHARACTERISTICS

DC Current Gain	h_{FE}				—
($I_C = 100 \mu\text{Adc}$, $V_{CE} = 10 \text{Vdc}$)		50	—	—	
($I_C = 10 \text{mAdc}$, $V_{CE} = 1.0 \text{Vdc}$)		110	—	—	
($I_C = 100 \text{mAdc}$, $V_{CE} = 1.0 \text{Vdc}$)		160	—	400	
($I_C = 300 \text{mAdc}$, $V_{CE} = 2.0 \text{Vdc}$)		60	—	—	

SMSMALL-SIGNAL CHARACTERISTICS

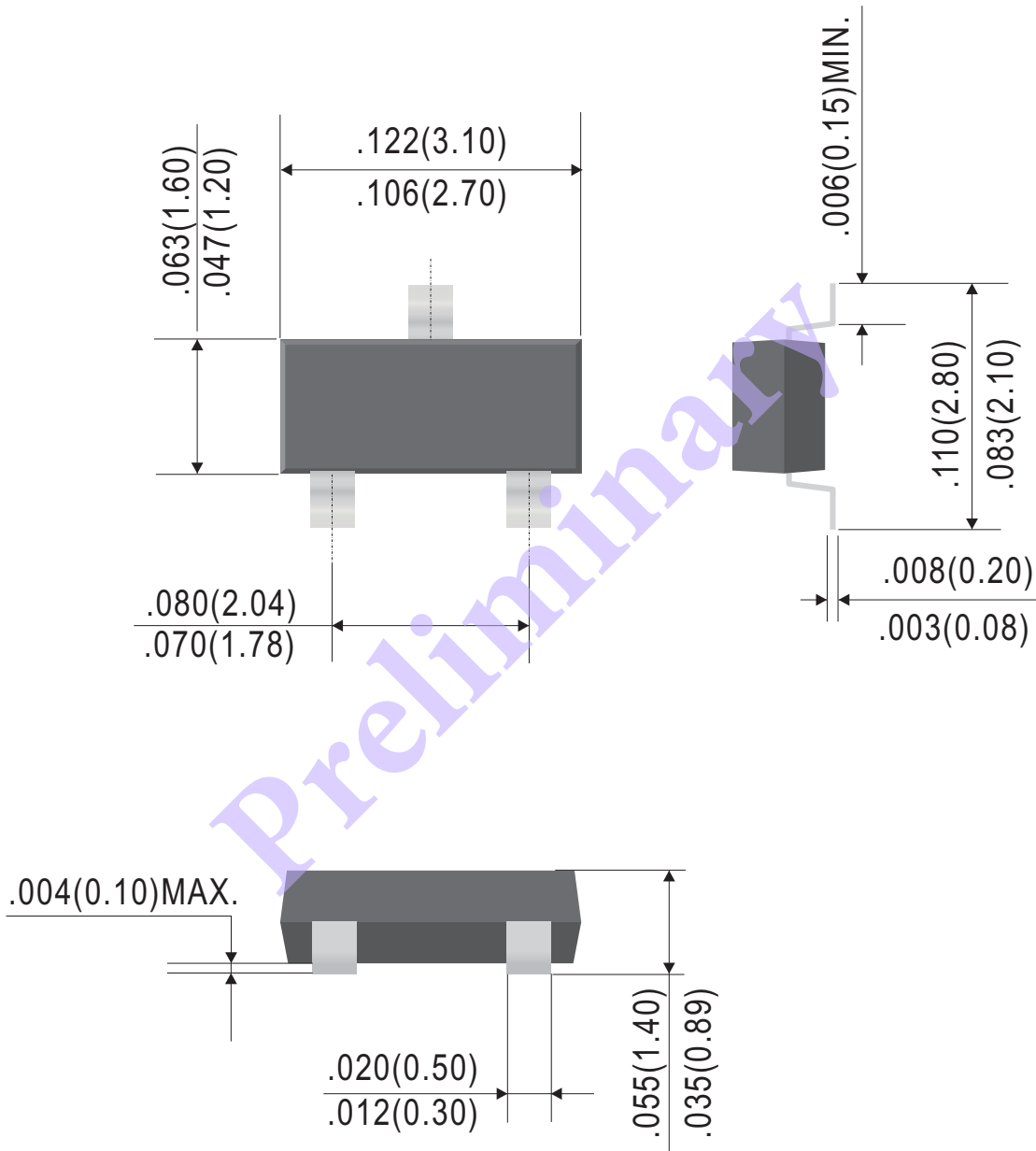
Current-Gain — Bandwidth Product ($I_C = 20\text{mAdc}$, $V_{CE} = 10 \text{Vdc}$, $f = 100 \text{MHz}$)	f_T	100	—	—	MHz
Output Capacitance ($V_{CB} = 10 \text{Vdc}$, $I_E = 0$, $f = 1.0 \text{MHz}$)	C_{obo}	—	—	12	pF
Input Capacitance ($V_{EB} = 0.5 \text{Vdc}$, $I_C = 0$, $f = 1.0 \text{MHz}$)	C_{ibo}	—	—	80	pF
Noise Figure ($V_{CE} = 5.0 \text{Vdc}$, $I_C = 0.2 \text{mAdc}$, $R_S = 1.0 \text{k}\Omega$, $f = 1.0 \text{kHz}$)	NF	—	—	10	dB

SWITCHING CHARACTERISTICS

Turn-On Time ($I_{B1} = I_{B2} = 15 \text{mAdc}$, $I_C = 150\text{mAdc}$, $R_L = 150\Omega$)	t_{on}	—	—	100	ns
Turn-Off Time ($I_{B1} = I_{B2} = 15 \text{mAdc}$, $I_C = 150\text{mAdc}$, $R_L = 150\Omega$)	t_{off}	—	—	400	ns

Preliminary

SOT-23



Dimensions in inches and (millimeters)

Ordering Information:

Device PN	Packing
BCW66GLT1 G ⁽¹⁾ -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

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