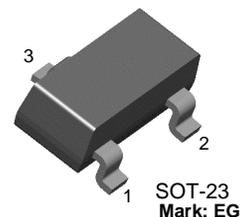


BCW66G

NPN General Purpose Amplifier

- This device is designed for general purpose amplifier applications at collector currents to 500mA.
- Sourced from process 13.



1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings * $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	45	V
V_{CBO}	Collector-Base Voltage	75	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous	1	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ +150	$^\circ\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

1. These ratings are based on a maximum junction temperature of 150degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

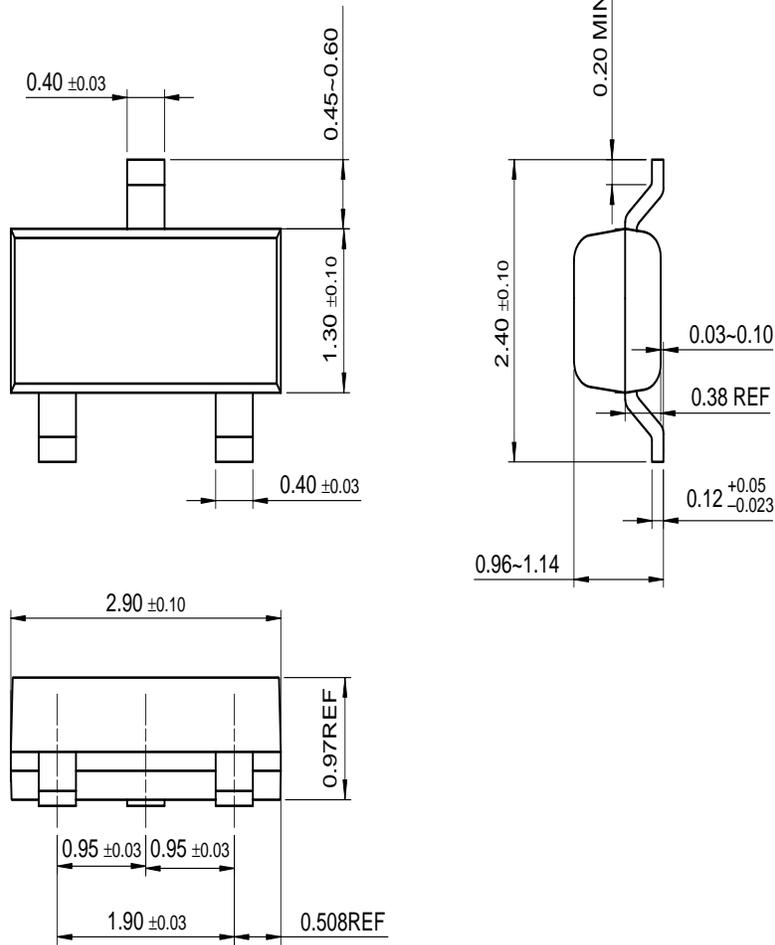
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}$	75			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}$	5			V
I_{CES}	Collector Cut-off Current	$V_{CB} = 45\text{V}, I_E = 0$			20	nA
		$V_{CB} = 45\text{V}, I_E = 0$ $T_A = 150^\circ\text{C}$			20	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 4\text{V}$			20	nA
h_{FE}	DC Current Gain	$V_{CE} = 10\text{V}, I_C = 100\mu\text{A}$	50			
		$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	110			
		$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	160		400	
		$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	60			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
		$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.7	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 500\text{mA}, I_B = 50\text{mA}$			2	V
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{MHz}$			12	pF
C_{ibo}	Input Capacitance	$V_{EB} = 0.5\text{V}, f = 1\text{MHz}$			80	pF
f_T	Current gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 20\text{mA}, f = 100\text{MHz}$	100			MHz
NF	Noise Figure	$V_{CE} = 5\text{V}, I_C = 0.2\text{mA}, R_S = 1\text{k}\Omega, f = 1\text{KHz}, BW = 200\text{Hz}$			10	dB
t_{on}	Turn-On Time	$I_{B1} = I_{B2} = 15\text{mA}$ $I_C = 150\text{mA}, R_L = 150\Omega$			100	ns
t_{off}	Turn-Off Time				400	

Thermal Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Units
P_D	Total Device Dissipation Derate above 25°C			350 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient			357	°C/W

Package Dimensions

SOT-23



Dimensions in Millimeters

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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BCW66G

NPN General Purpose Amplifier

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Features

- This device is designed for general purpose amplifier applications at collector currents to 500mA.
- Sourced from process 13.

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Product status/pricing/packageing

BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
BCW66G	Full Production	 Full Production	\$0.0355	SOT-23	3	TAPE REEL	Line 1: &Y (Binary Calendar Year Coding) Line 2: EG
BCW66G_D87Z	Full Production	 Full Production	N/A	SOT-23	3	TAPE REEL	Line 1: &Y (Binary Calendar Year Coding) Line 2: EG

* Fairchild 1,000 piece Budgetary Pricing

** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples



Indicates product with Pb-free second-level interconnect. For more information [click here](#).

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