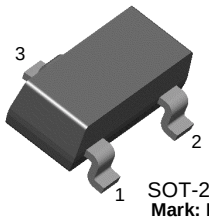
FAIRCHILD
SEMICONDUCTOR®

BCW66G

NPN General Purpose Amplifier

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



SOT-23
Mark: EG

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings * T_C=25°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	°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°C unless otherwise noted

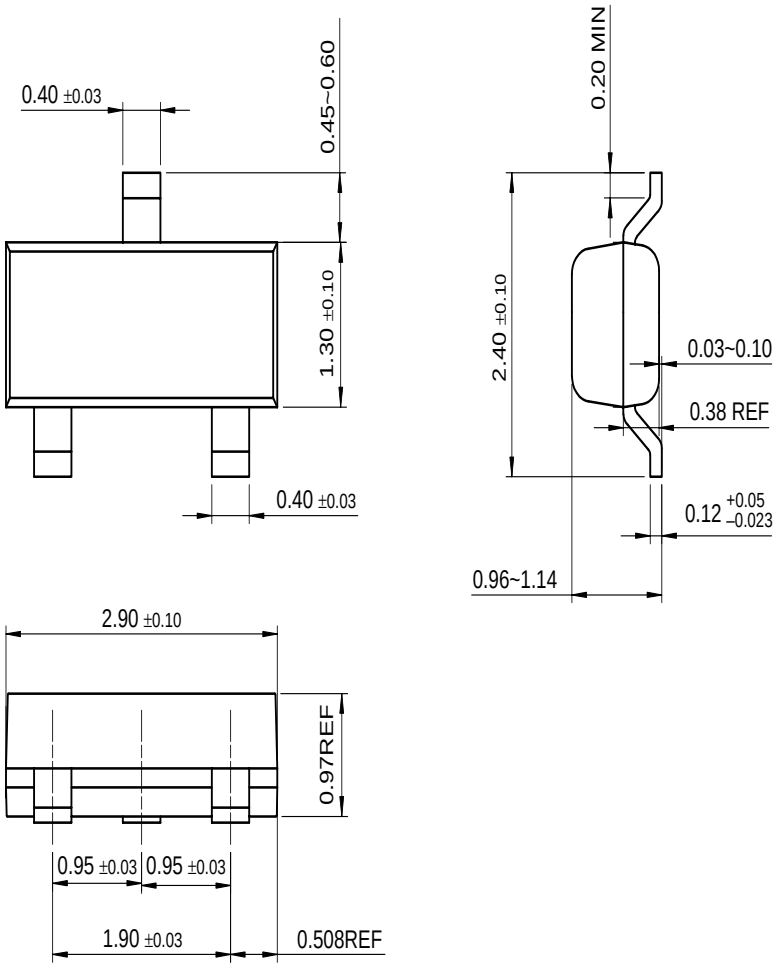
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 10μA	75			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10mA	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 10μA	5			V
I_{CES}	Collector Cut-off Current	V_{CB} = 45V, I_E = 0			20	nA
		V_{CB} = 45V, I_E = 0 T_A = 150°C			20	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V			20	nA
h_{FE}	DC Current Gain	V_{CE} = 10V, I_C = 100μA V_{CE} = 1V, I_C = 10mA V_{CE} = 1V, I_C = 100mA V_{CE} = 2V, I_C = 500mA	50 110 160 60		 400 	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 100mA, I_B = 10mA I_C = 500mA, I_B = 50mA			0.3 0.7	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 500mA, I_B = 50mA			2	V
C_{obo}	Output Capacitance	V_{CB} = 10V, f = 1MHz			12	pF
C_{ibo}	Input Capacitance	V_{EB} = 0.5V, f = 1MHz			80	pF
f_T	Current gain Bandwidth Product	V_{CE} = 10V, I_C = 20mA, f = 100MHz	100			MHz
NF	Noise Figure	V_{CE} = 5V, I_C = 0.2mA, R_S = 1kΩ, f = 1KHz, BW = 200Hz			10	dB
t_{on}	Turn-On Time	I_{B1} = I_{B2} = 15mA I_C = 150mA, R_L = 150Ω			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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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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