



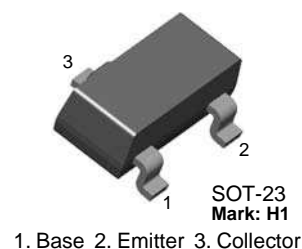
February 2010

# BCW69

## PNP General Purpose Amplifier

### Features

- This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 100mA.
- Sourced from process 68.



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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-45	V
$V_{EBO}$	Emitter-Base Voltage	-5.0	V
$I_C$	Collector Current - Continuous	-100	mA
$T_J, T_{STG}$	Junction and Storage Temperature	-55 to +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 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

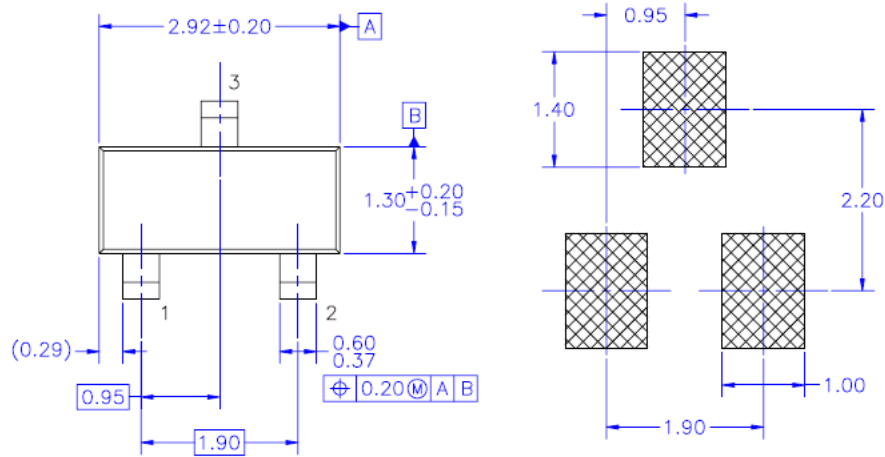
Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	350 2.8	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

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

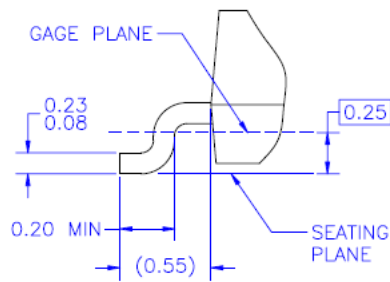
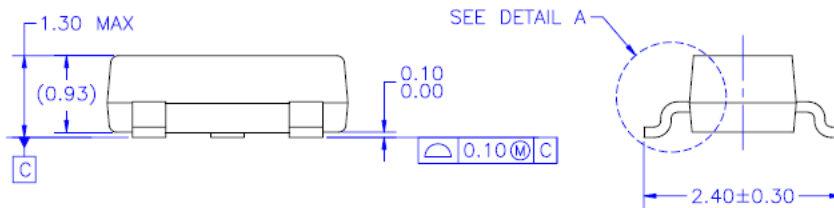
Symbol	Parameter	Test Conditions	Min.	Max.	Units
<b>Off Characteristics</b>					
$BV_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=-10\mu\text{A}$ , $I_E=0$	-50		V
$BV_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=-2.0\text{mA}$ , $I_B=0$	-45		V
$BV_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C=-10\mu\text{A}$ , $I_E=0$	-50		V
$BV_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=-10\mu\text{A}$ , $I_C=0$	-5.0		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=-20\text{V}$ , $I_E=0$ $V_{CB}=-20\text{V}$ , $I_E=0$ , $T_A=100^\circ\text{C}$		-100 -10	nA $\mu\text{A}$
<b>On Characteristics</b>					
$h_{FE}$	DC Current Gain	$V_{CE}=-5.0\text{V}$ , $I_C=-2.0\text{mA}$	120	260	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=-10\text{mA}$ , $I_B=-0.5\text{mA}$		-0.3	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=-5.0\text{V}$ , $I_C=-2.0\text{mA}$	-0.6	-0.75	V
<b>Small Signal Characteristics</b>					
NF	Noise Figure	$V_{CE}=-5.0\text{V}$ , $I_C=-200\mu\text{A}$ , $R_S=2.0\text{k}\Omega$ , $f=1.0\text{kHz}$ , $B_W=200\text{Hz}$		10	dB

# Physical Dimension

## SOT-23



LAND PATTERN RECOMMENDATION



DETAIL A  
SCALE: 2X

NOTES: UNLESS OTHERWISE SPECIFIED





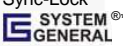
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- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS ARE INCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.
- D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M - 1994.
- E) DRAWING FILE NAME: MA03DREV9

Dimensions in Millimeters



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