



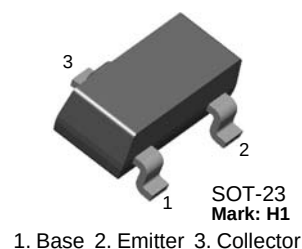
February 2010

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°C	350 2.8	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

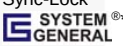
Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
Off Characteristics					
$BV_{(BR)CBO}$	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 μA
On Characteristics					
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
Small Signal Characteristics					
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



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