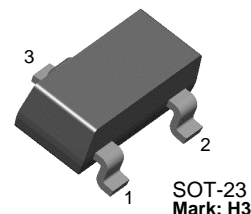


BCW89

PNP General Purpose Amplifier

- This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 300mA.
- Sourced from process 68.



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	-60	V
V_{CES}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector current - Continuous	-500	mA
T_J, T_{stg}	Junction and Storage Temperature	-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 150 degrees C.
- 2) These are 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

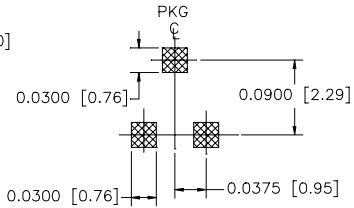
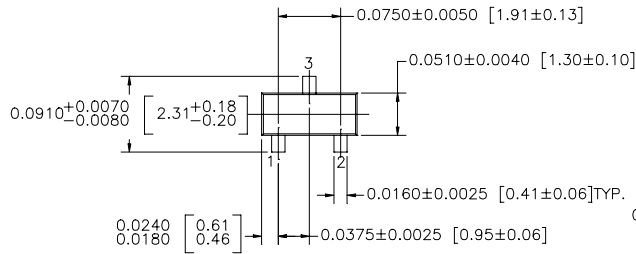
Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}, I_E = 0$	-80		V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -2.0\text{mA}, I_B = 0$	-60		V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C = -10\mu\text{A}, I_E = 0$	-60		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_C = -10\mu\text{A}, I_C = 0$	-5.0		V
I_{CBO}	Collector Cutoff 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

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

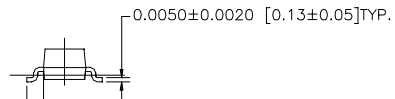
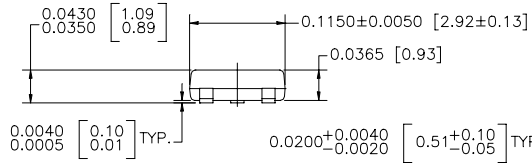
Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

Package Dimensions

SOT-23



LAND PATTERN RECOMMENDATION



SOT 23, 3 LEADS LOW PROFILE

CONTROLLING DIMENSION IS INCH
VALUES IN [] ARE MILLIMETERS

NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS
MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE G, DATED JUL 1993

Dimensions in Millimeters

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
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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.
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