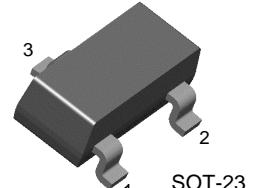


## BCW89

### 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	°C

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

#### NOTES:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- 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

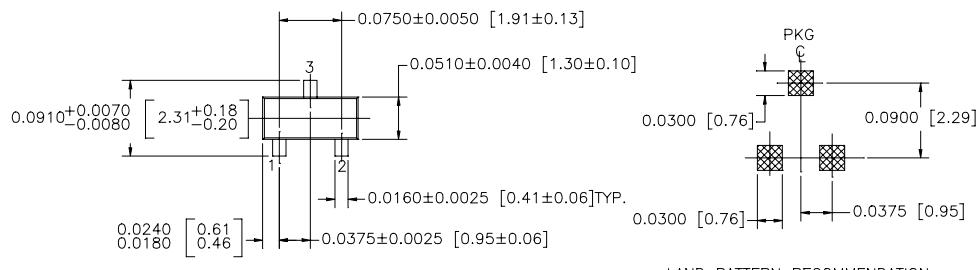
Symbol	Parameter	Test Condition	Min.	Max.	Units
<b>Off Characteristics</b>					
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}, I_E = 0$	-80		V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -2.0\text{mA}, I_B = 0$	-60		V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C = -10\mu\text{A}, I_E = 0$	-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
<b>On Characteristics</b>					
$h_{FE}$	DC Current Gain	$V_{CE} = -5.0\text{V}, I_C = -2.0\text{mA}$	120	260	
$V_{CE(\text{sat})}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$		-0.3	V
$V_{BE(\text{on})}$	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

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

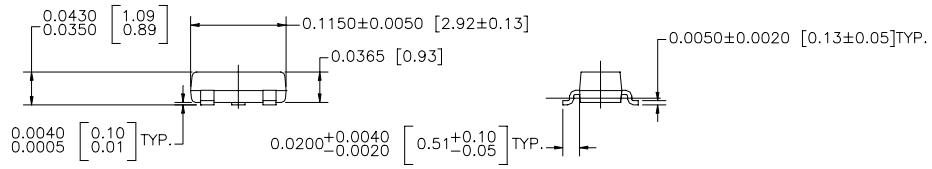
Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

## Package Dimensions

### SOT-23



LAND PATTERN RECOMMENDATION



CONTROLLING DIMENSION IS INCH  
VALUES IN [ ] ARE MILLIMETERS

SOT 23, 3 LEADS LOW PROFILE

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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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic®
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EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
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Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd  
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com