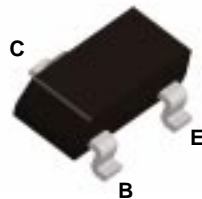


BCW30



SOT-23
Mark: C2

PNP General Purpose Amplifier

This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 300 mA. Sourced from Process 68. See BC857A for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CEO}	Collector-Emitter Voltage	32	V
V _{CES}	Collector-Emitter Voltage	32	V
V _{EBO}	Emitter-Base Voltage	5.0	V
I _C	Collector Current - Continuous	500	mA
T _J , T _{stg}	Operating and Storage Junction Temperature Range	-55 to +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 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

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		*BCW30	
P _D	Total Device Dissipation Derate above 25°C	350	mW
		2.8	mW/°C
R _{θJA}	Thermal Resistance, Junction to Ambient	357	°C/W

*Device mounted on FR-4 PCB 40 mm X 40 mm X 1.5 mm.

PNP General Purpose Amplifier

(continued)

BCW30

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10 \mu A, I_E = 0$	32		V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 2.0 \text{ mA}, I_B = 0$	32		V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C = 10 \mu A, I_E = 0$	32		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10 \mu A, I_C = 0$	5.0		V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = 32 \text{ V}, I_E = 0$ $V_{CB} = 32 \text{ V}, I_E = 0, T_A = +100 \text{ }^\circ\text{C}$		100 10	nA μA

ON CHARACTERISTICS

h_{FE}	DC Current Gain	$V_{CE} = 5.0 \text{ V}, I_C = 2.0 \text{ mA}$	215	500	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10 \text{ mA}, I_B = 0.5 \text{ mA}$		0.30	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 5.0 \text{ V}, I_C = 2.0 \text{ mA}$	0.60	0.75	V

SMALL SIGNAL CHARACTERISTICS

NF	Noise Figure	$V_{CE} = 5.0 \text{ V}, I_C = 200 \mu A,$ $R_S = 2.0 \text{ k}\Omega, f = 1.0 \text{ kHz},$ $B_W = 200 \text{ Hz}$		10	dB
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