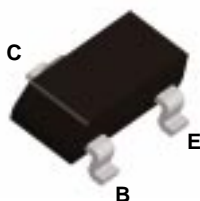


FSBCW30



SuperSOT™-3

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 _{CBO}	Collector-Base 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
		FSBCW30	
P _D	Total Device Dissipation Derate above 25°C	500	mW
		4	mW/°C
R _{θJA}	Thermal Resistance, Junction to Ambient	250	°C/W

*Device mounted on FR-4 PCB 4.5" x 5"; mounting pad 0.02 in² of 2oz copper.

PNP General Purpose Amplifier

(continued)

FSBCW30

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
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OFF CHARACTERISTICS

BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 2.0 mA, I _B = 0	32		V
BV _{CBO}	Collector-Base Breakdown Voltage	I _C = 10 μA, I _E = 0	32		V
BV _{CES}	Collector-Emitter Breakdown Voltage	I _C = 10 μA, I _E = 0	32		V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = 10 μA, I _C = 0	5.0		V
I _{CBO}	Collector-Cutoff Current	V _{CB} = 32 V, I _E = 0 V _{CB} = 32 V, I _E = 0, T _A = +100 °C		100 10	nA μA

ON CHARACTERISTICS

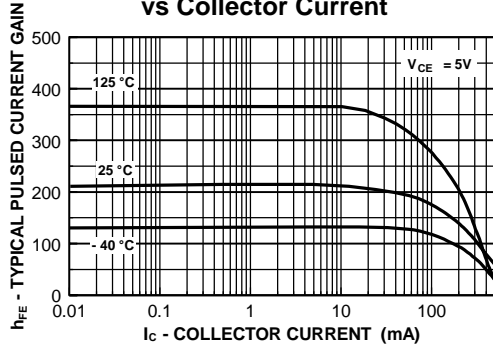
h _{FE}	DC Current Gain	V _{CE} = 5.0 V, I _C = 2.0 mA	215	500	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 10 mA, I _B = 0.5 mA		0.30	V
V _{BE(on)}	Base-Emitter On Voltage	V _{CE} = 5.0 V, I _C = 2.0 mA	0.60	0.75	V

SMALL SIGNAL CHARACTERISTICS

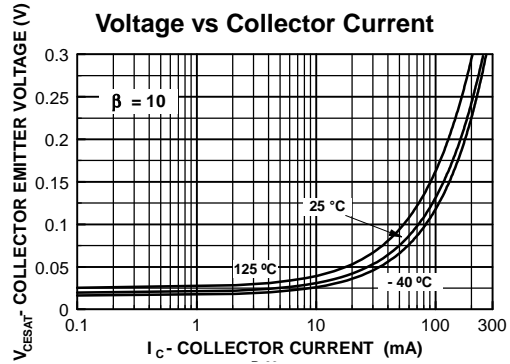
NF	Noise Figure	V _{CE} = 5.0 V, I _C = 200 μA, R _S = 2.0 kΩ, f = 1.0 kHz, B _w = 200 Hz		10	dB
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Typical Characteristics

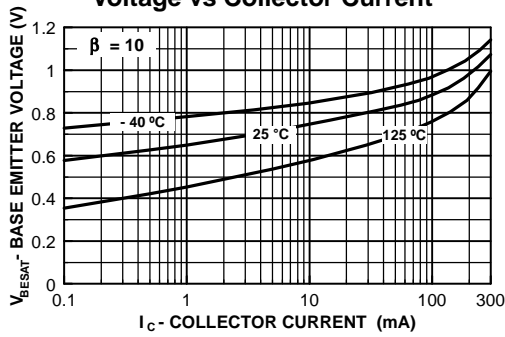
Typical Pulsed Current Gain vs Collector Current



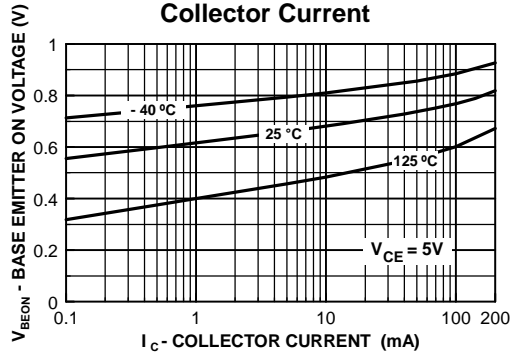
Collector-Emitter Saturation Voltage vs Collector Current



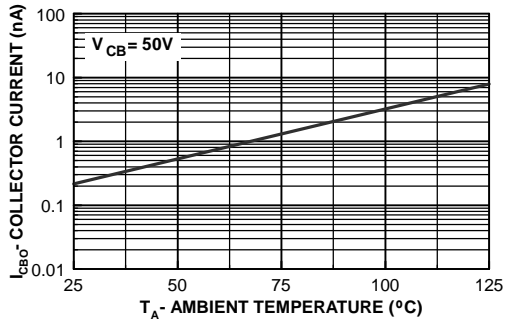
Base-Emitter Saturation Voltage vs Collector Current



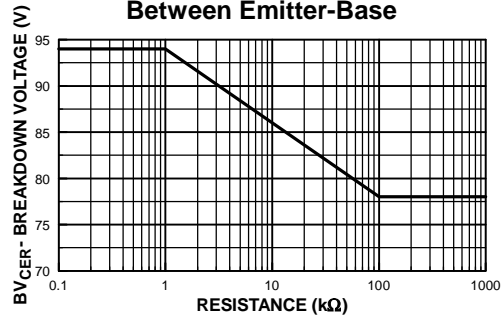
Base Emitter ON Voltage vs Collector Current



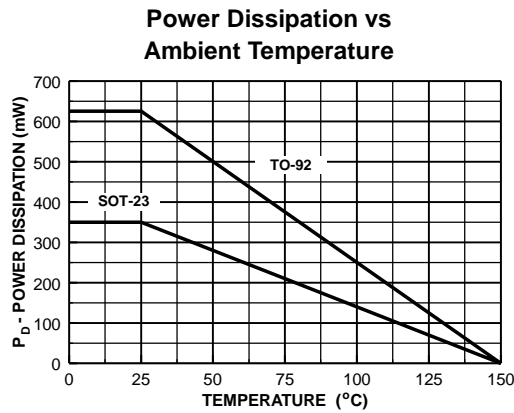
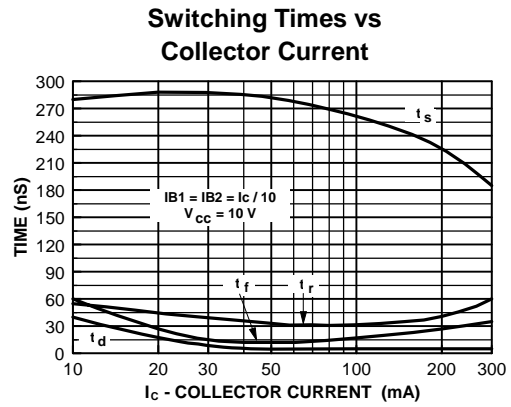
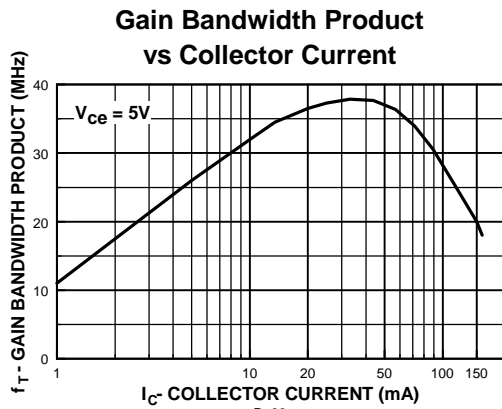
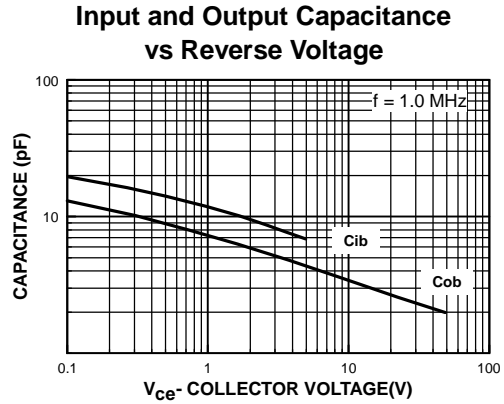
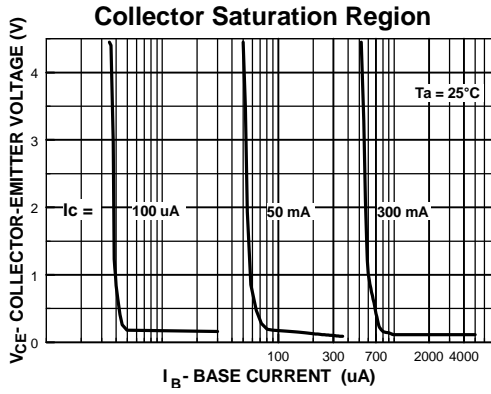
Collector-Cutoff Current vs. Ambient Temperature



Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base



Typical Characteristics (continued)



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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.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.