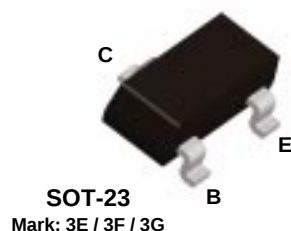


BC857A BC857B BC857C



PNP General Purpose Amplifier

This device is designed for general purpose amplifier applications at collector currents to 300 mA. Sourced from Process 68.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CEO}	Collector-Emitter Voltage	45	V
V _{CBO}	Collector-Base Voltage	50	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
		*BC857A / B / C	
P _D	Total Device Dissipation Derate above 25°C	350 2.8	mW 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)

Electrical Characteristics TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{ mA}, I_B = 0$	45		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\text{ }\mu\text{A}, I_E = 0$	50		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1.0\text{ }\mu\text{A}, I_C = 0$	5.0		V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = 30\text{ V}$ $V_{CB} = 30\text{ V}, T_A = 150^\circ\text{C}$		15 4.0	nA μA

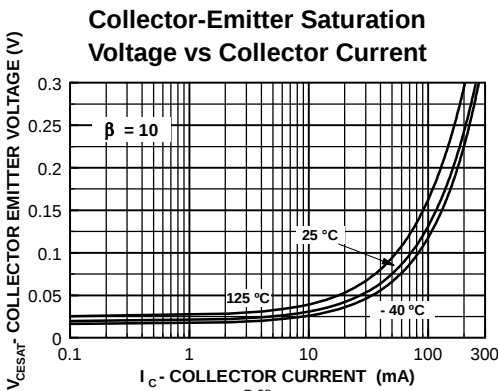
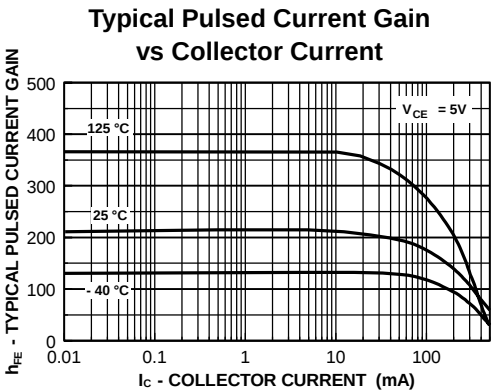
ON CHARACTERISTICS

h_{FE}	DC Current Gain	$I_C = 2.0\text{ mA}, V_{CE} = 5.0\text{ V}$ BC857A BC857B BC857C	125 220 420	250 475 800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{ mA}, I_B = 0.5\text{ mA}$ $I_C = 100\text{ mA}, I_B = 5.0\text{ mA}$		0.3 0.65	V V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 2.0\text{ mA}, V_{CE} = 5.0\text{ V}$ $I_C = 10\text{ mA}, V_{CE} = 5.0\text{ V}$	0.6	0.75 0.82	V V

SMALL SIGNAL CHARACTERISTICS

f_T	Current Gain - Bandwidth Product	$I_C = 10\text{ mA}, V_{CE} = 5.0,$ $f = 100\text{ MHz}$	100		MHz
C_{obo}	Output Capacitance	$V_{CB} = 10\text{ V}, f = 1.0\text{ MHz}$		4.5	pF
NF	Noise Figure	$I_C = 0.2\text{ mA}, V_{CE} = 5.0,$ $R_S = 2.0\text{ k}\Omega, f = 1.0\text{ kHz},$ $BW = 200\text{ Hz}$		10	dB

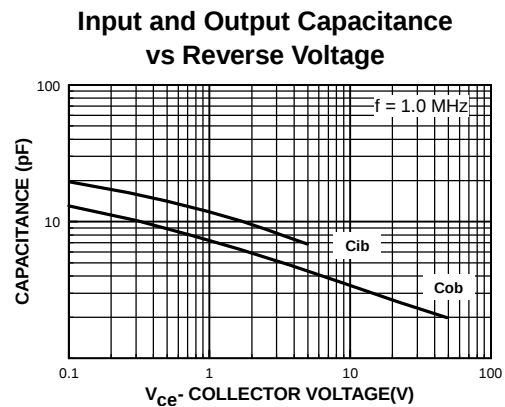
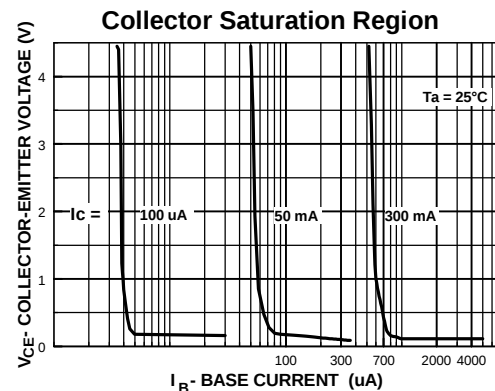
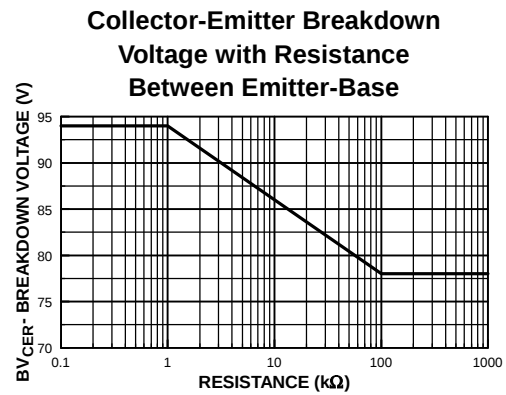
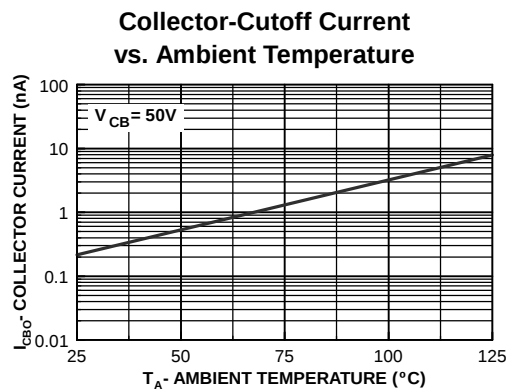
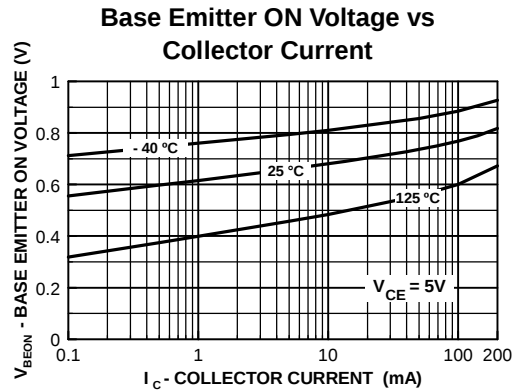
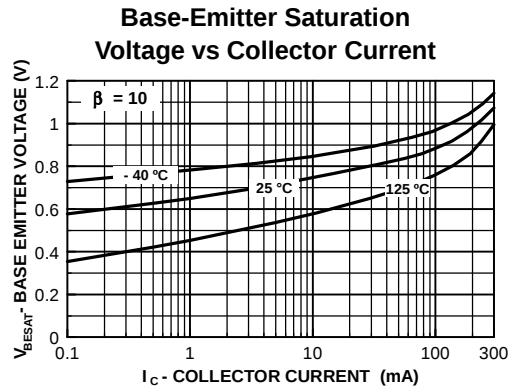
Typical Characteristics



PNP General Purpose Amplifier (continued)

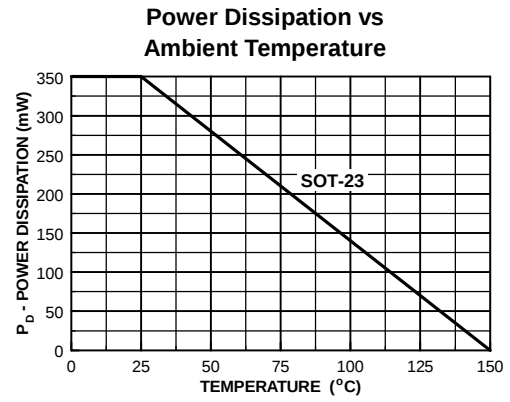
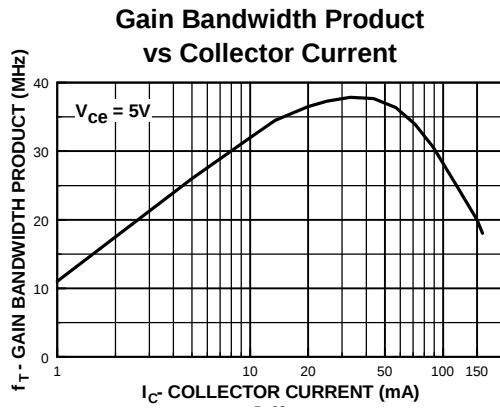
BC857A / BC857B / BC857C

Typical Characteristics (continued)



PNP General Purpose Amplifier (continued)

Typical Characteristics (continued)



BC857A / BC857B / BC857C

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