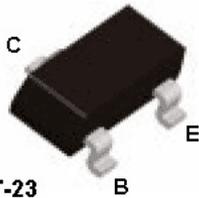


PNP General Purpose Amplifier

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



SOT-23
Mark: 3E / 3F / 3G

Absolute Maximum Ratings* $T_A=25$ 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	

*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 $T_A=25$ unless otherwise noted

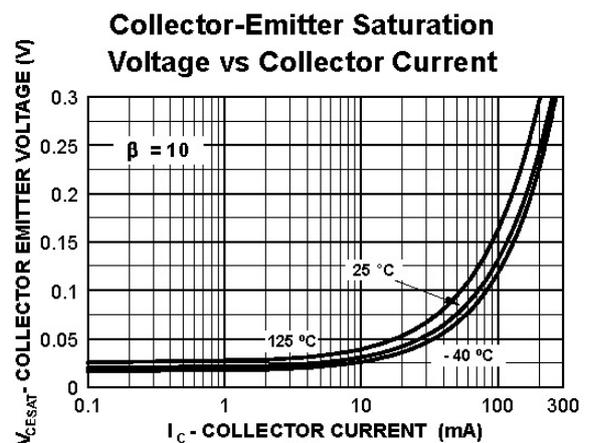
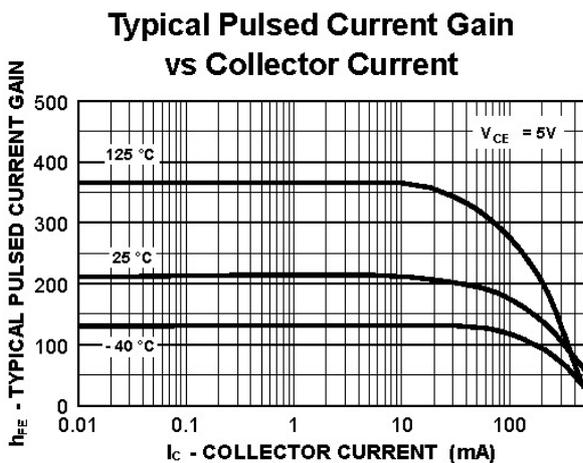
Symbol	Characteristic	Max	Units
		*BC857A/B/C	
P_D	Total Device Dissipation Derate above 25	350	mW
		2.8	mW/
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	357	/W

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

Electrical Characteristics $T_A=25$ unless otherwise noted

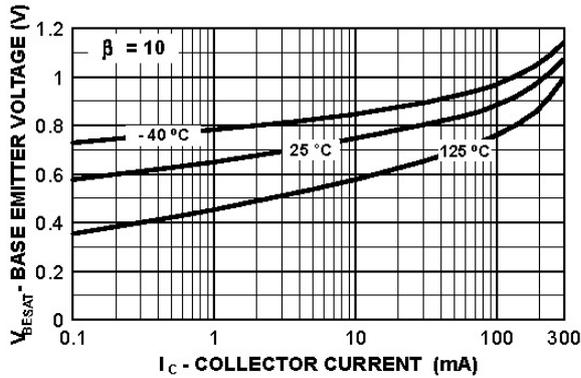
Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	45		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\mu A, I_E=0$	50		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1.0\mu A, I_C=0$	5.0		V
I_{CBO}	Collector-Cutoff Current	$V_{CB}=30V$ $V_{CB}=30V, T_A=150$		15 4.0	nA μA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	$I_C=2.0mA, V_{CE}=5.0V$ BC857A BC857B BC857C	125 220 420	250 475 800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5.0mA$		0.3 0.65	V V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=2.0mA, V_{CE}=5.0V$ $I_C=10mA, V_{CE}=5.0V$	0.6	0.75 0.82	V V
SMALL SIGNAL CHARACTERISTICS					
f_T	Current Gain –Bandwidth Product	$I_C=10mA, V_{CE}=5.0,$ $f=100MHz$	100		MHz
Cobo	Output Capacitance	$V_{CB}=10V, f=1.0MHz$		4.5	pF
NF	Noise Figure	$I_C=0.2mA, V_{CE}=5.0,$ $R_s=2.0k\Omega, f=1.0kHz,$ $BW=200Hz$		10	dB

Typical Characteristics

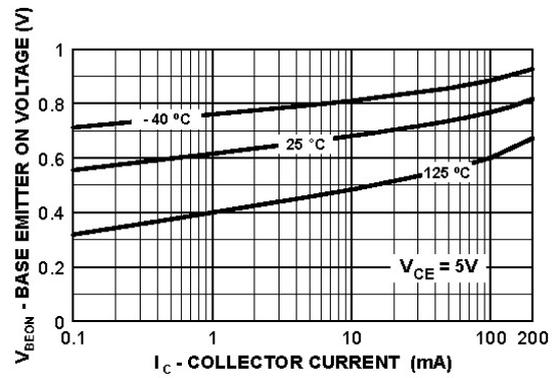


Typical Characteristics (continued)

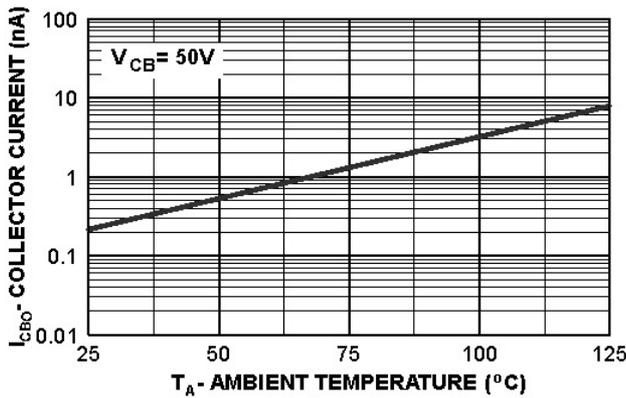
Base-Emitter Saturation Voltage vs Collector Current



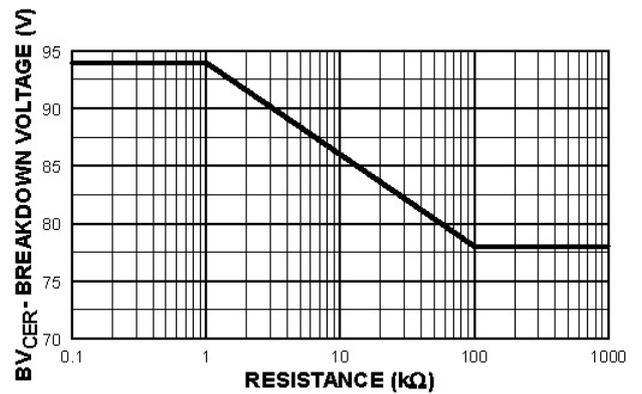
Base Emitter ON Voltage vs Collector Current



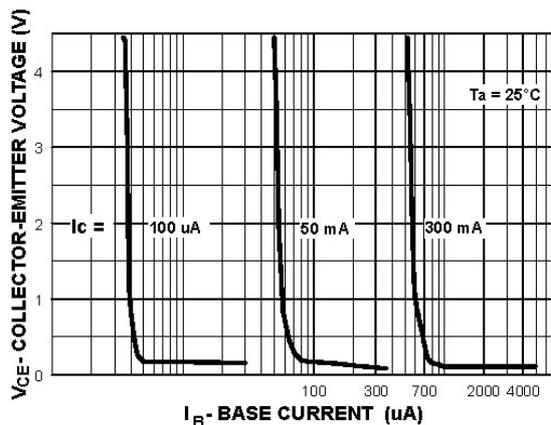
Collector-Cutoff Current Vs. Ambient Temperature



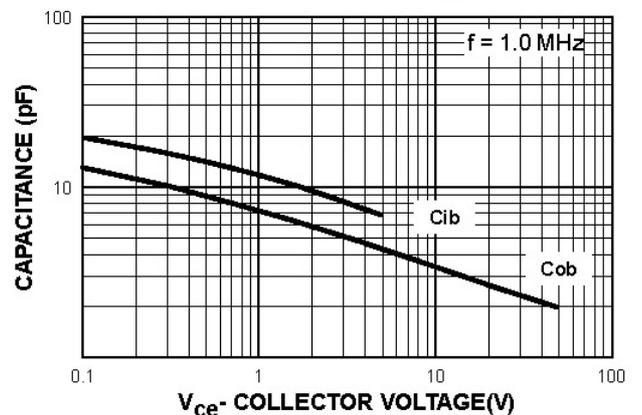
Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base



Collector Saturation Region

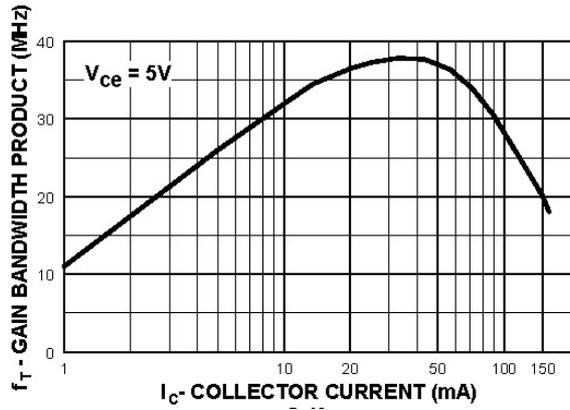


Input and Output Capacitance Vs Reverse Voltage



Typical Characteristics (continued)

Gain Bandwidth Product
Vs Collector Current



Power Dissipation vs
Ambient Temperature

