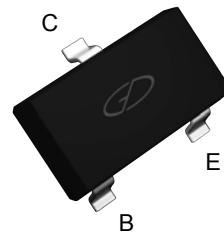


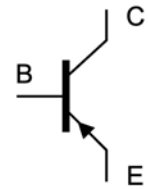
# BC856 PNP Small Signal Transistor

## Features

- Low current
- Low voltage
- RoHS compliant



SOT-23



Schematic Diagram

## Applications

- For general purpose amplifier applications



## Absolute Maximum Ratings

(T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V <sub>CBO</sub>	-80	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-65	V
Emitter to Base Voltage	V <sub>EBO</sub>	-5.0	V
Collector Current-Continuous	I <sub>C</sub>	-100	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-65 to +150	°C

## h<sub>FE</sub> Classifications

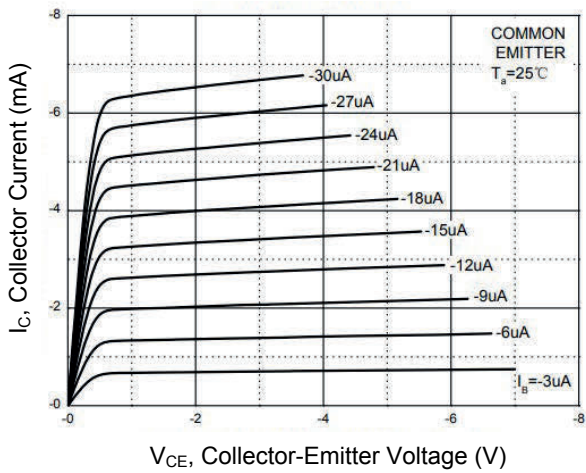
h <sub>FE</sub> Classifications Symbol	A	B
h <sub>FE</sub> Range	125 - 250	220 - 475

## Electrical Characteristics

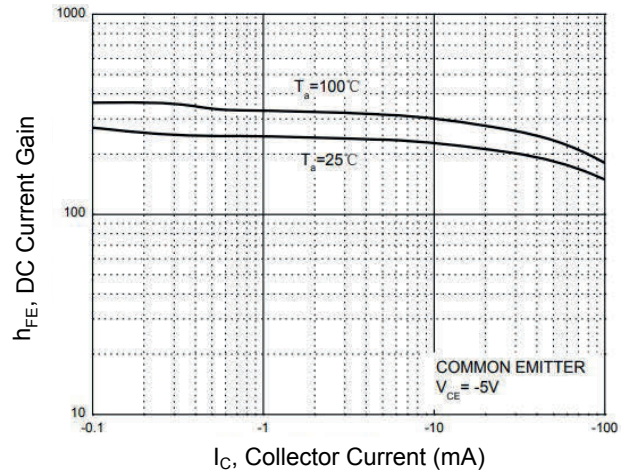
( $T_A=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-30\text{V}, I_E=0$	-	-	-15	nA
DC Current Gain	$h_{FE}$	$V_{CE}=-5.0\text{V}, I_C=-2.0\text{mA}$	125	-	475	-
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$	-	-0.09	-0.3	V
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-100\text{mA}, I_B=-5.0\text{mA}$	-	-0.25	-0.65	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$	-	-0.7	-	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-100\text{mA}, I_B=-5.0\text{mA}$	-	-0.9	-	V
Base to Emitter Voltage <sub>(ON)</sub>	$V_{BE(ON)}$	$V_{CE}=-5.0\text{V}, I_C=-2.0\text{mA}$	-0.6	-0.65	-0.75	V
Base to Emitter Voltage <sub>(ON)</sub>	$V_{BE(ON)}$	$V_{CE}=-5.0\text{V}, I_C=-10\text{mA}$	-	-	-0.82	V
Transition Frequency	$f_T$	$V_{CE}=-5.0\text{V}, I_C=-10\text{mA}, F=100\text{MHz}$	-	150	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, F=1.0\text{MHz}$	-	4.5	-	pF
Noise Figure	$N_F$	$V_{CE}=-6.0\text{V}, I_C=-0.1\text{mA}, R_g=2\text{K}\Omega, F=1.0\text{KHz}$	-	2.0	10	dB

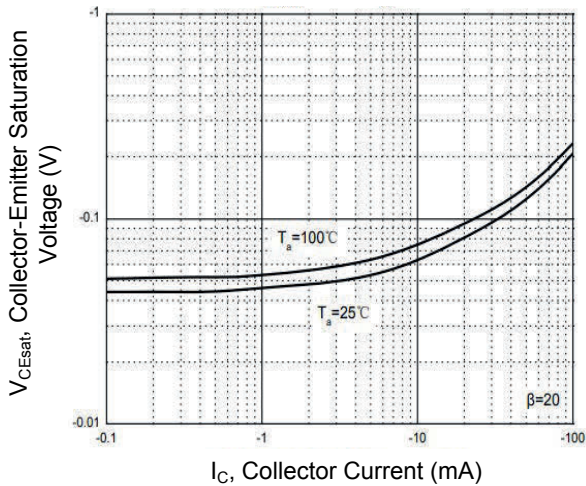
**Electrical Characteristic Curve**



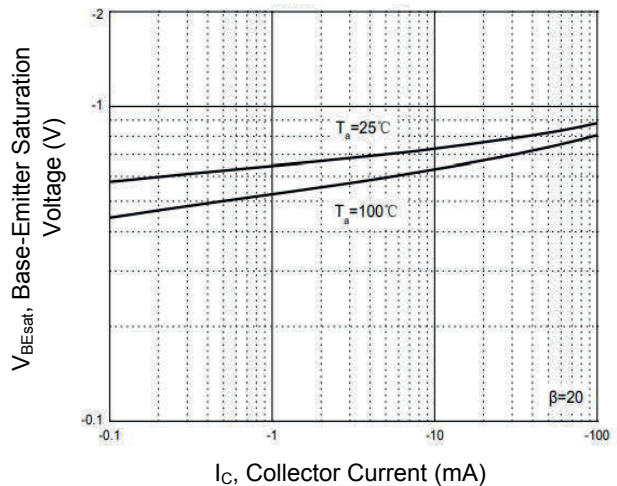
**Figure 1. Static Characteristic**



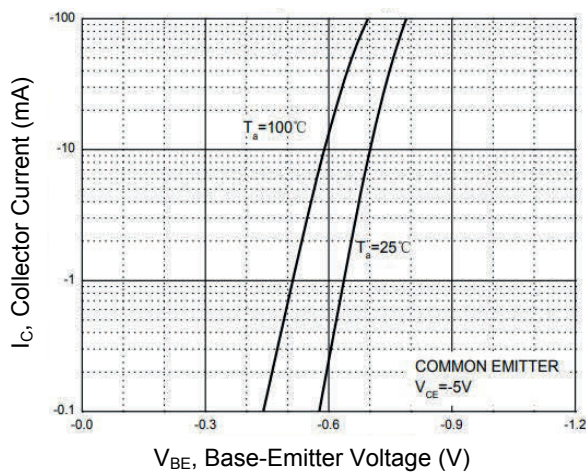
**Figure 2.  $h_{FE} - I_C$**



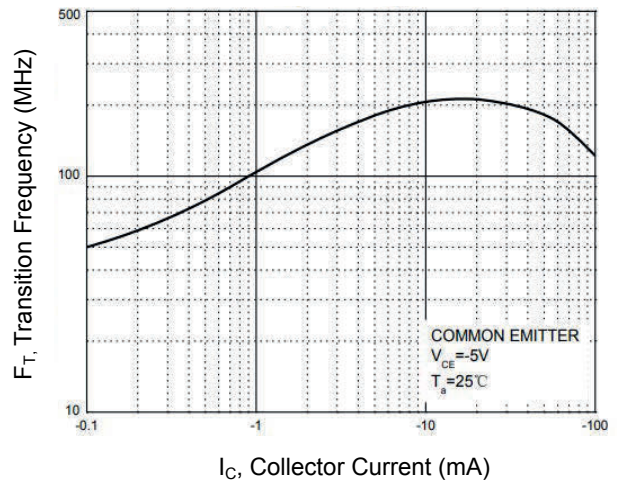
**Figure 3.  $V_{CE(sat)} - I_C$**



**Figure 4.  $V_{BE(sat)} - I_C$**

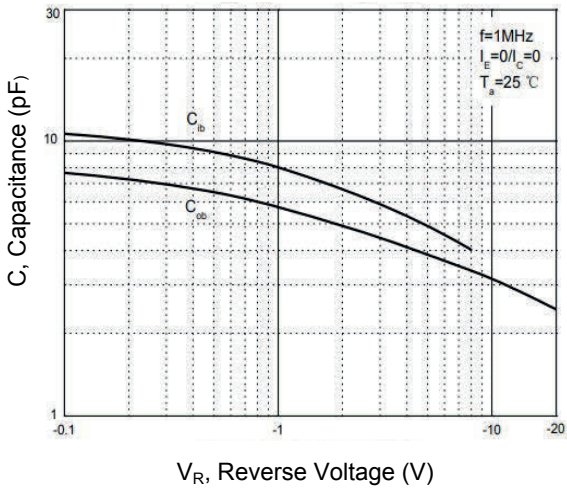


**Figure 5.  $I_C - V_{BE}$**

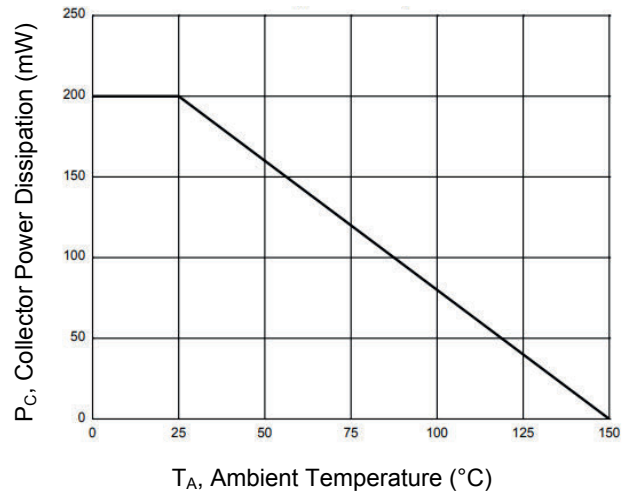


**Figure 6.  $F_T - I_C$**

**Electrical Characteristic Curve**

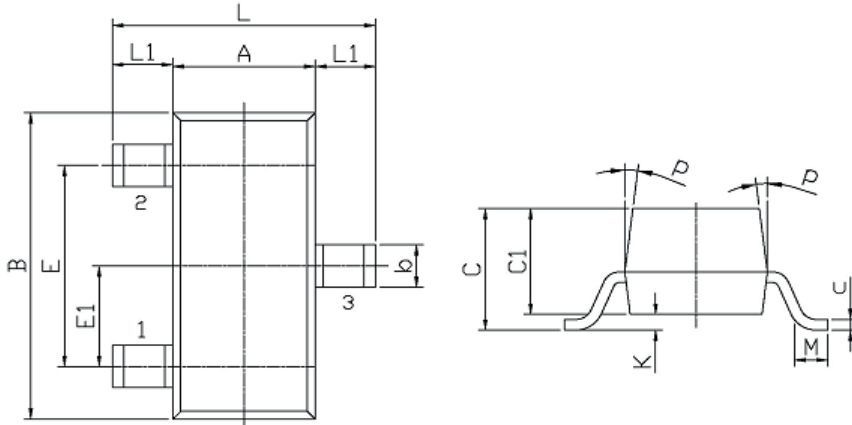


**Figure 7.  $C_{ob}/C_{ib} - V_{CB}/V_{EB}$**



**Figure 8.  $P_C - T_A$**

**Package Dimensions (SOT-23)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
L	2.20	2.70	0.087	0.106
L1	0.45	0.65	0.018	0.026
A	1.15	1.50	0.045	0.059
B	2.70	3.10	0.106	0.122
E	1.70	2.10	0.067	0.083
E1	0.85	1.05	0.033	0.041
b	0.35	0.55	0.014	0.022
C	1.30 Max		0.051 Max	
C1	0.90	1.20	0.035	0.047
c	0.05	0.20	0.002	0.008
K	0.00	0.10	0.000	0.004
M	0.20 Min		0.008 Min	
P	7°		7°	

**Order Information**

Device	Package	Marking	Carrier	Quantity
BC856A	SOT-23	3A	Tape & Reel	3,000pcs / 7" Reel
BC856B	SOT-23	3B	Tape & Reel	3,000pcs / 7" Reel