



**SOT-23 Plastic-Encapsulate Transistors**

**BC856A,B** TRANSISTOR (PNP)

**BC857A, B,C**

**BC858A, B,C**

**FEATURES**

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

**MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	BC856	-80
		BC857	-50
		BC858	-30
			V
V <sub>CEO</sub>	Collector-Emitter Voltage	BC856	-65
		BC857	-45
		BC858	-30
			V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current –Continuous	-0.1	A
P <sub>C</sub>	Collector Power Dissipation	200	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-65-150	°C

**SOT-23**



1. BASE
2. EMITTER
3. COLLECTOR

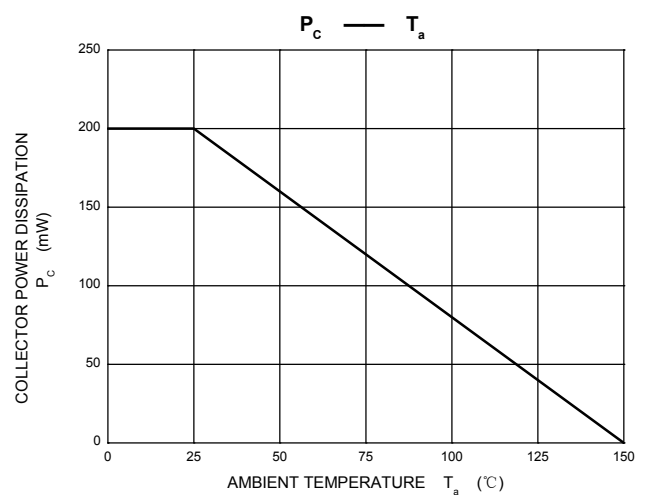
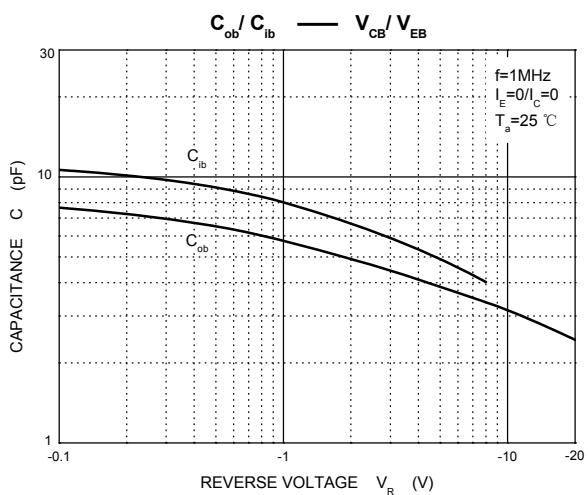
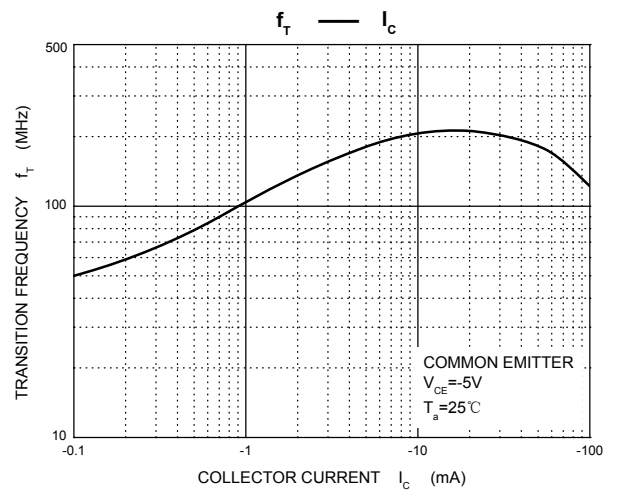
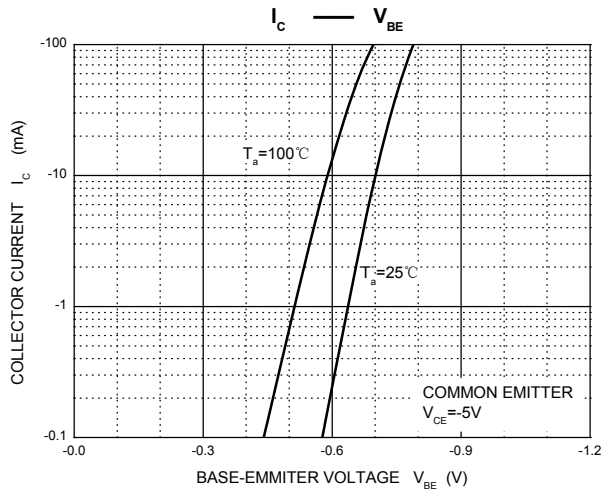
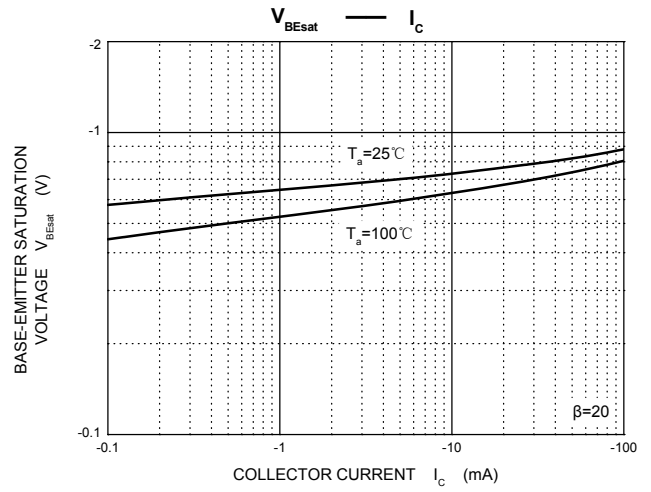
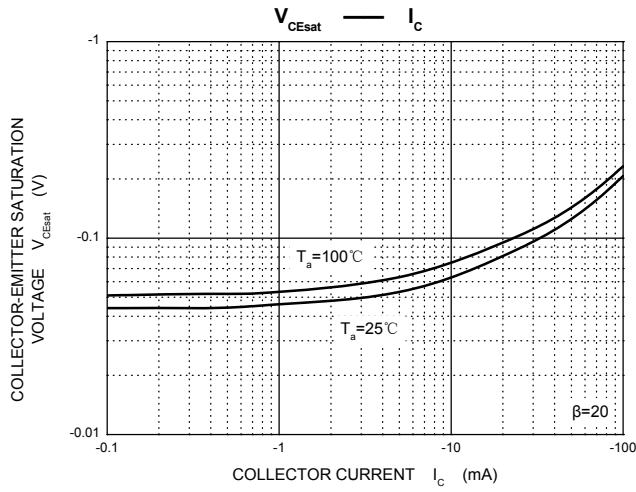
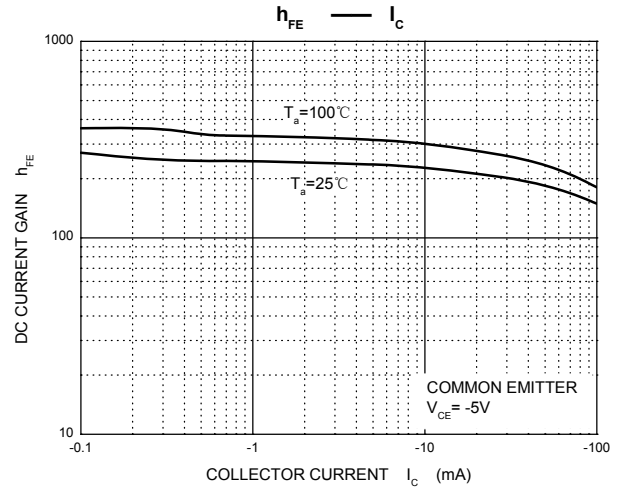
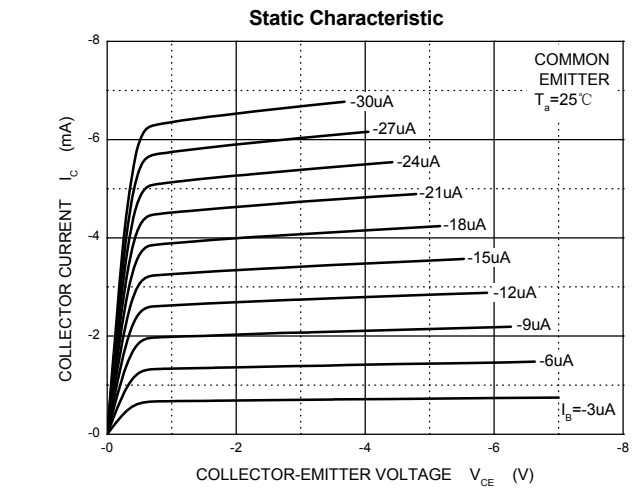
**DEVICE MARKING**

BC856 A=3A; BC856B=3B;  
 BC857A=3E;BC857B=3F;BC857C=3G;  
 BC858A=3J; BC858B=3K; BC858C=3L

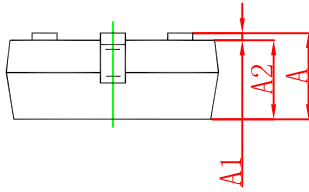
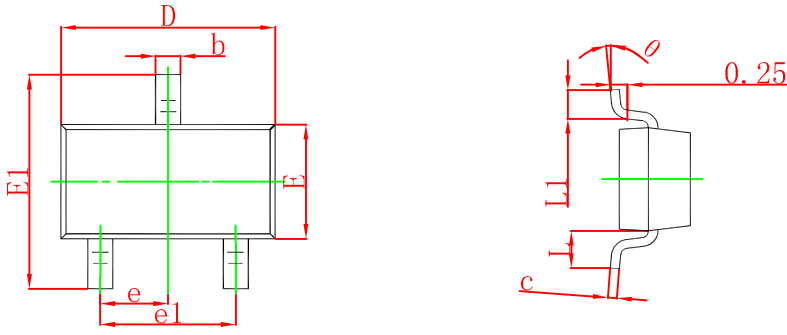
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BC856 BC857 BC858	V <sub>CBO</sub> I <sub>C</sub> = -10μA, I <sub>E</sub> =0	-80		V
			-50		
			-30		
Collector-emitter breakdown voltage	BC856 BC857 BC858	V <sub>CEO</sub> I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-65		V
			-45		
			-30		
Emitter-base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = -1μA, I <sub>C</sub> =0	-5		V
Collector cut-off current	BC856 BC857 BC858	I <sub>CBO</sub> V <sub>CB</sub> = -70 V, I <sub>E</sub> =0 V <sub>CB</sub> = -45 V, I <sub>E</sub> =0 V <sub>CB</sub> = -25 V, I <sub>E</sub> =0		-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -5 V, I <sub>C</sub> =0		-0.1	μA
DC current gain	BC856A, 857A,858A BC856B, 857B,858B BC857C,BC858C	h <sub>FE</sub> V <sub>CE</sub> = -5V,I <sub>C</sub> = -2mA	125	250	
			220	475	
			420	800	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-100mA,I <sub>B</sub> = -5 mA		-0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -100mA, I <sub>B</sub> = -5mA		-1.1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -10mA f=100MHz	100		MHz
Collector capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		4.5	pF

# Typical Characteristics

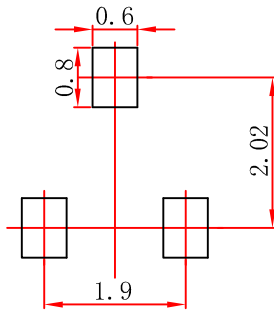


## SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.