

## SOT-23 Plastic-Encapsulate Transistors

### Features

- Complementary to BC846/BC847/BC848
- Power Dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications

### Mechanical Data

- Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



**RoHS**  
COMPLIANT

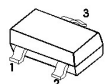


#### Marking:

BC856A=3A  
BC857A=3E  
BC858A=3J  
BC856B=3B  
BC857B=3F  
BC858B=3K  
BC857C=3G  
BC858C=3L

#### SOT-23

#### Pin definition



1. BASE  
2. EMITTER  
3. COLLECTOR

### Maximum Ratings & Thermal Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

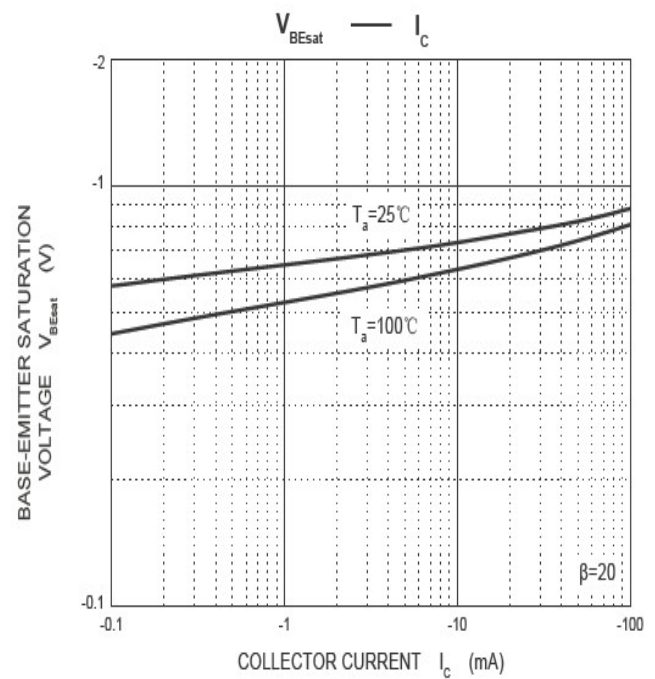
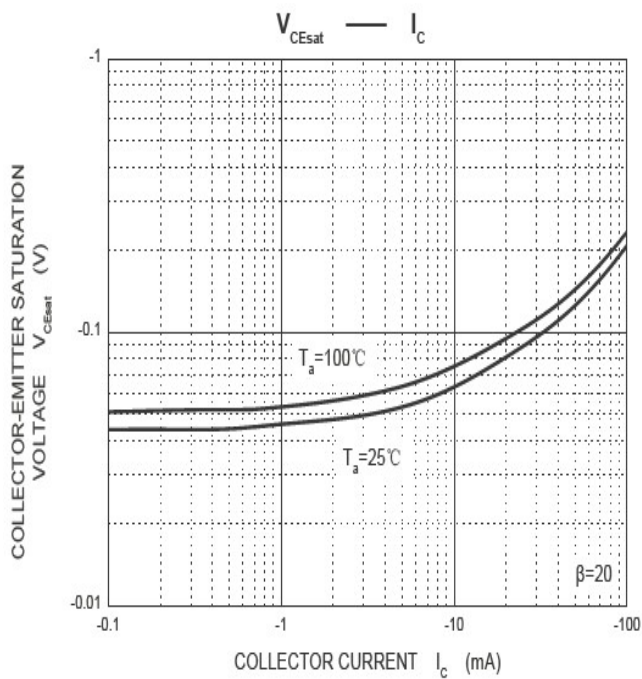
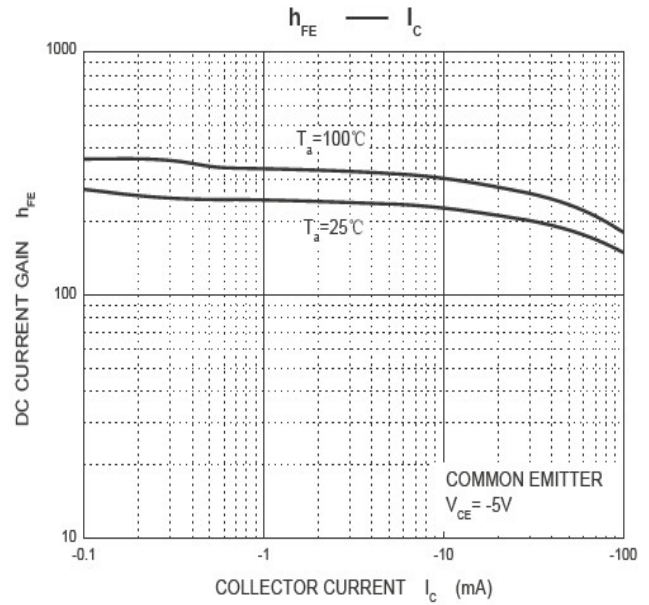
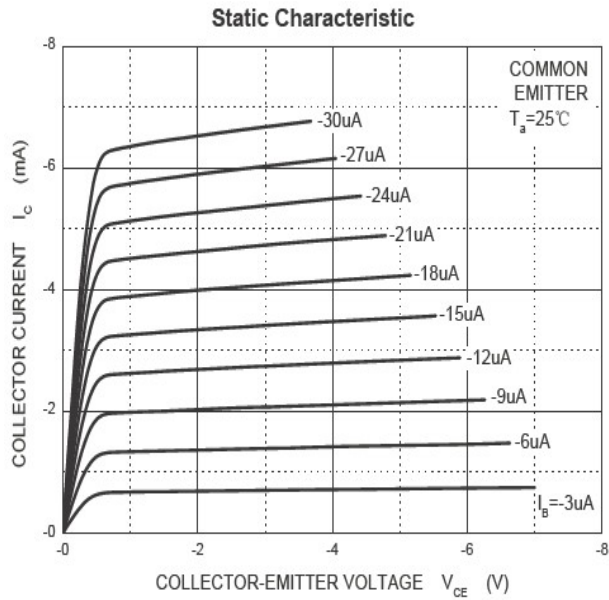
Parameters	Symbol		Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	BC856	-80	V
		BC857	-50	
		BC858	-30	
Collector-Emitter Voltage	V <sub>CEO</sub>	BC856	-65	V
		BC857	-45	
		BC858	-30	
Emitter -Base Voltage	V <sub>EBO</sub>		-6	V
Collector Current-Continuous	I <sub>C</sub>		-100	mA
Collector Power Dissipation	P <sub>C</sub>		200	mW
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>STG</sub>		-55-+150	°C
Thermal resistance From junction to ambient	R <sub>θJA</sub>		625	°C/W

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	BC856	-80	V
			BC857	-50	
			BC858	-30	
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	BC856	-65	V
			BC857	-45	
			BC858	-30	
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	-6		V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> =-70V, I <sub>E</sub> =0	BC856	-100	nA
		V <sub>CB</sub> =-45V, I <sub>E</sub> =0	BC857		
		V <sub>CB</sub> =-25V, I <sub>E</sub> =0	BC858		
Collector cutoff current	I <sub>CEO</sub>	V <sub>CE</sub> =-60V, I <sub>B</sub> =0	BC856	-100	nA
		V <sub>CE</sub> =-40V, I <sub>B</sub> =0	BC857		
		V <sub>CE</sub> =-25V, I <sub>B</sub> =0	BC858		
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0		-100	nA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-2mA	BC856A;BC857A;BC858A	125	250
			BC856B;BC857B;BC858B	220	475
			BC857C;BC858C	420	800
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA		-0.50	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA		-1.10	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz	100		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		4.5	pF

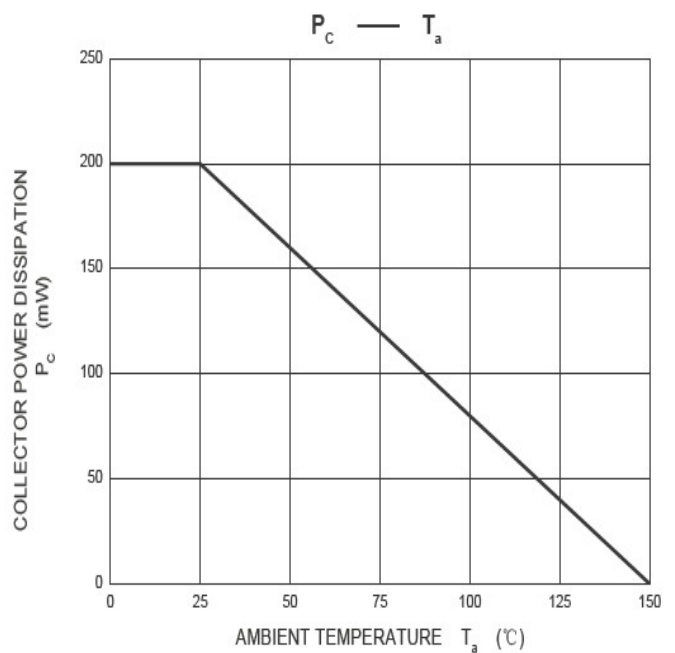
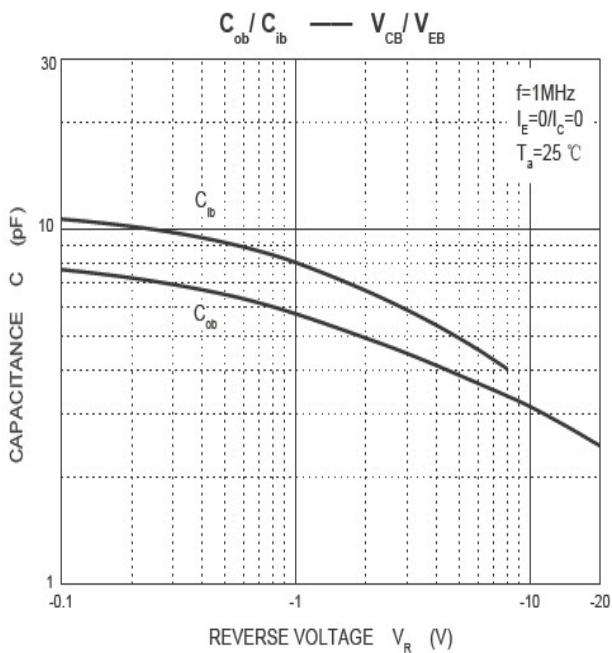
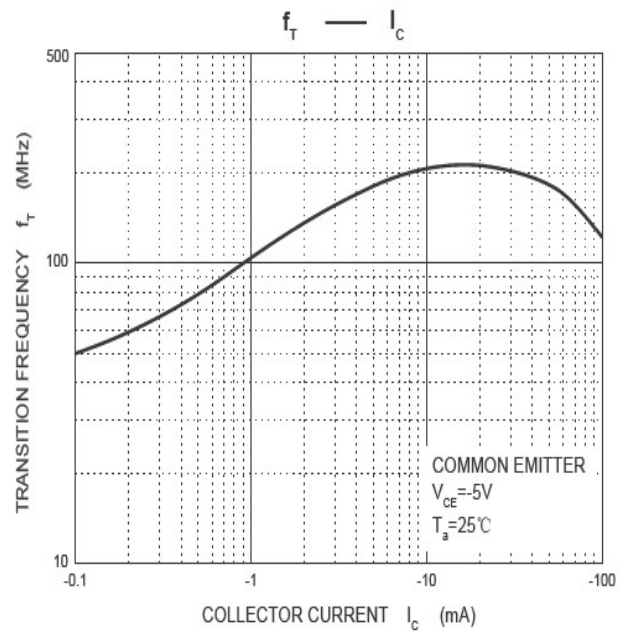
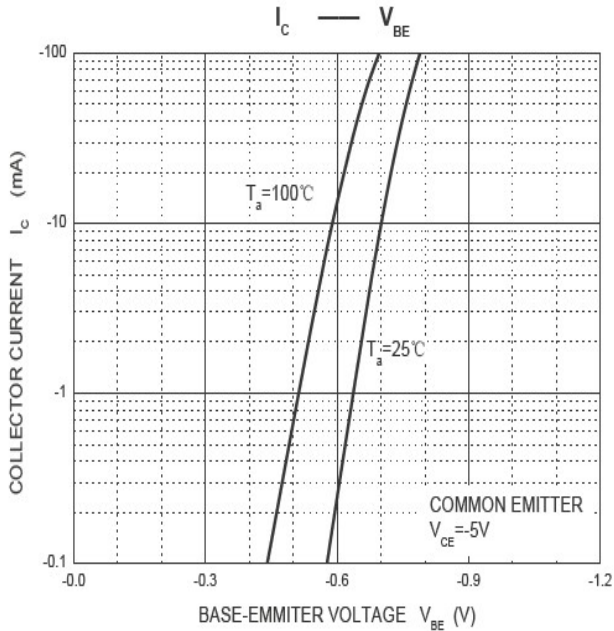
## Ratings and Characteristics Curves

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



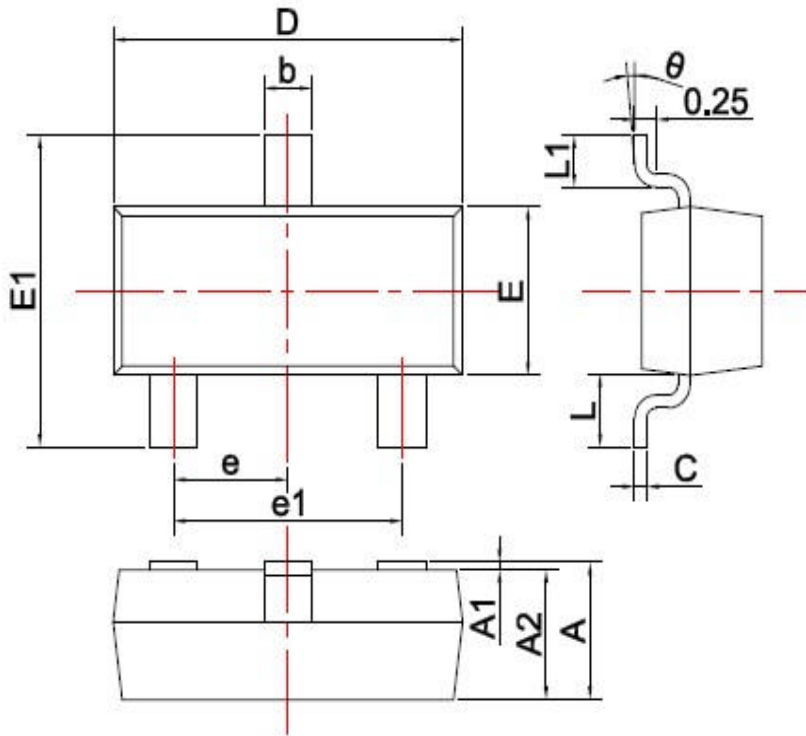
## Ratings and Characteristics Curves

( $T_a = 25^\circ\text{C}$  unless otherwise noted)



## Package Outline Dimensions

millimeters



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
$\theta$	0°	8°

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2017.02.17	First issue

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