

# BC856/BC857/BC858

## BC856/BC857/BC858 SOT-23 Plastic-Encapsulate Transistors (PNP)

### General description

SOT-23 Plastic-Encapsulate Transistors (PNP)

### FEATURES

- Complementary to BC846/BC847/BC848
- Power Dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



### DEVICE MARKING CODE:

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

### Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbols		Value	Unit
Collector-Base Voltage	V <sub>CB0</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

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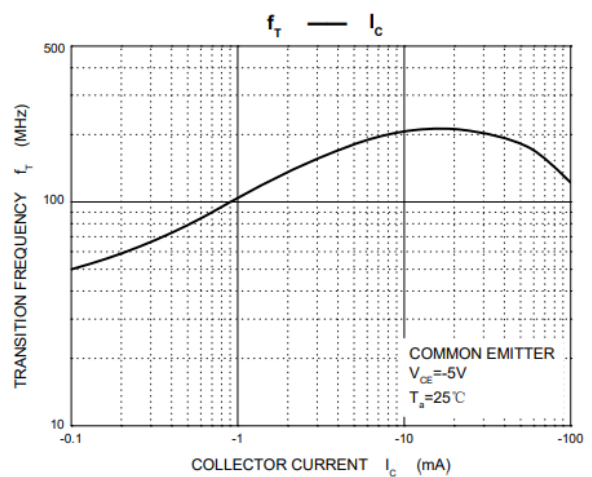
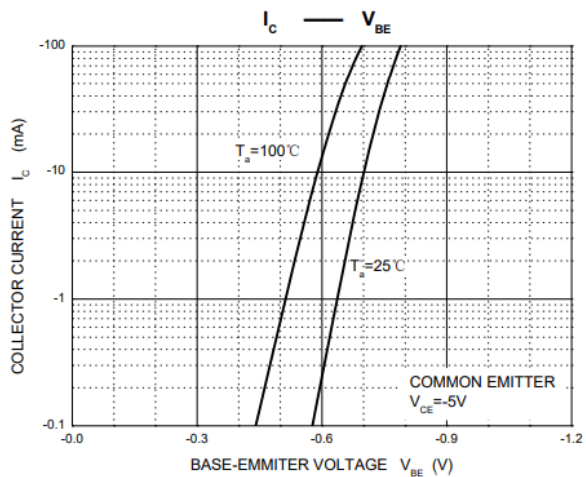
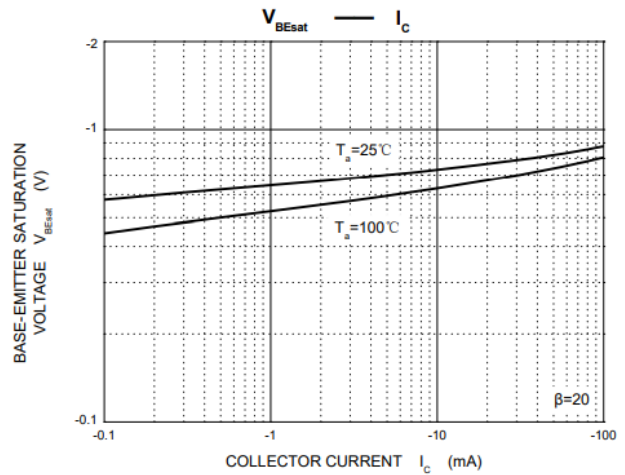
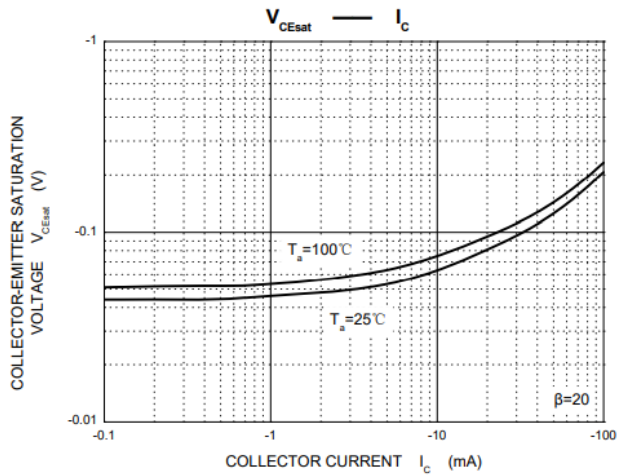
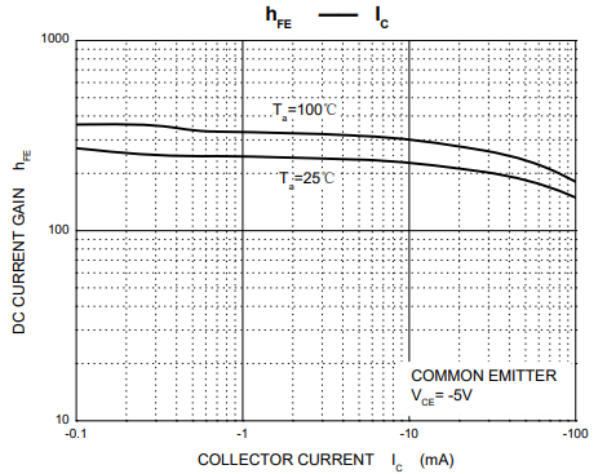
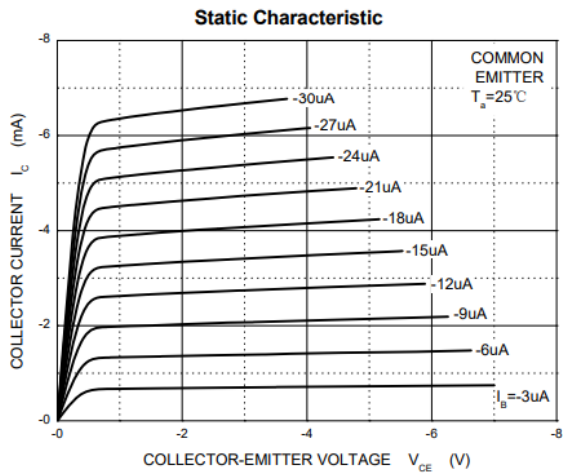
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$ BC856 BC857 BC858	-80 -50 -30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$ BC856 BC857 BC858	-65 -45 -30		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	-6		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -70V, I_E = 0$ $V_{CB} = -45V, I_E = 0$ $V_{CB} = -25V, I_E = 0$ BC856 BC857 BC858		-100	nA
Collector cut-off current	$I_{CEO}$	$V_{CE} = -60V, I_B = 0$ $V_{CE} = -40V, I_B = 0$ $V_{CE} = -25V, I_B = 0$ BC856 BC857 BC858		-100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$		-100	nA
DC current gain	$h_{FE}$	$V_{CE} = -5V, I_C = -2mA$ BC856A;BC857A;BC858A BC856B;BC857B;BC858B BC857C;BC858C	125 220 420	250 475 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$		-0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -5mA$		-1.10	V
Transition frequency	$f_T$	$V_{CE} = -5V, I_C = -10mA, f = 100MHz$	100		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, f = 1MHz$		4.5	pF



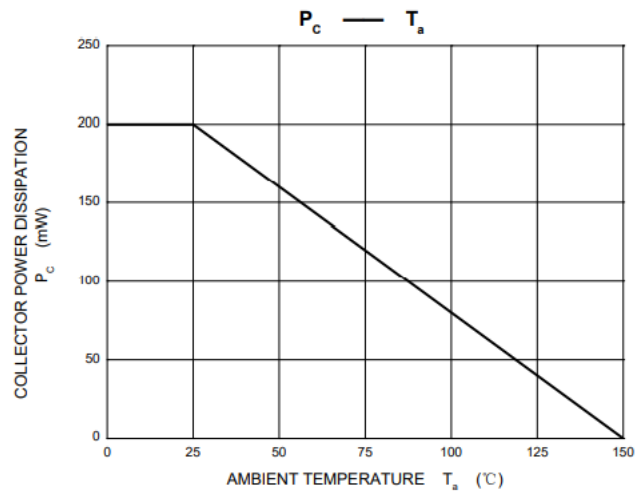
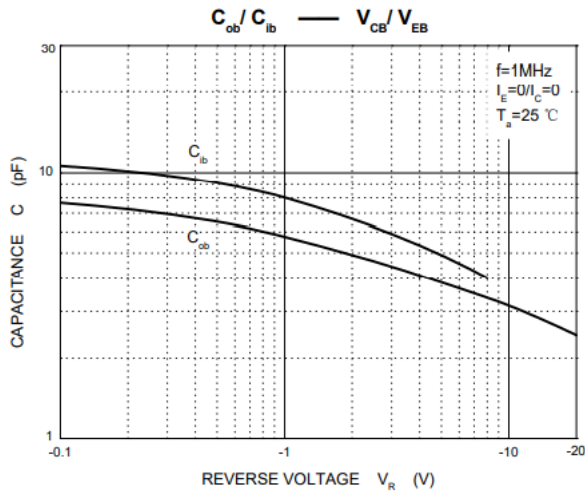
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## RATING AND CHARACTERISTIC CURVES

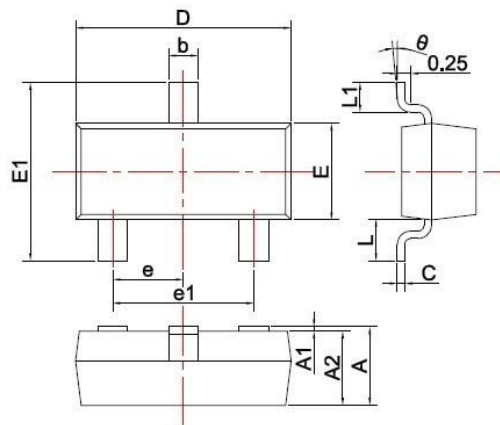




# BC856/BC857/BC858



## SOT-23 PACKAGE OUTLINE Plastic surface mounted package

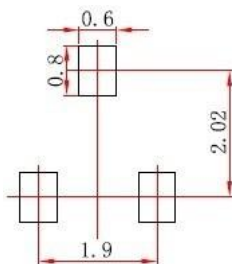


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
H	0°	8°

Unit: mm

Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.

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