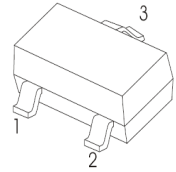


## SOT-23 Plastic-Encapsulate Transistors

### FEATURES

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

### SOT-23



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

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

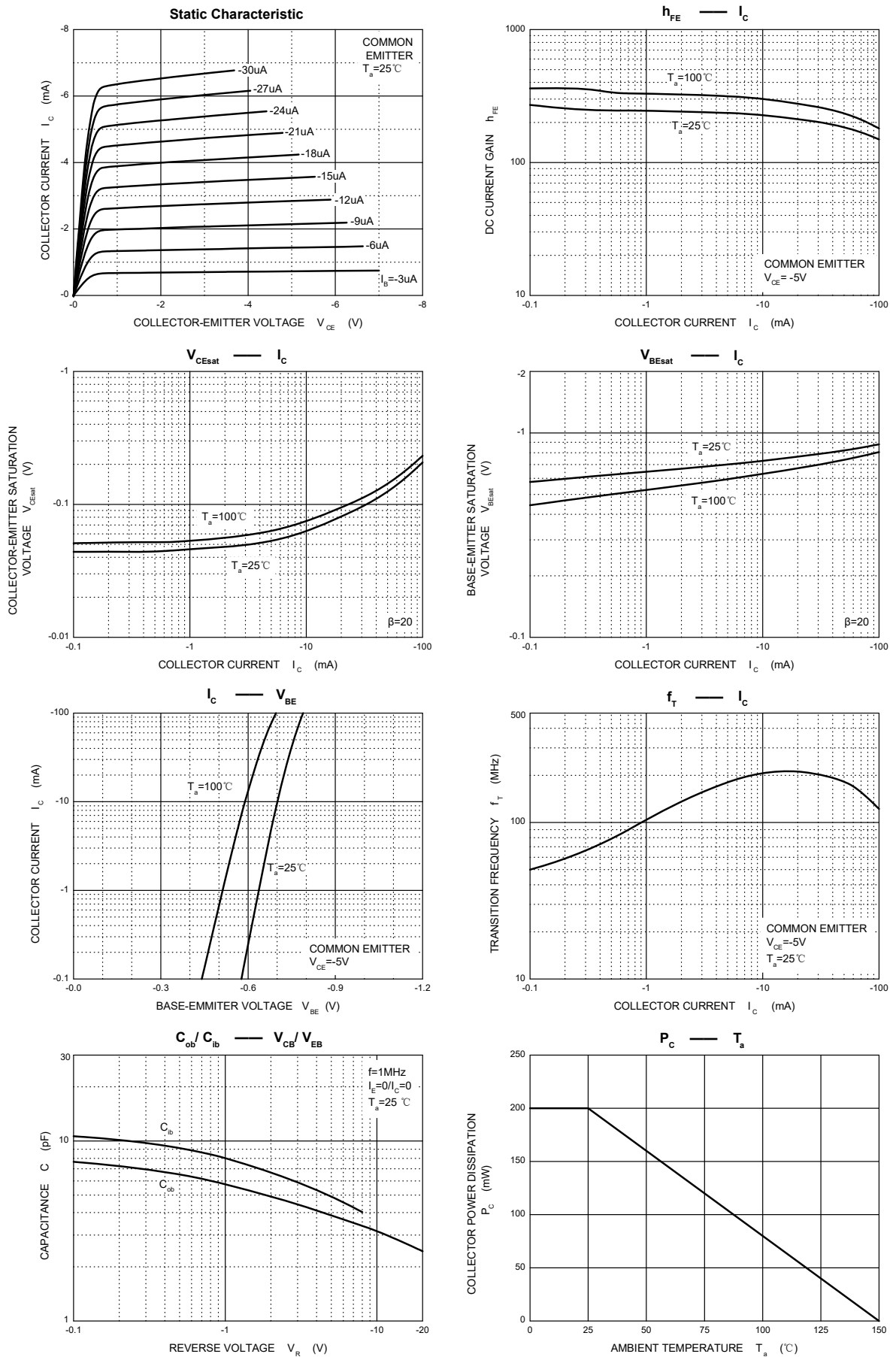
Symbol	Parameter	Value	Unit
<b>V<sub>CB0</sub></b>	Collector-Base Voltage		
	BC856	-80	V
	BC857	-50	
	BC858	-30	
<b>V<sub>CEO</sub></b>	Collector-Emitter Voltage		
	BC856	-65	V
	BC857	-45	
	BC858	-30	
<b>V<sub>EBO</sub></b>	Emitter-Base Voltage	-5	V
<b>I<sub>C</sub></b>	Collector Current –Continuous	-0.1	A
<b>P<sub>C</sub></b>	Collector Power Dissipation	200	mW
<b>R<sub>θJA</sub></b>	Thermal Resistance From Junction To Ambient	625	°C/W
<b>T<sub>J</sub></b>	Junction Temperature	150	°C
<b>T<sub>stg</sub></b>	Storage Temperature	-65 ~ +150	°C

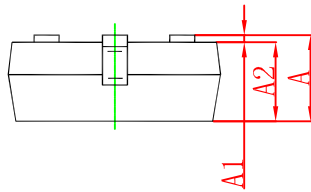
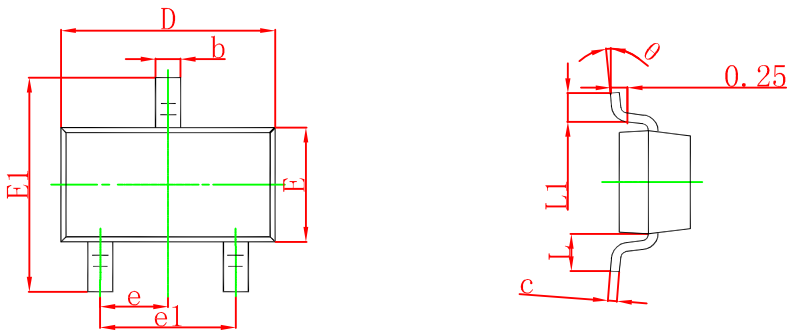
### DEVICE MARKING

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

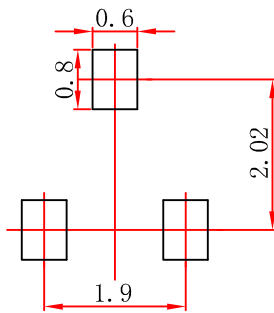
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	T est conditions	Min	Max	Unit
Collector-base breakdown voltage	BC856	$I_C = -10\mu A, I_E = 0$	-80		V
	BC857		-50		
	BC858		-30		
Collector-emitter breakdown voltage	BC856	$I_C = -10mA, I_B = 0$	-65		V
	BC857		-45		
	BC858		-30		
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = -1\mu A, I_C = 0$	-5		V
Collector cut-off current	BC856	$V_{CB} = -70V, I_E = 0$ $V_{CB} = -45V, I_E = 0$ $V_{CB} = -25V, I_E = 0$			$\mu A$
	BC857			-0.1	
	BC858				
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$		-0.1	$\mu A$
DC current gain	BC856A, 857A, 858A	$V_{CE} = -5V, I_C = -2mA$	125	250	
	BC856B, 857B, 858B		220	475	
	BC857C, BC858C		420	800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$		-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -5mA$		-1.1	V
Transition frequency	$f_T$	$V_{CE} = -5V, I_C = -10mA$ $f = 100MHz$	100		MHz
Collector capacitance	$C_{ob}$	$V_{CB} = -10V, f = 1MHz$		4.5	pF

**Typical Characteristics**




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.