

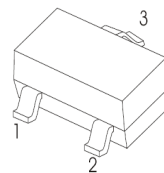


TRANSISTOR (PNP)

FEATURES

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

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage		
	BC856	-80	V
	BC857	-50	
	BC858	-30	
V_{CEO}	Collector-Emitter Voltage		
	BC856	-65	V
	BC857	-45	
	BC858	-30	
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current –Continuous	-0.1	A
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65~+150	$^{\circ}\text{C}$

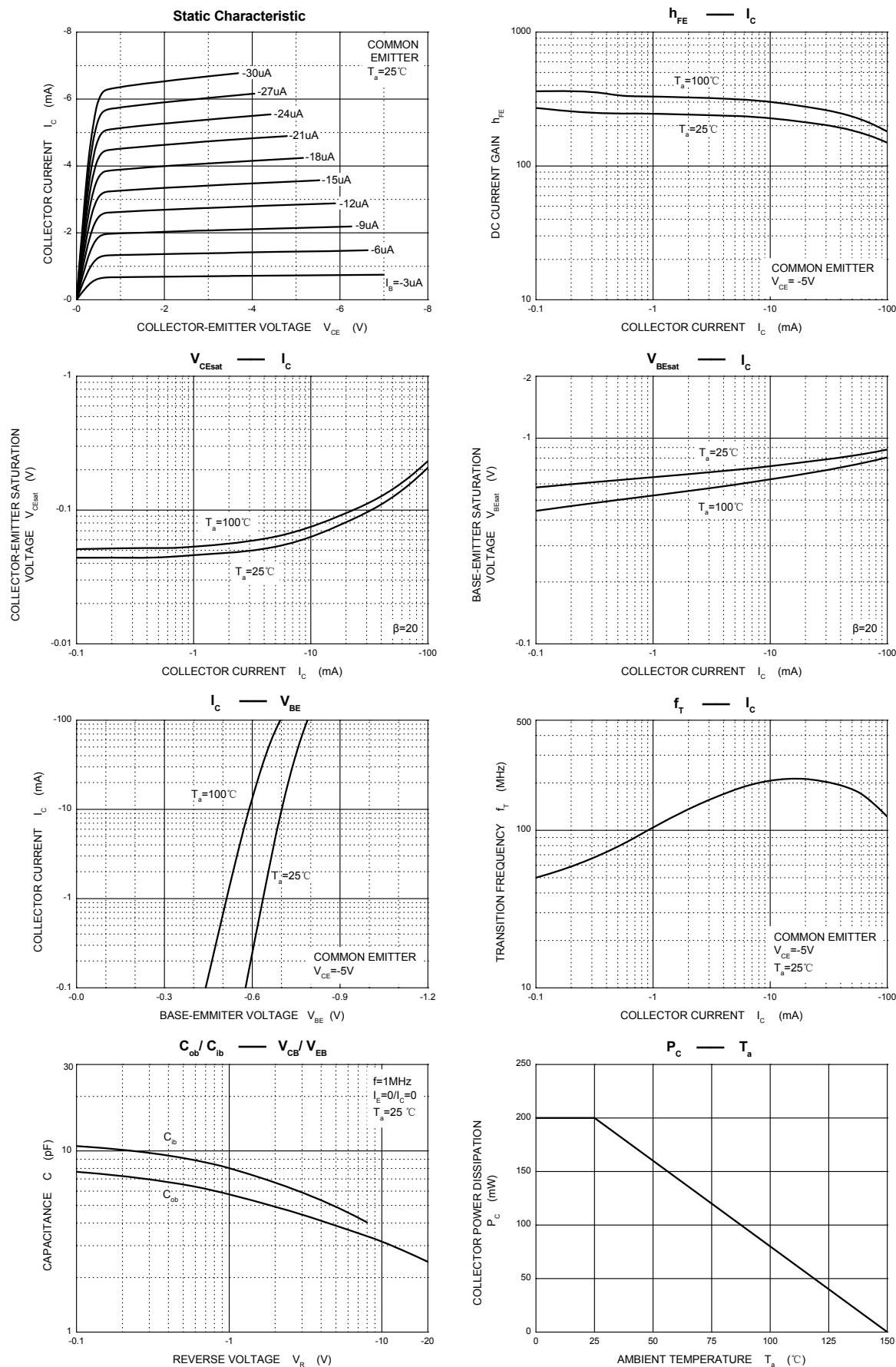
DEVICE MARKING

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

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

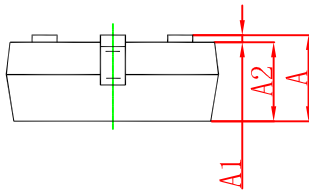
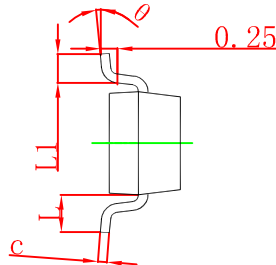
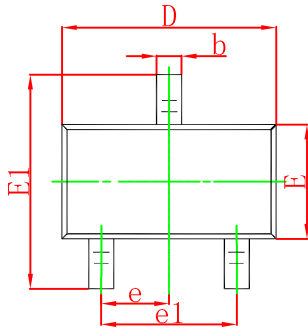
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC856 BC857 BC858	V_{CBO}	$I_C = -10\mu\text{A}, I_E = 0$	-80 -50 -30		V
Collector-emitter breakdown voltage BC856 BC857 BC858	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-65 -45 -30		V
Emitter-base breakdown voltage	V_{EBO}	$I_E = -1\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current BC856 BC857 BC858	I_{CBO}	$V_{CB} = -70\text{V}, I_E = 0$ $V_{CB} = -45\text{V}, I_E = 0$ $V_{CB} = -25\text{V}, I_E = 0$		-0.1	μA
Collector cut-off current BC856 BC857 BC858	I_{CEO}	$V_{CE} = -60\text{V}, I_B = 0$ $V_{CE} = -40\text{V}, I_B = 0$ $V_{CE} = -25\text{V}, I_B = 0$		-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		-0.1	μA
DC current gain BC856A, 857A, 858A BC856B, 857B, 858B BC857C, BC858C	h_{FE}	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	125 220 420	250 475 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -5\text{mA}$		-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, I_B = -5\text{mA}$		-1.1	V
Transition frequency	f_T	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz
Collector capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		4.5	pF

Typical Characteristics



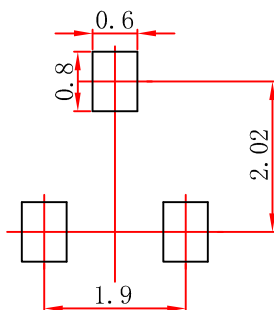


SOT-23 Package Outline Dimensions



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.