BC856A/B
BC857A/B/C
BC858A/B/C

SOT-23 Plastic-Encapsulate Transistors

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

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

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage BC856 BC857 BC858	 -80 -50 -30	V
V_{CEO}	Collector-Emitter Voltage BC856 BC857 BC858	 -65 -45 -30	V
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	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

DEVICE MARKING

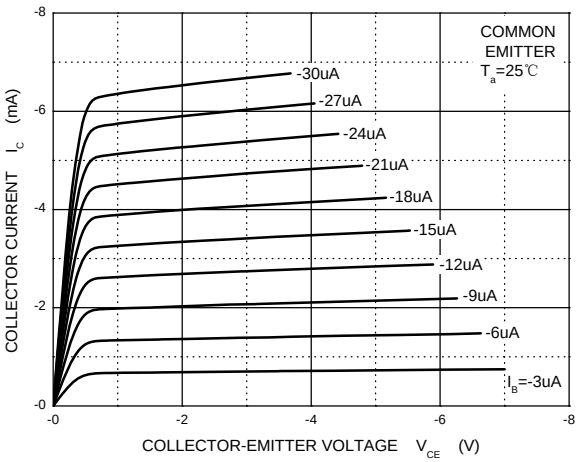
BC856A=3A;BC856B=3B;
BC857A=3E;BC857B=3F;BC857C=3G;
BC858A=3J; BC858B=3K; BC858C=3L

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

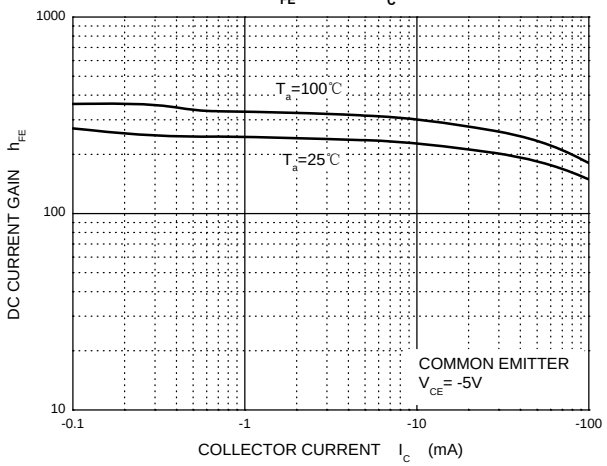
Parameter		Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	**BC856**	V_{CBO}	I_C= -10μA, I_E=0	-80		V
	BC857			-50		
	BC858			-30		
Collector-emitter breakdown voltage	**BC856**	V_{CEO}	I_C= -10mA, I_B=0	-65		V
	BC857			-45		
	BC858			-30		
Emitter-base breakdown voltage		V_{EBO}	I_E= -1μA, I_C=0	-5		V
Collector cut-off current	**BC856**	I_{CBO}	V_{CB}= -70 V , I_E=0		-0.1	μA
	BC857		V_{CB}= -45 V , I_E=0			
	BC858		V_{CB}= -25 V , I_E=0			
Emitter cut-off current		I_{EBO}	V_{EB}= -5 V , I_C=0		-0.1	μA
DC current gain	**BC856A, 857A,858A**	h_{FE}	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= -5 mA		-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}= -5 V, I_C= -10mA f=100MHz	100		MHz
Collector capacitance		C_{ob}	V_{CB}=-10V, f=1MHz		4.5	pF

Typical Characteristics

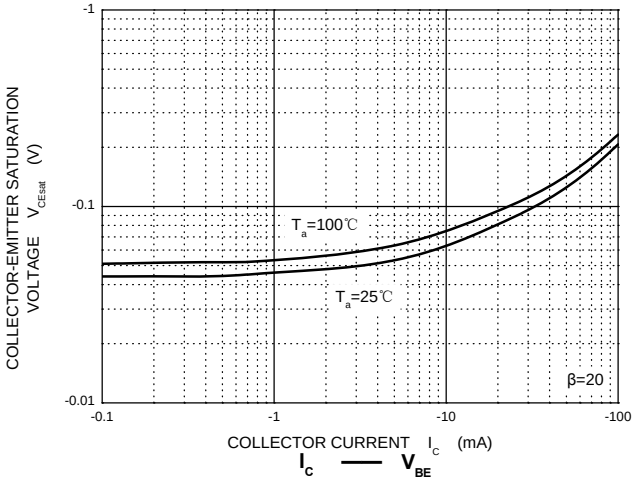
Static Characteristic



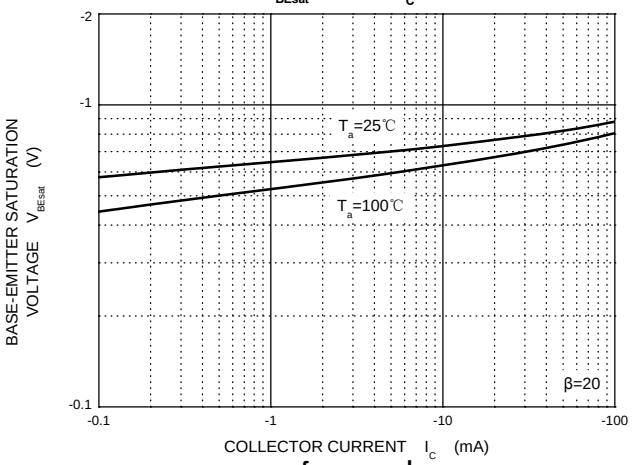
h_{FE} — I_C



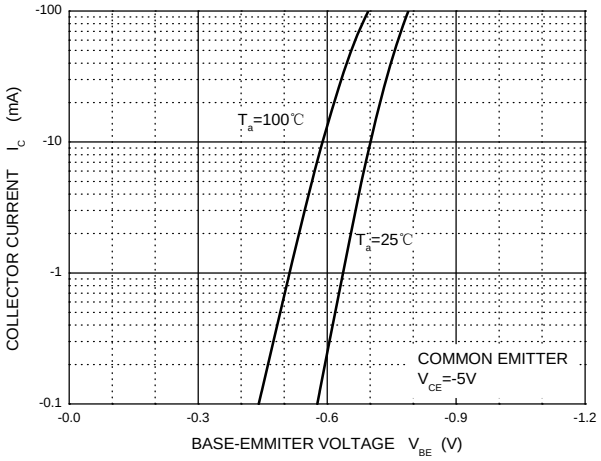
V_{CEsat} — I_C



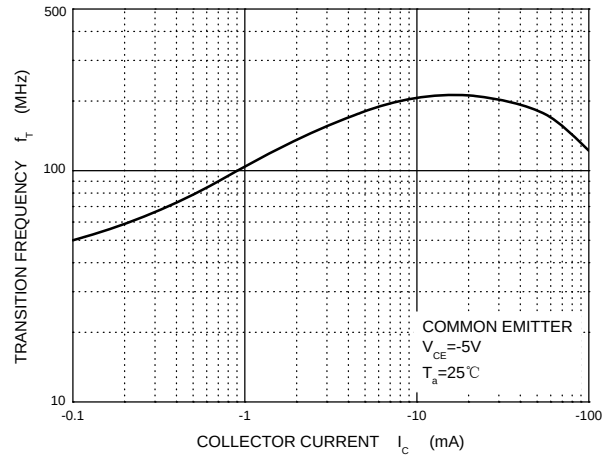
V_{BEsat} — I_C



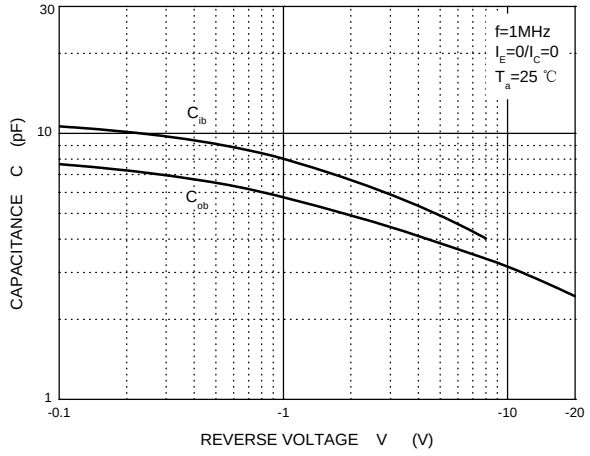
I_C — V_{BE}



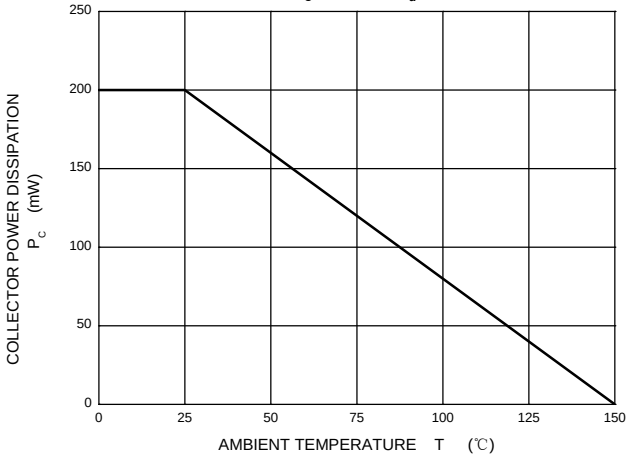
f_T — I_C



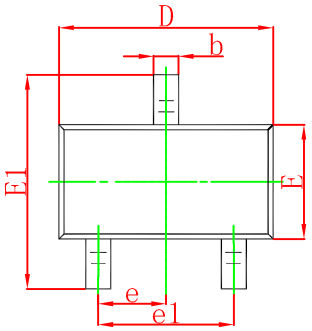
C_{ob}/ C_{ib} — V_{CB}/ V_{EB}

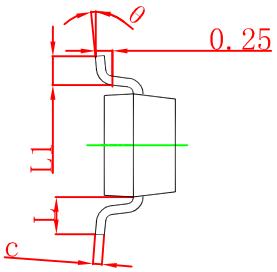


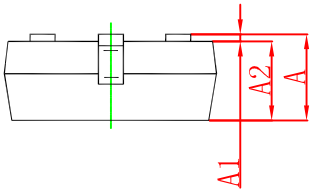
P_C — T_a



SOT-23 Package Outline Dimensions

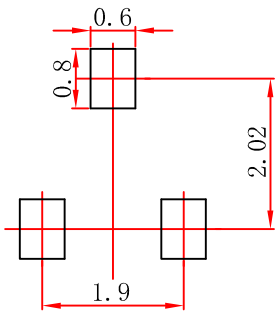






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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:± 0.05mm.
3.The pad layout is for reference purposes only.