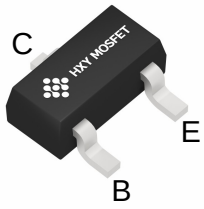
AC857BQ-7

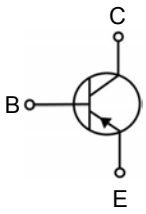
PNP Plastic-Encapsulate Transistors

Features

- Collector Current: I_C= -0.1A
- Power Dissipation of 200mW



SOT-23



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
AC857BQ-7	SOT-23	3F	3000

Maximum Ratings (Ta=25°C unless otherwise noted)

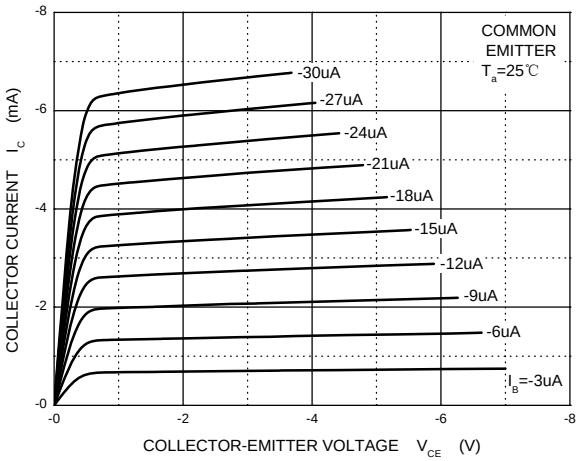
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-01	A
P_C	Collector Power Dissipation	200	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

Electrical Characteristics (Ta=25°C unless otherwise specified)

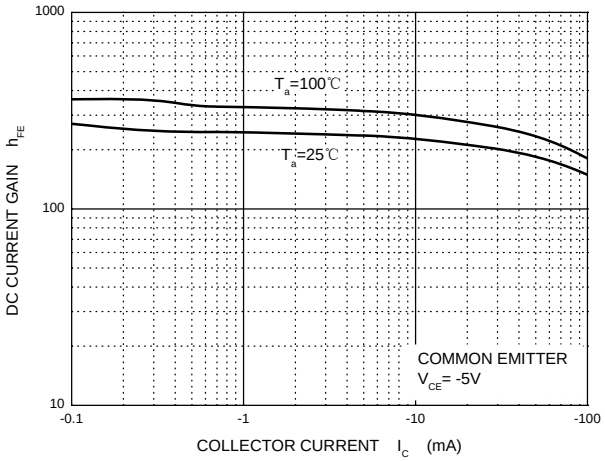
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	VCBO	I_C= -10μA, I_E=0	-50		V
Collector-emitter breakdown voltage	VCEO	I_C= -10mA, I_B=0	-45		V
Emitter-base breakdown voltage	VEBO	I_E= -1μA, I_C=0	-5		V
Collector cut-off current	ICBO	V_{CB}= -45V, I_E=0		-0.5	μA
Collector cut-off current	ICEO	V_{CE}= -40V, I_B=0		-0.5	μA
Emitter cut-off current	IEBO	V_{EB}= -5 V , I_C=0		-0.5	μA
DC current gain	hFE	V_{CE}= -5V, I_C= -2mA	200	450	
Collector-emitter saturation voltage	VCE(sat)	I_C=-100mA, I_B= -5 mA		-0.5	V
Base-emitter saturation voltage	VBE(sat)	I_C= -100mA, I_B= -5mA		-1.1	V
Transition frequency	fT	V_{CE}= -5 V, I_C=-10mA f=100MHz	100		MHz
Collector capacitance	Cob	V_{CB}= -10V, f=1MHz		4.5	pF

Typical Characteristics

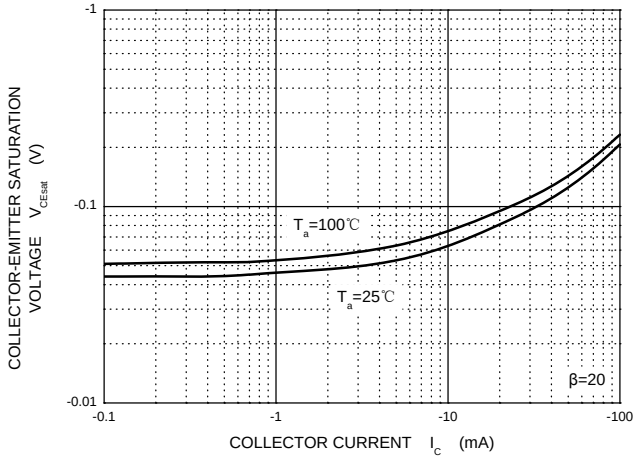
Static Characteristic



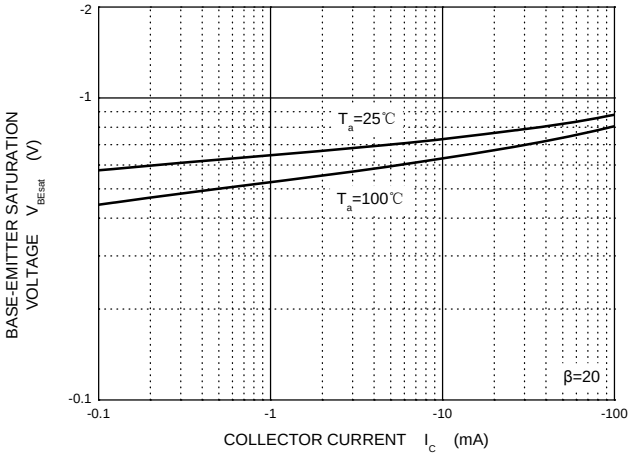
h_{FE} — I_C



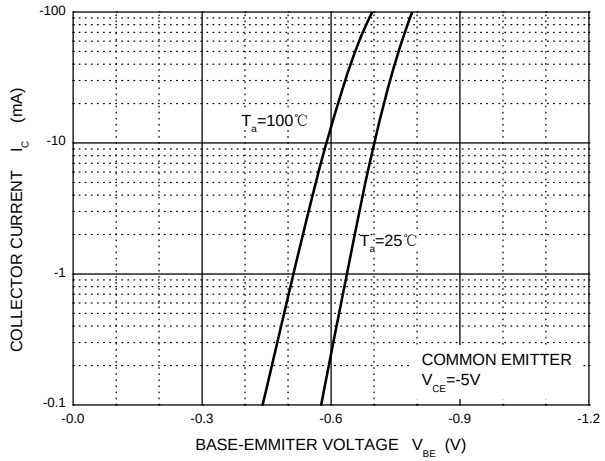
V_{CEsat} — I_C



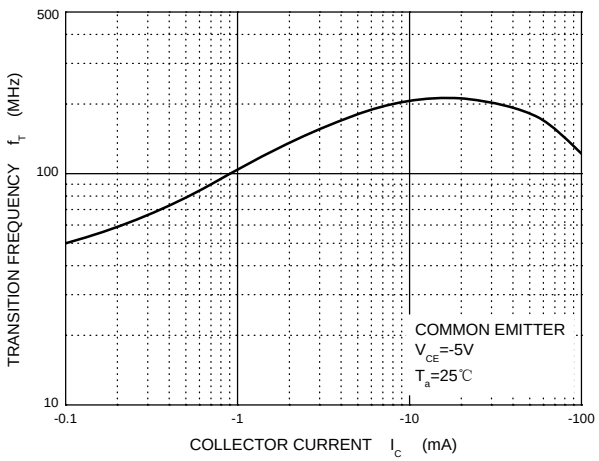
V_{BEsat} — I_C

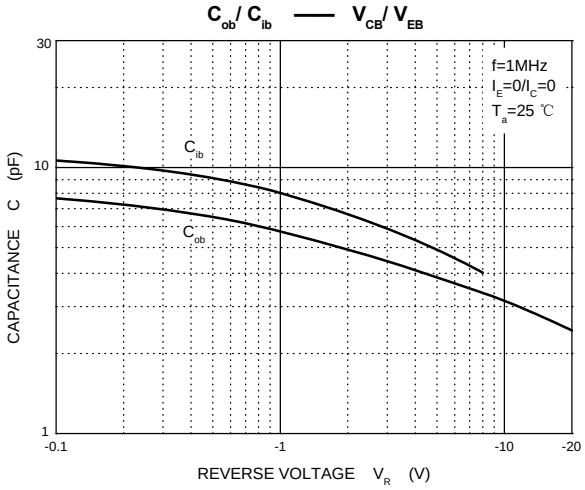


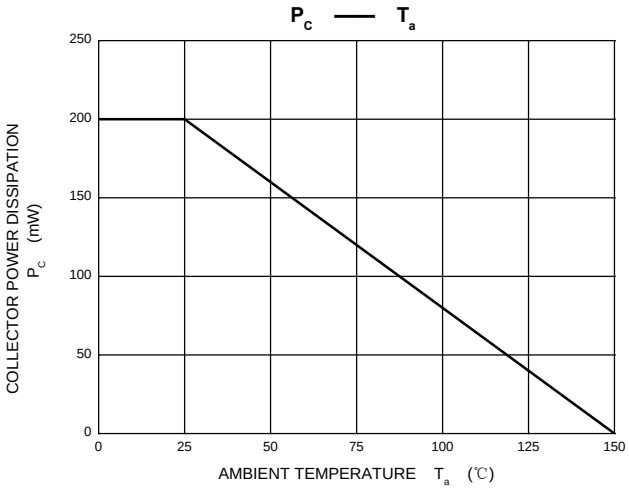
I_C — V_{BE}



f_T — I_C

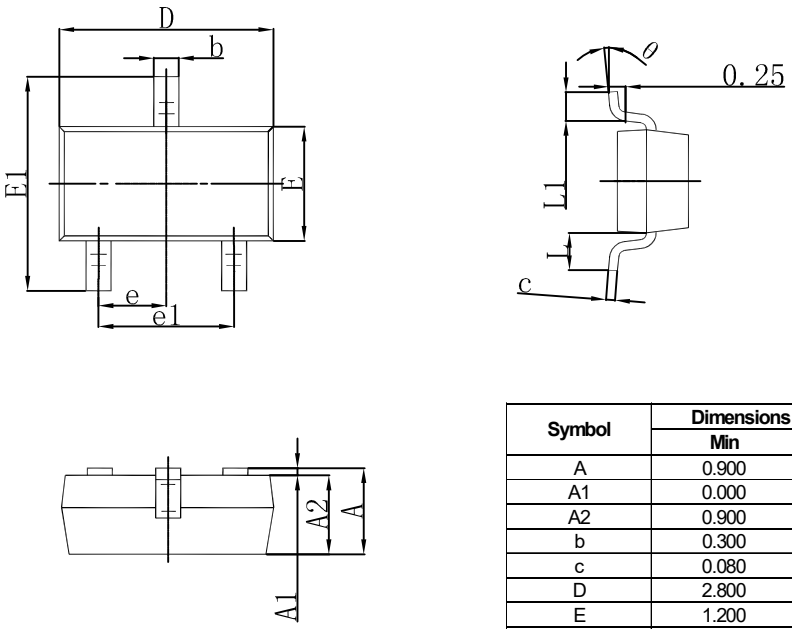



C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}
30
10
1
-0.1
-1
-10
-20
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V_R (V)


P_C —— T_a
250
200
150
100
50
0
0
25
50
75
100
125
150
COLLECTOR POWER DISSIPATION
P_C (mW)
AMBIENT TEMPERATURE T_a (℃)

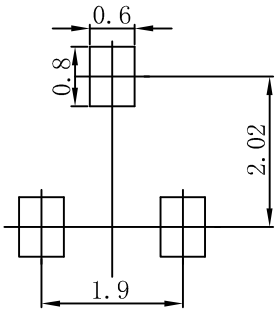
Package Dimensions

SOT-23



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°

Suggested Pad Layout



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

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