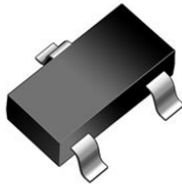
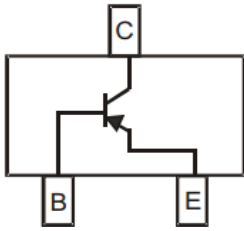


PNP General Purpose Amplifier



SOT-23

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- High Conductance
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- General purpose switching and amplification

Mechanical Data

- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

Part No.	Marking
BC856AQ	3A
BC856BQ	3B
BC857AQ	3E
BC857BQ	3F
BC857CQ	3G
BC858AQ	3J
BC858BQ	3K
BC858CQ	3L

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

Item	Symbol	Unit	Conditions	Value	
Collector-Base Voltage	V_{CBO}	V		BC856AQ、BC856BQ	-80
				BC857AQ、BC857BQ、 BC857CQ	-50
				BC858AQ、BC858BQ、 BC858CQ	-30
Collector-Emitter Voltage	V_{CEO}	V		BC856AQ、BC856BQ	-65
				BC857AQ、BC857BQ、 BC857CQ	-45
				BC858AQ、BC858BQ、 BC858CQ	-30
Emitter-Base Voltage	V_{EBO}	V			-5
Collector Current -Continuous	I_C	A			-0.1
Total Device Dissipation (*)	P_D	mW			300
Thermal Resistance Junction to Ambient (*)	R_{thJA}	K/W			417
Junction Temperature	T_j	°C			150
Storage Temperature	T_{STG}	°C			-55 to +150

(*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch.



BC856Q THRU BC858Q

■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	BC856AQ、BC856BQ	IC=-10μA,IE=0	-80	
			BC857AQ、BC857BQ、 BC857CQ		-50	
			BC858AQ、BC858BQ、 BC858CQ		-30	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	BC856AQ、BC856BQ	IC=-10mA,IB=0	-65	
			BC857AQ、BC857BQ、 BC857CQ		-45	
			BC858AQ、BC858BQ、 BC858CQ		-30	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	IE=-1μA,IC=0	-5		
Collector cut-off current	I_{CBO}	nA	VCB=-30V, IE=0		-100	
Collector cut-off current	I_{CEO}	nA	BC856AQ、BC856BQ	VCE=-65V, IB=0		-100
			BC857AQ、BC857BQ、 BC857CQ	VCE=-45V, IB=0		
			BC858AQ、BC858BQ、 BC858CQ	VCE=-30V, IB=0		
Emitter cut-off current	I_{EBO}	nA	$V_{EB}=-5V, I_C=0$		-100	
DC current gain	h_{FE}		BC856AQ、BC857AQ、 BC858AQ	VCE=-5.0V,IC=- 2mA	125	250
			BC856BQ、BC857BQ、 BC858BQ		220	475
			BC857CQ、BC858CQ		420	800
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=-100mA, I_B=-5mA$		-0.65	
Base-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=-100mA, I_B=-5mA$		-1.1	
Transition frequency	f_T	MHz	VCE=-5Vdc,IC=-10mA,f=30MHz	100		
Collector output capacitance	Cob	pF	VCB=-10V,f=1MHz		4.5	

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC856AQ、BC856BQ BC857AQ、BC857BQ、BC857CQ BC858AQ、BC858BQ、BC858CQ	F2	Approximate 0.01	3000	30000	120000	7" reel



BC856Q THRU BC858Q

Characteristics (Typical)

Fig.1 - Static characteristic

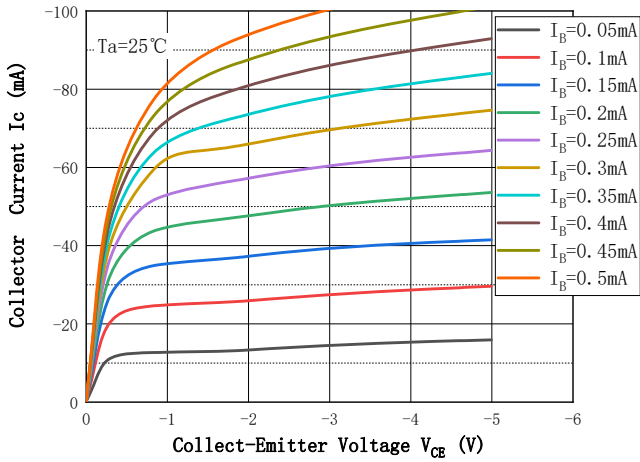


Fig.2 - DC Current Gain

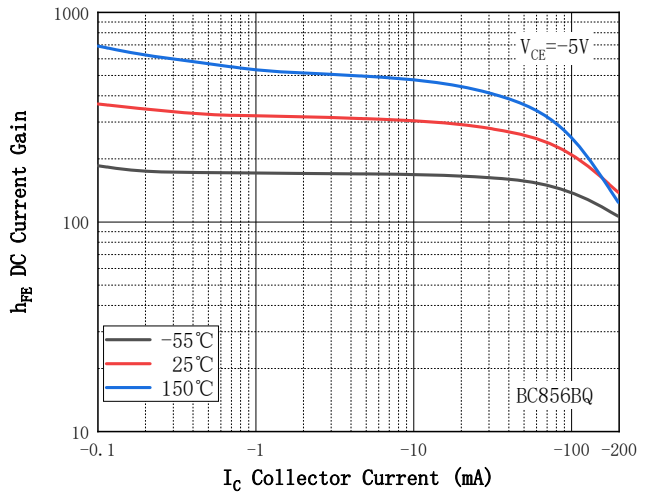


Fig.3 - Collect-Emmitter Saturation Voltage

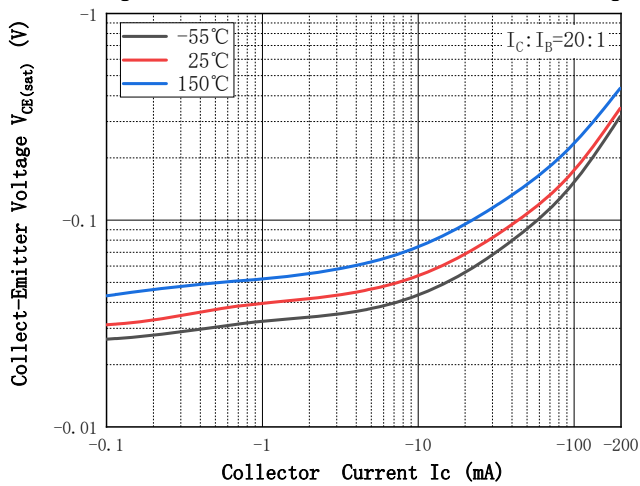


Fig.4 - Base-Emmitter Voltage

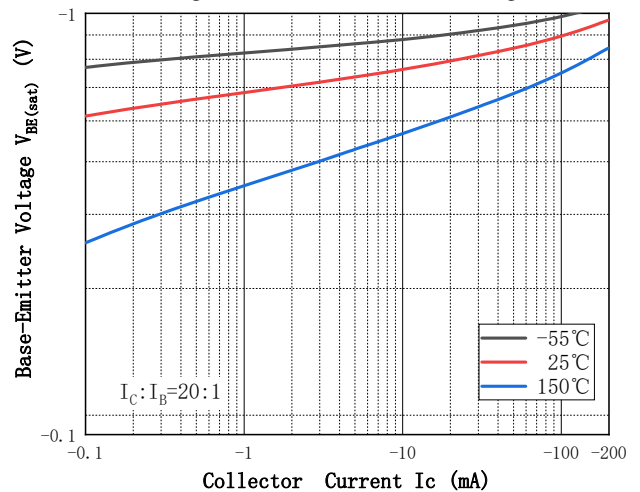


Fig.5 - Base-Emmitter On Voltage

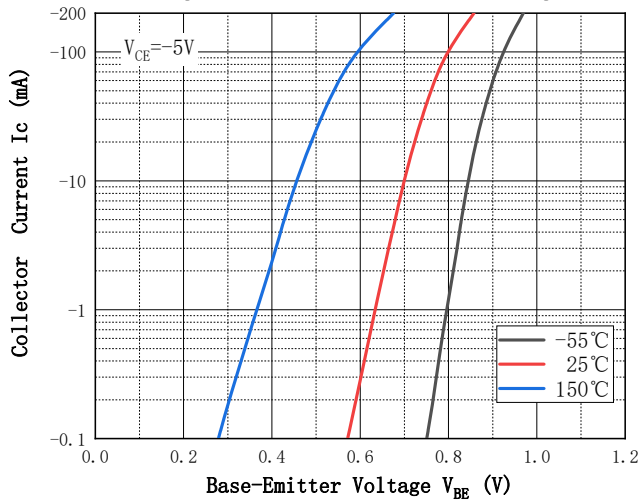
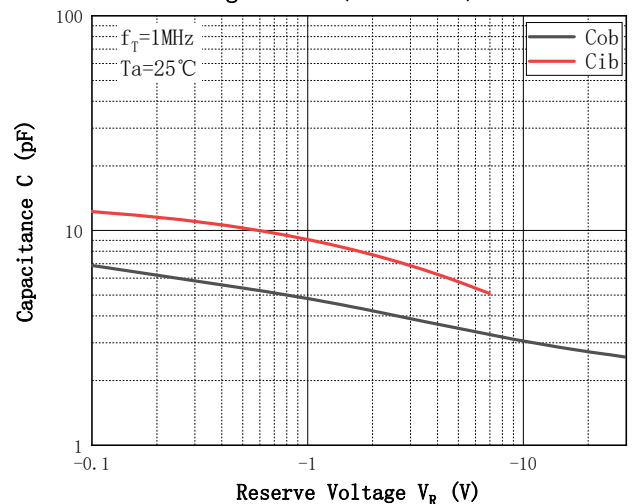


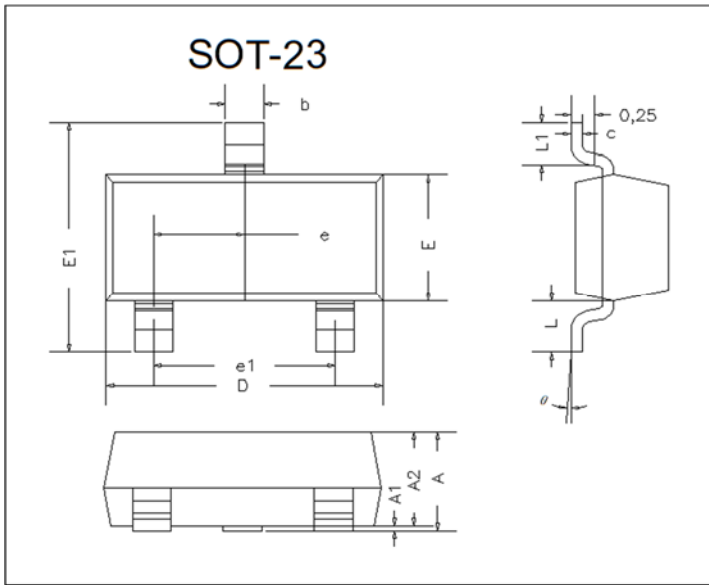
Fig.6 - Cob/Cib—VCB/VEB





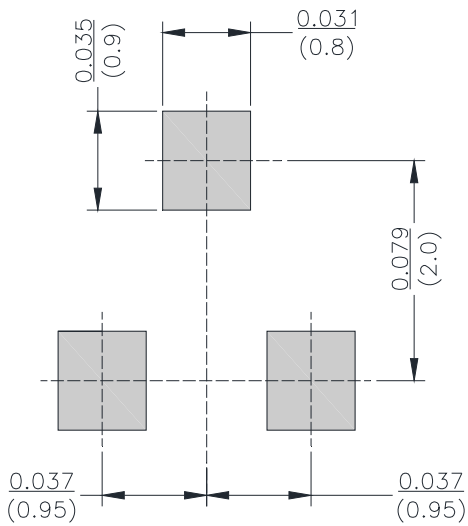
BC856Q THRU BC858Q

■SOT-23 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.045	0.90	1.15	
A1	0.000	0.004	0.00	0.10	
A2	0.035	0.041	0.90	1.05	
b	0.012	0.020	0.30	0.50	
c	0.004	0.008	0.10	0.20	
D	0.110	0.118	2.80	3.00	
E	0.047	0.055	1.20	1.40	
E1	0.089	0.100	2.25	2.55	
e	0.370TYP		0.95TYP		
e1	0.071	0.079	1.80	2.00	
L	0.220REF		0.55REF		
L1	0.012	0.020	0.30	0.50	
theta	0°	8°	0°	8°	

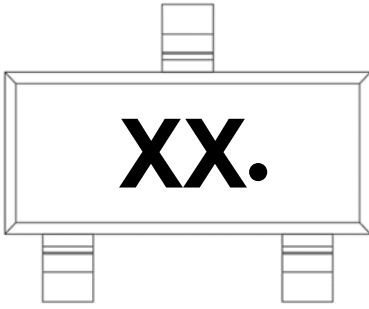
■SOT-23 Suggested Pad Layout



Unit: $\frac{\text{inch}}{\text{mm}}$



■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. XX is Marking Code
4. Body color: Black



BC856Q THRU BC858Q

Disclaimer

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