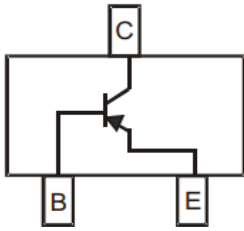


PNP General Purpose Amplifier



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	VEB=-5V, IC=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	IC=-100mA,IB=-5mA		-0.65	
Base-emitter saturation voltage	$V_{BE(sat)}$	V	IC=-100mA,IB=-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

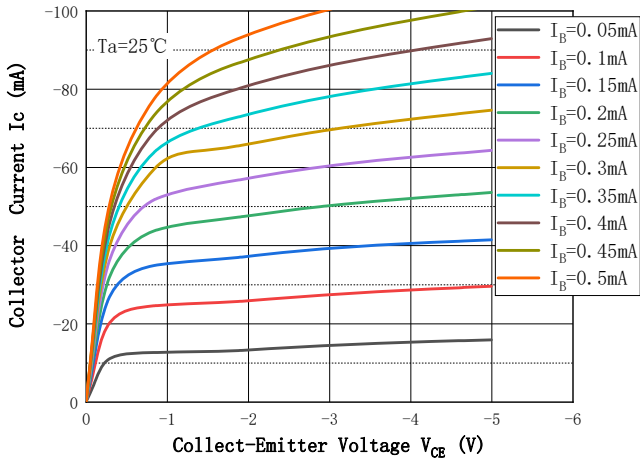


Fig.2 - DC Current Gain

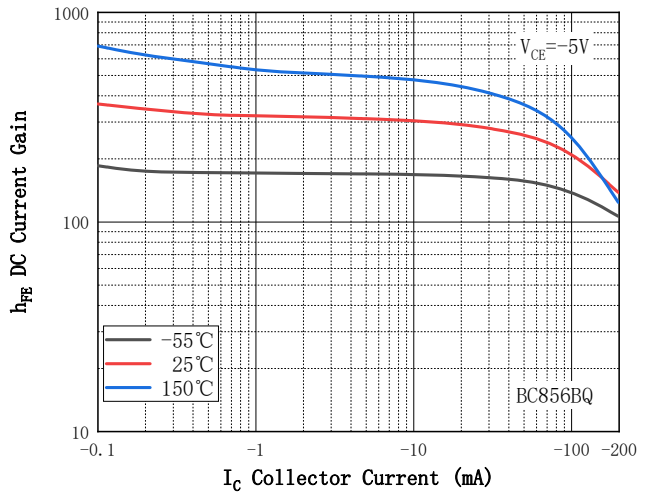


Fig.3 - Collect-Emmitter Saturation Voltage

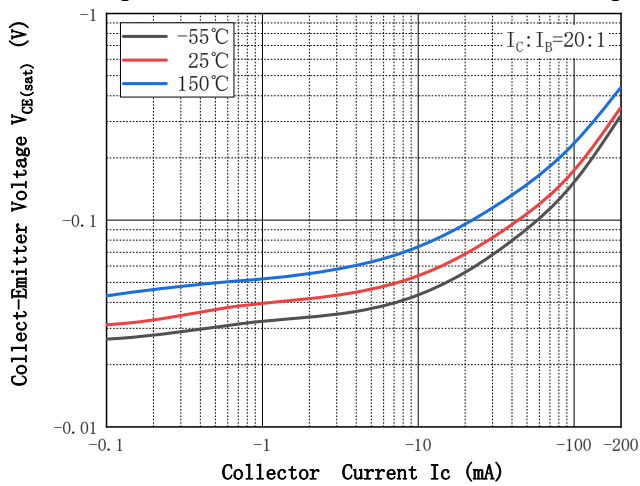


Fig.4 - Base-Emmitter Voltage

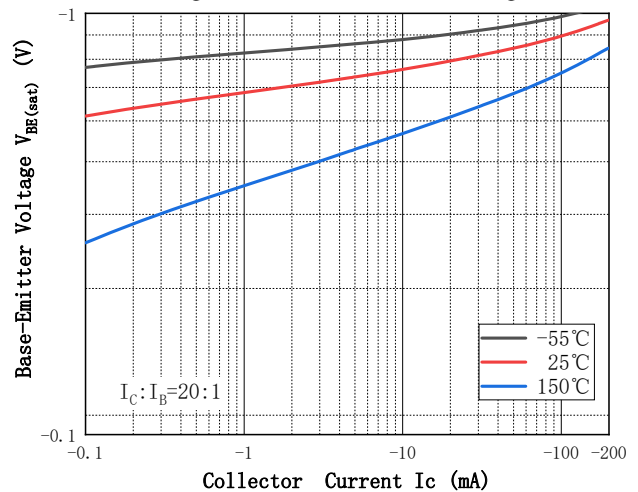


Fig.5 - Base-Emmitter On Voltage

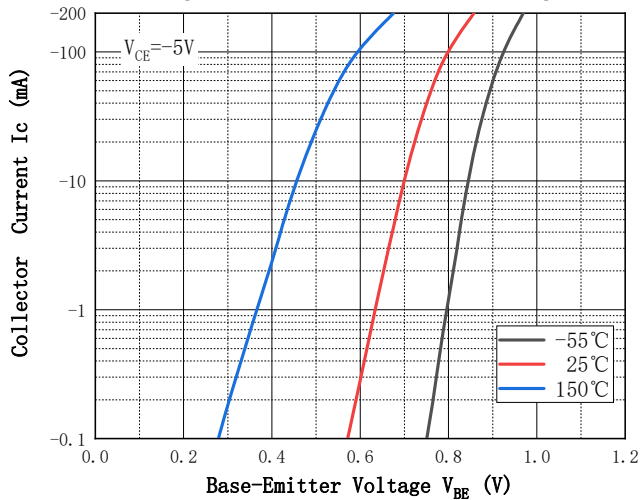
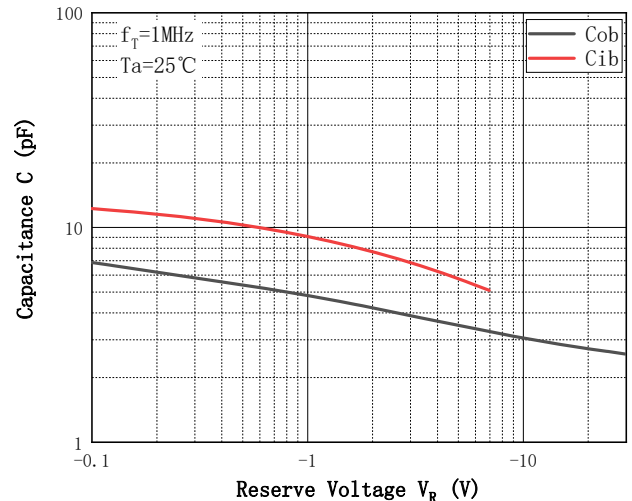


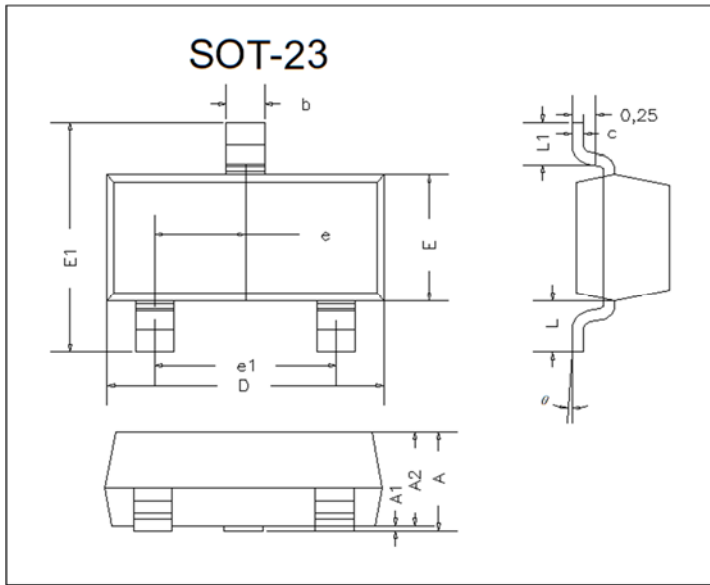
Fig.6 - Cob/Cib—VCB/VEB





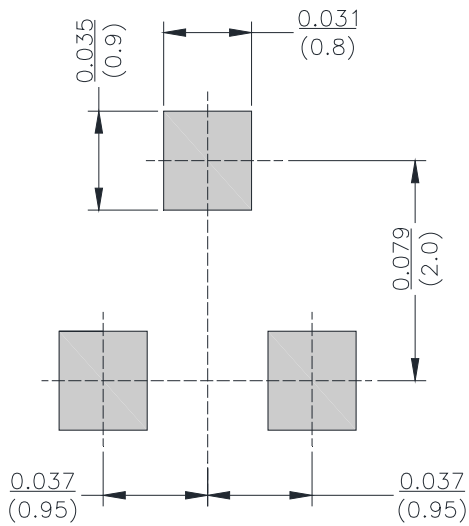
BC856Q THRU BC858Q

■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	
θ	0°	8°	0°	8°	

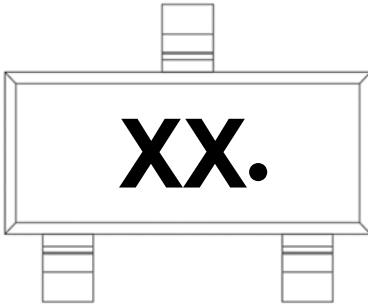
■SOT-23 Suggested Pad Layout



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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