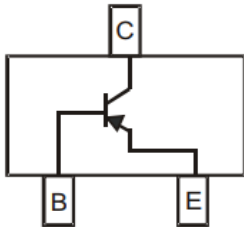


PNP General Purpose Transistors



SOT-23

Features

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

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

Item	Symbol	Unit	Value	
Collector-Base Voltage	V_{CBO}	V	BC856AHQ BC856BHQ	-80
			BC857AHQ BC857BHQ BC857CHQ	-50
			BC858AHQ BC858BHQ BC858CHQ	-30
Collector-Emitter Voltage	V_{CEO}	V	BC856AHQ BC856BHQ	-65
			BC857AHQ BC857BHQ BC857CHQ	-45
			BC858AHQ BC858BHQ BC858CHQ	-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.



BC856HQ THRU BC858HQ

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

Item	Symbol	Unit	Conditions	Min	Max	
Collector-base breakdown voltage	V _{CBO}	V	BC856AHQ BC856BHQ	I _C =-10μA, I _E =0	-80	
			BC857AHQ BC857BHQ BC857CHQ		-50	
			BC858AHQ BC858BHQ BC858CHQ		-30	
Collector-emitter breakdown voltage	V _{CEO}	V	BC856AHQ BC856BHQ	I _C =-10mA, I _B =0	-65	
			BC857AHQ BC857BHQ BC857CHQ		-45	
			BC858AHQ BC858BHQ BC858CHQ		-30	
Emitter-base breakdown voltage	V _{EBO}	V	I _E =-1μA, I _C =0	-5		
Collector cut-off current	I _{CBO}	nA	V _{CB} =-30V, I _E =0		-100	
Emitter cut-off current	I _{EBO}	nA	V _{EB} =-5V, I _C =0		-100	
DC current gain	h _{FE}		BC856AHQ BC857AHQ BC858AHQ	V _{CE} =-5.0V, I _C =-2mA	125	250
			BC856BHQ BC857BHQ BC858BHQ		220	475
			BC857CHQ BC858CHQ		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	V _{CE} =-5Vdc, I _C =-10mA, f=100MHz	100		
Collector output capacitance	C _{ob}	pF	V _{CB} =-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
BC856AHQ THRU BC858CHQ	F2	Approximate 0.01	3000	30000	120000	7" reel



BC856HQ THRU BC858HQ

■BC856AHQ Characteristics (Typical)

Fig. 1-Static Characteristic

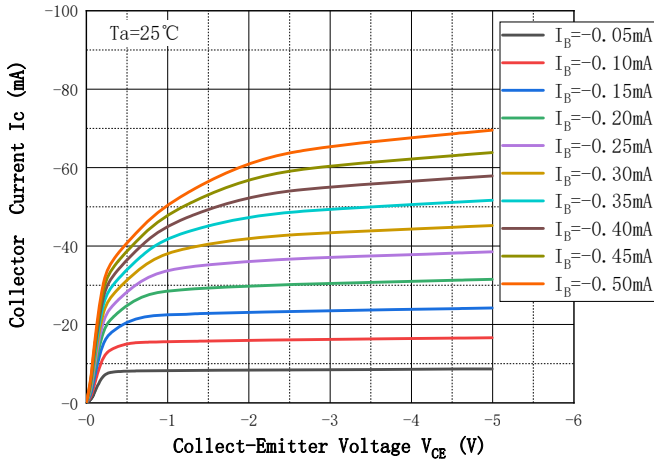


Fig. 2 - DC Current Gian

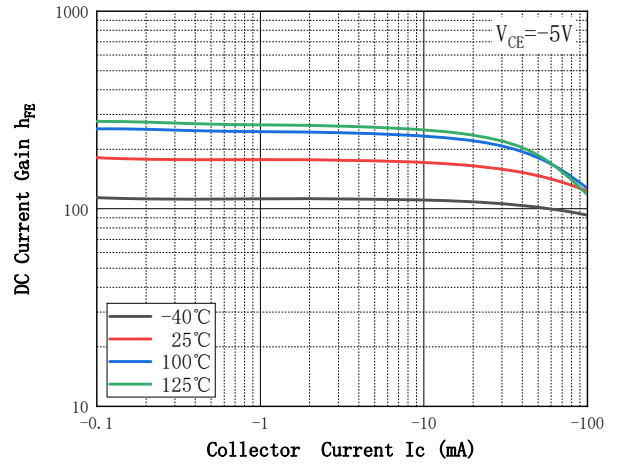


Fig. 3 - Collect-Emmitter Saturation Voltage

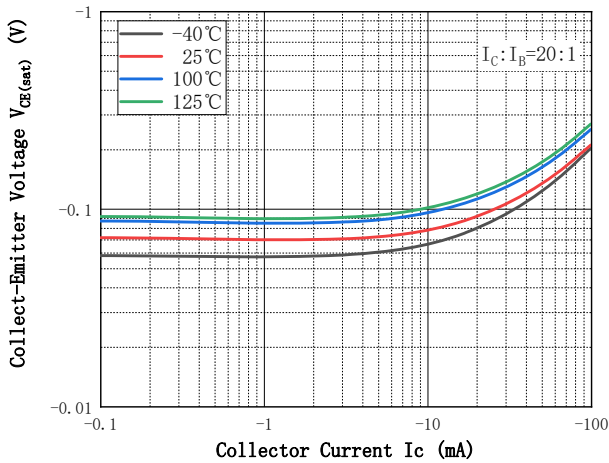


Fig. 4 - Base-Emmitter Voltage

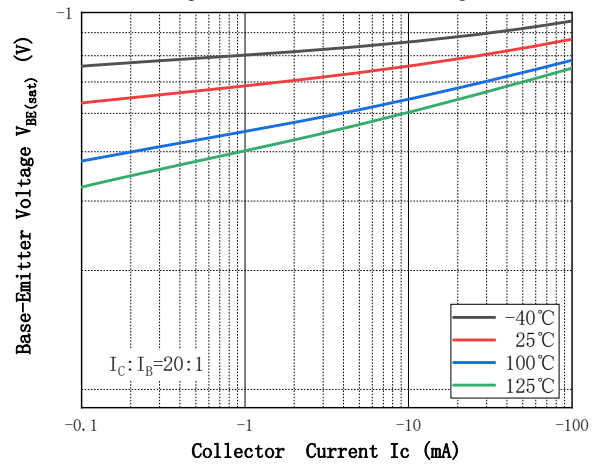


Fig. 5 - Base-Emmitter On Voltage

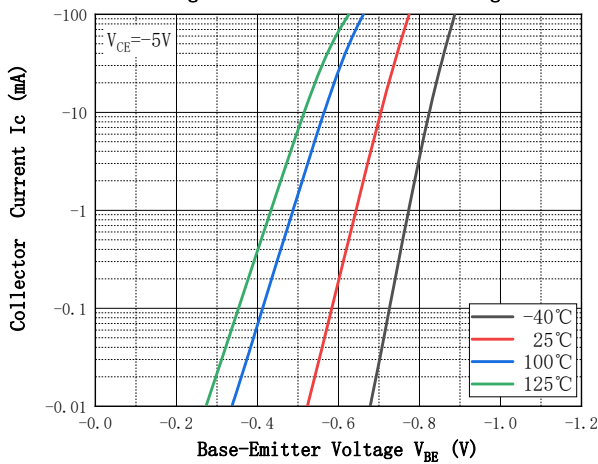
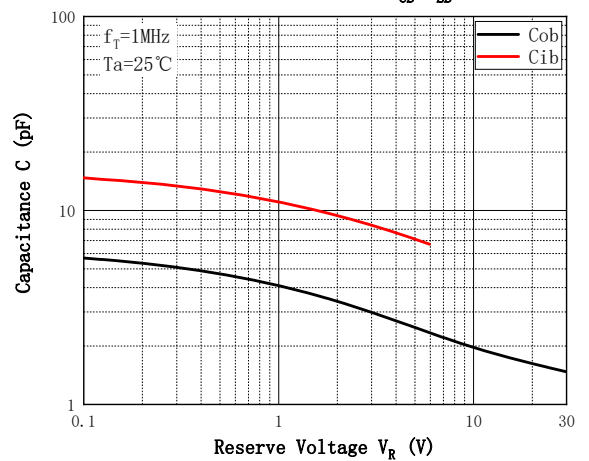


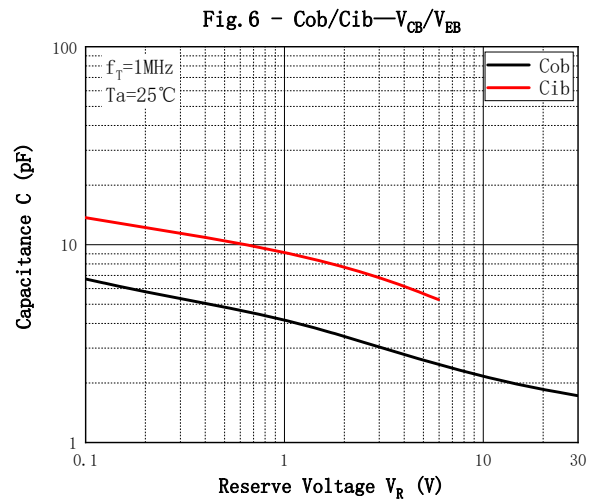
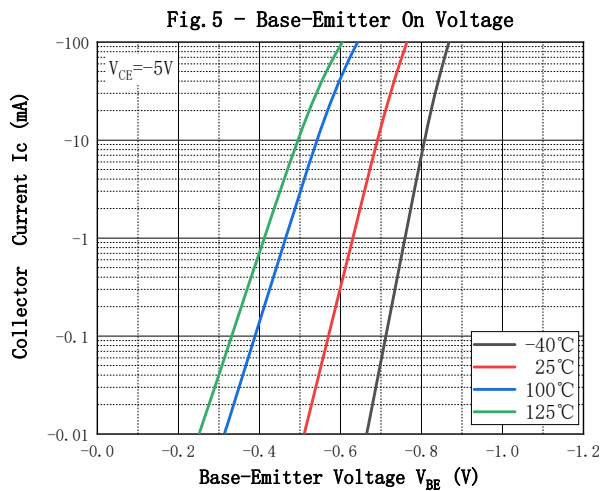
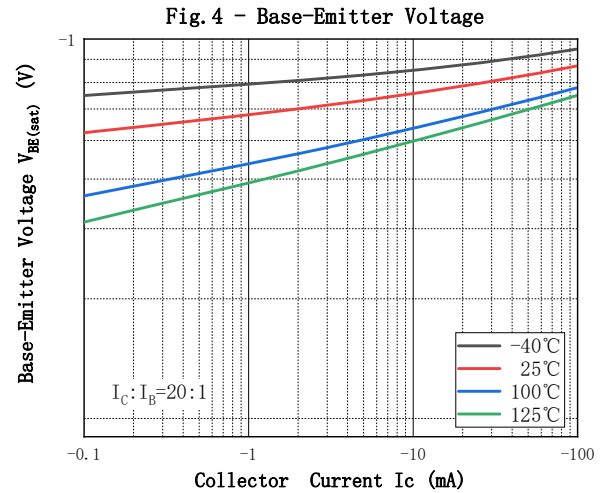
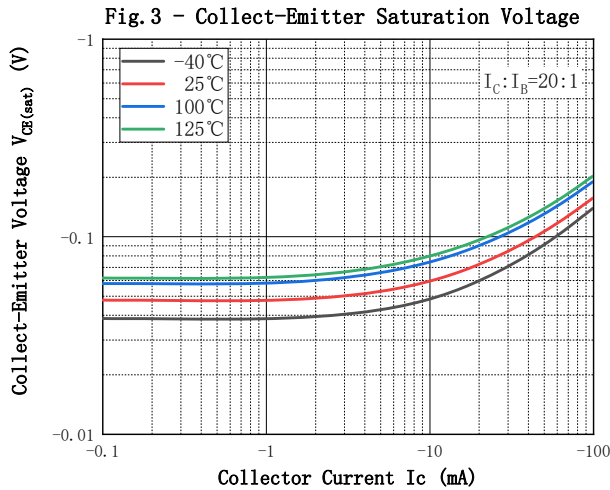
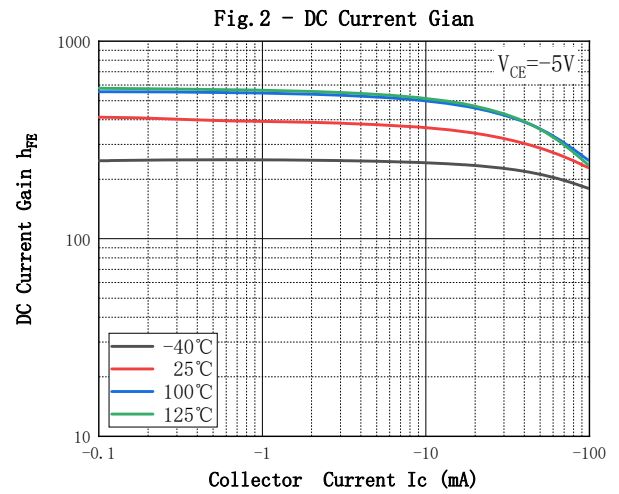
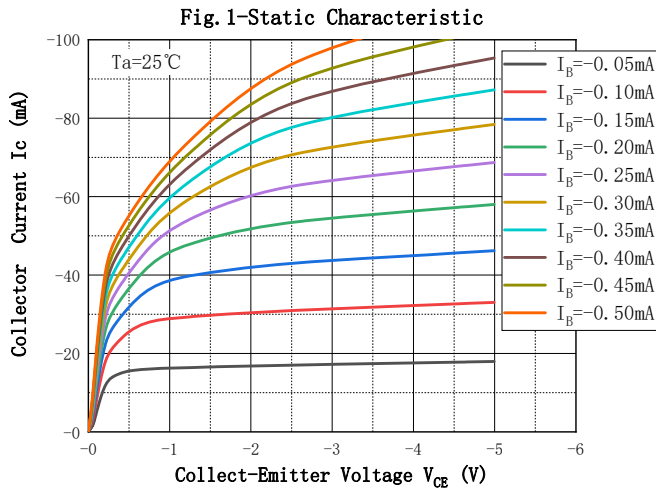
Fig. 6 - Cob/Cib—Vce/Vbe





BC856HQ THRU BC858HQ

■BC856BHQ Characteristics (Typical)





BC856HQ THRU BC858HQ

■BC857AHQ/BC858AHQ Characteristics (Typical)

Fig.1-Static Characteristic

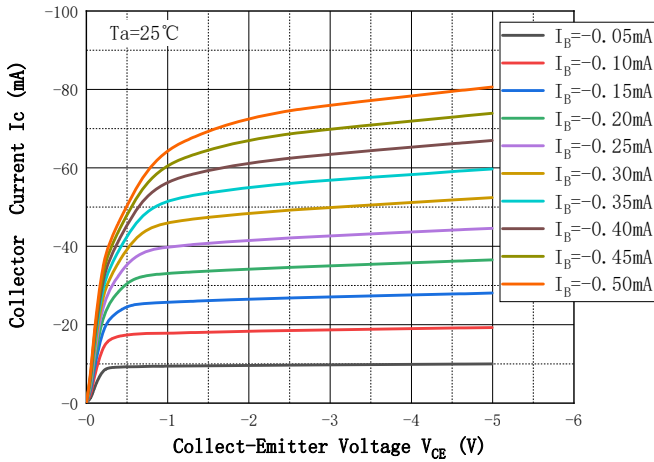


Fig.2 - DC Current Gian

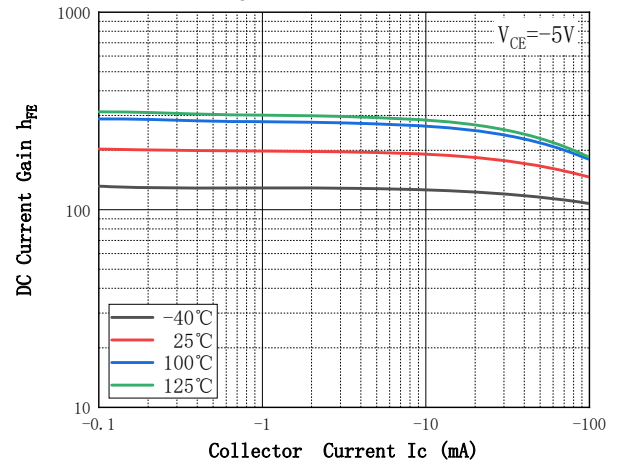


Fig.3 - Collect-Emittor Saturation Voltage

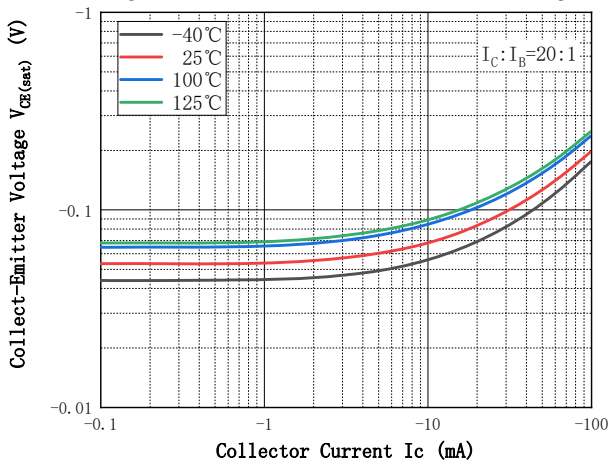


Fig.4 - Base-Emittor Voltage

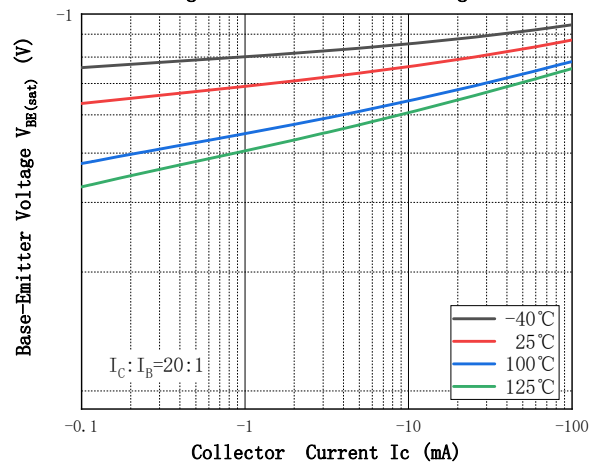


Fig.5 - Base-Emittor On Voltage

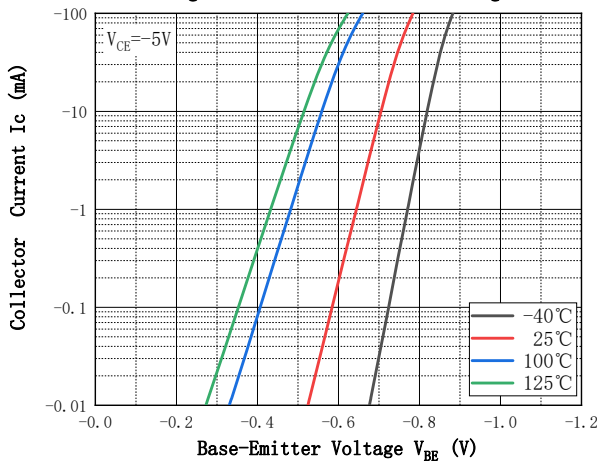
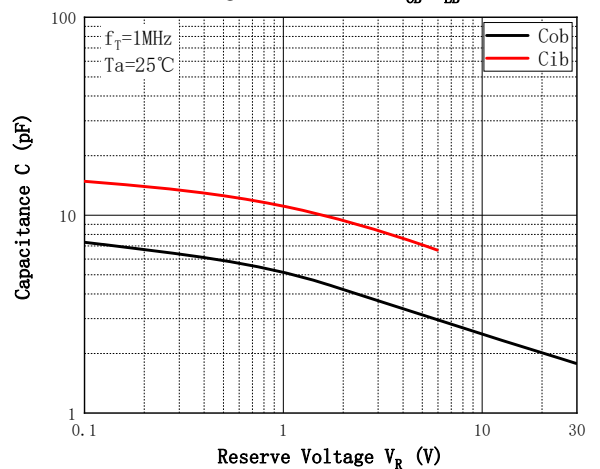


Fig.6 - Cob/Cib— V_{CB}/V_{EB}





BC856HQ THRU BC858HQ

■BC857BHQ/BC858BHQ Characteristics (Typical)

Fig. 1-Static Characteristic

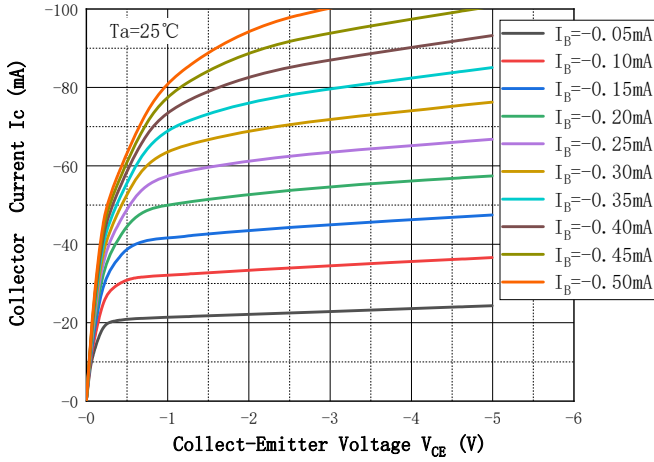


Fig. 2 - DC Current Gian

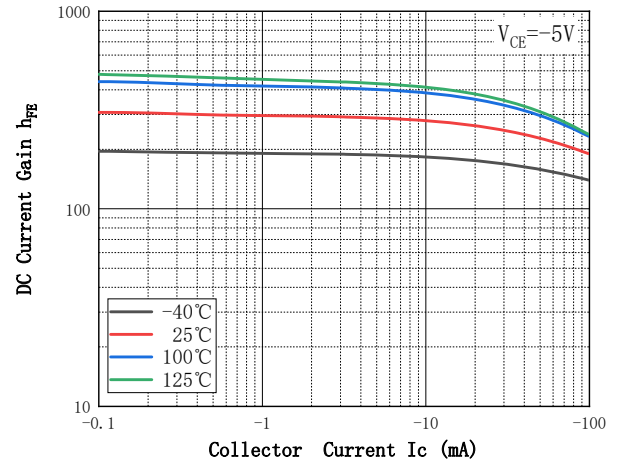


Fig. 3 - Collect-Emittor Saturation Voltage

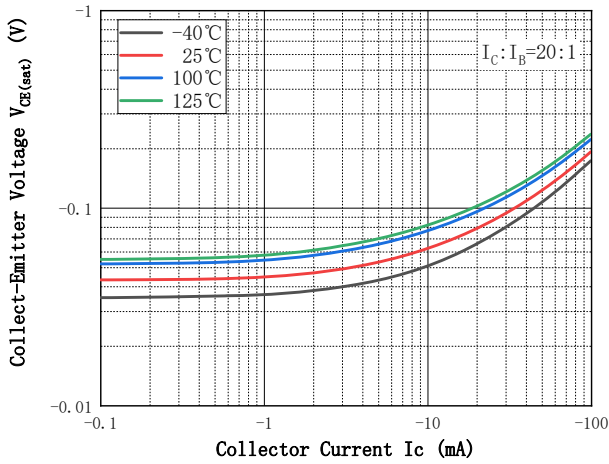


Fig. 4 - Base-Emittor Voltage

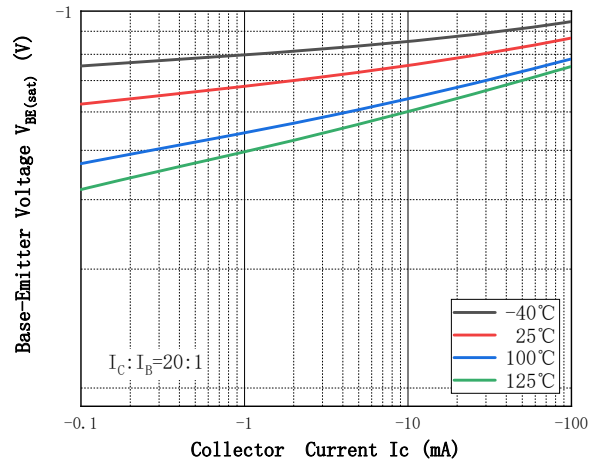


Fig. 5 - Base-Emittor On Voltage

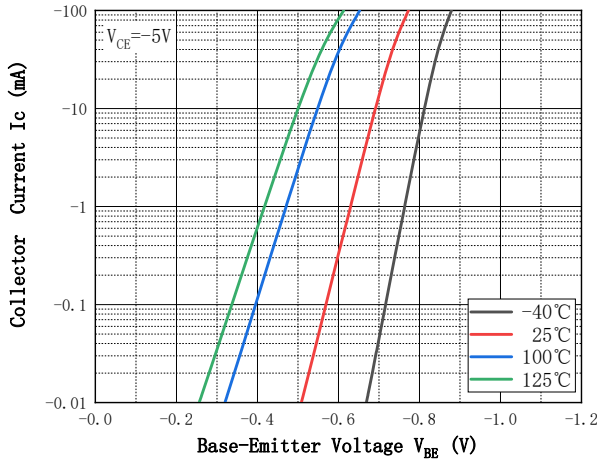
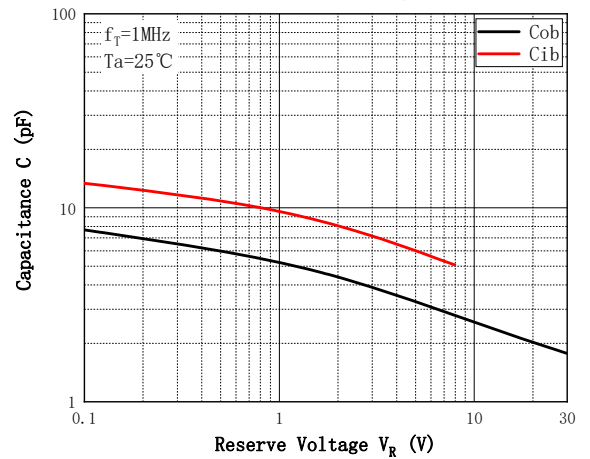


Fig. 6 - Cob/Cib— V_{CE}/V_{EB}





BC856HQ THRU BC858HQ

■BC857CHQ/BC858CHQ Characteristics (Typical)

Fig.1-Static Characteristic

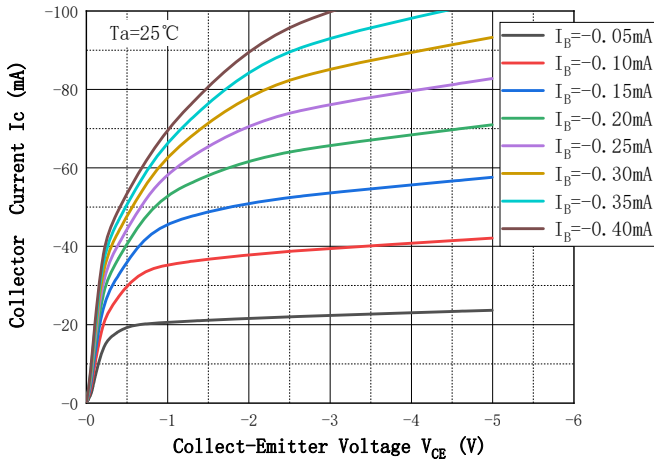


Fig.2 - DC Current Gian

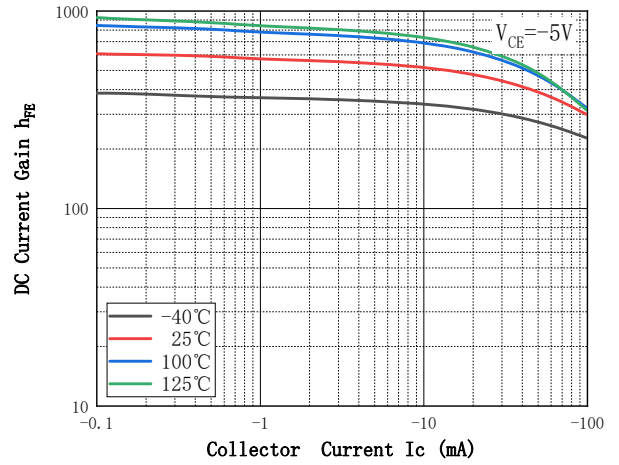


Fig.3 - Collect-Emmitter Saturation Voltage

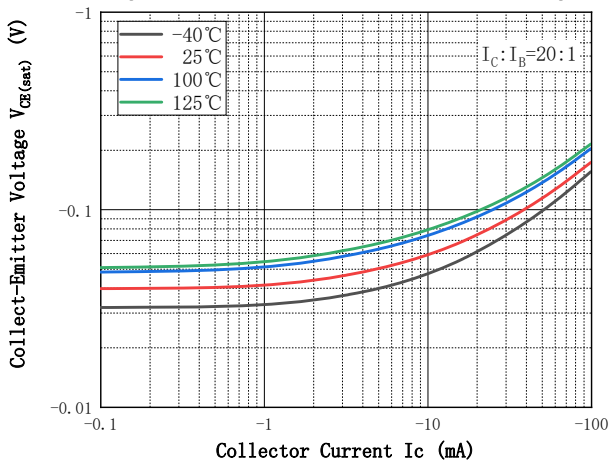


Fig.4 - Base-Emmitter Voltage

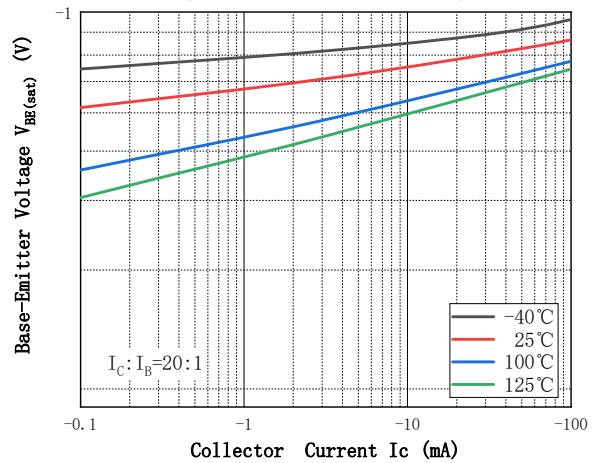


Fig.5 - Base-Emmitter On Voltage

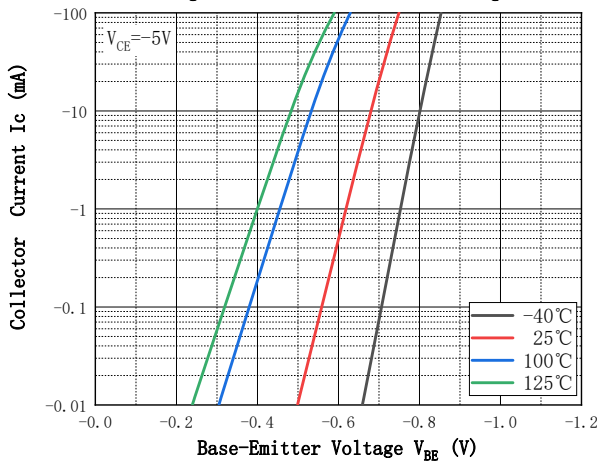
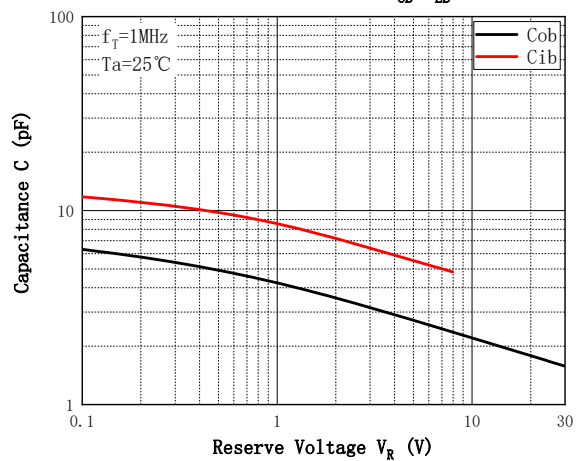


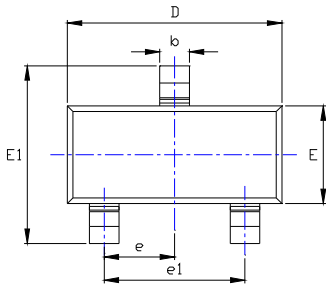
Fig.6 - Cob/Cib—Vce/Vbe



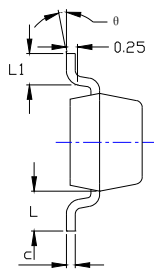


BC856HQ THRU BC858HQ

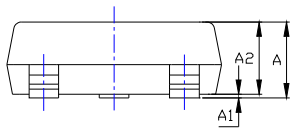
■ SOT-23 Package Outline Dimensions & Suggested Pad Layout



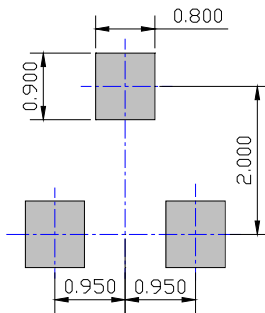
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

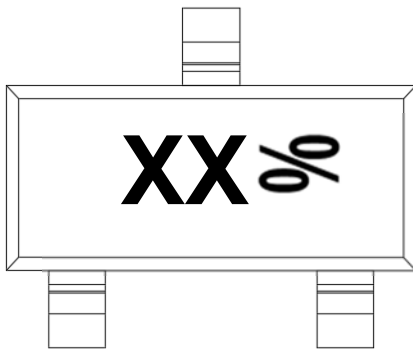
SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037 TYP		0.950 TYP	
e1	0.071	0.079	1.800	2.000
L	0.022 REF		0.550 REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

■ Marking Information



PN	Marking Code
BC856AHQ	3A %
BC856BHQ	3B %
BC857AHQ	3E %
BC857BHQ	3F %
BC857CHQ	3G %
BC858AHQ	3J %
BC858BHQ	3K %
BC858CHQ	3L %

Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black
4. XX% is Marking Code (%=placeholder for date code)

*Date Code vary depending upon production date.



BC856HQ THRU BC858HQ

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, lifesustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.