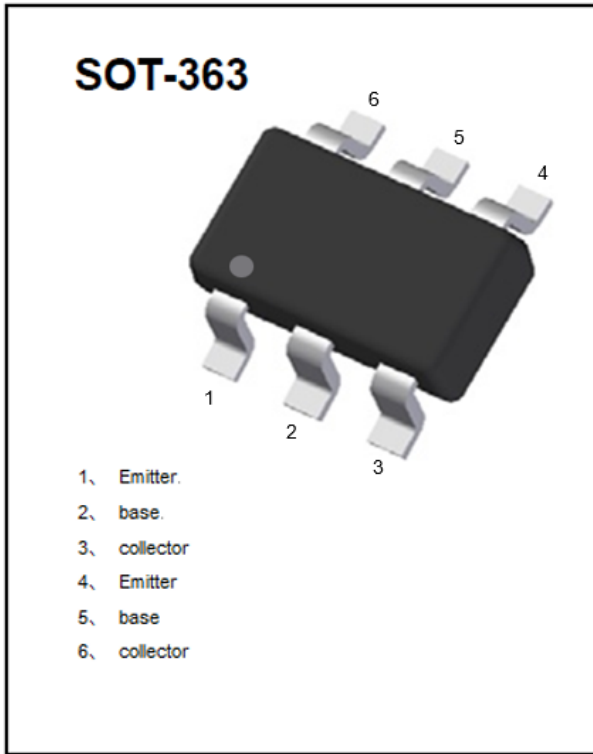


## Dual PNP Small Signal Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Reduces number of components and board space
- No mutual interference between the transistors
- Part no. with suffix "HQ" means AEC-Q101 qualified

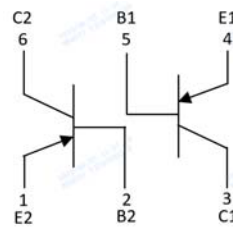
### Application

- General purpose Switching and Amplification

### Mechanical Data

- Package: SOT-363
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102

### Equivalent circuit



### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Value
Collector-Base Voltage	$V_{CBO}$	V	-50
Collector-Emitter Voltage	$V_{CEO}$	V	-45
Emitter-Base Voltage	$V_{EBO}$	V	-5
Collector Current	$I_C$	mA	-100
Total Device Dissipation	$P_C$	mW	200
Thermal Resistance Junction to Ambient (*)	$R_{thJA}$	K/W	625
Junction Temperature	$T_J$	°C	-55 to +150
Storage Temperature	$T_{STG}$	°C	-55 to +150

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



# BC857BSHQ

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

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	$V_{CBO}$	V	$I_C=-10\mu A, I_E=0$	-50		
Collector-emitter breakdown voltage	$V_{CEO}$	V	$I_C=-10mA, I_B=0$	-45		
Emitter-base breakdown voltage	$V_{EBO}$	V	$I_E=-10\mu A, I_C=0$	-5		
Collector cut-off current	$I_{CBO}$	nA	$V_{CB}=-30V, I_E=0$			-100
Emitter-Base Cut-off current	$I_{EBO}$	nA	$V_{EB}=-5V, I_C=0$			-100
DC current gain	$h_{FE}$		$V_{CE}=-5V, I_C=-2mA$	220		475
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=-10mA, I_B=-0.5mA$			-0.3
			$I_C=-100mA, I_B=-5mA$			-0.65
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=-10mA, I_B=-0.5mA$			-1
			$I_C=-100mA, I_B=-5mA$			-1.1
Base-emitter Voltage	$V_{BE}$	V	$V_{CE}=-5V, I_C=-2mA$	-0.6		-0.75
Transition frequency	$f_T$	MHz	$V_{CE}=-5V, I_C=-10mA, f=100MHz$	100		

## ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC857BSHQ	F2	Approximate 0.007g	3000	30000	120000	7" reel

## ■ Characteristics (Typical)

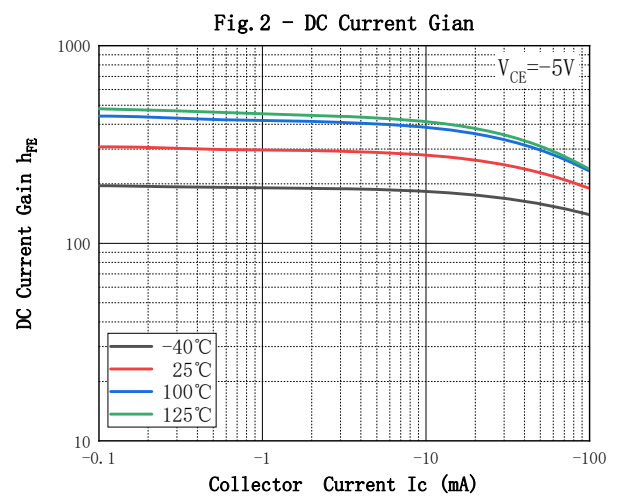
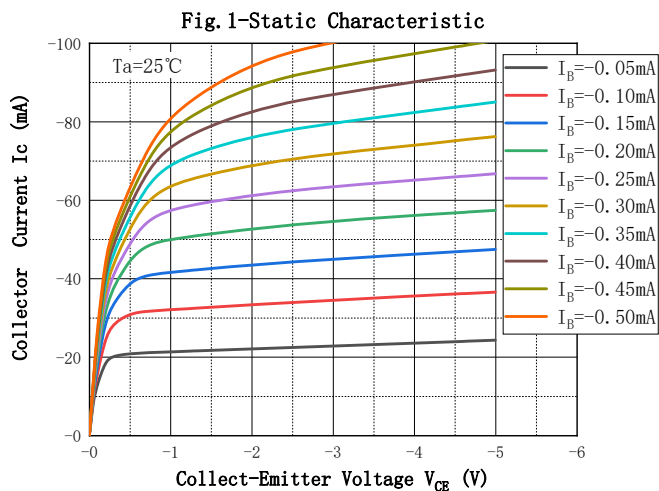




Fig. 3 - Collect-Emmitter Saturation Voltage

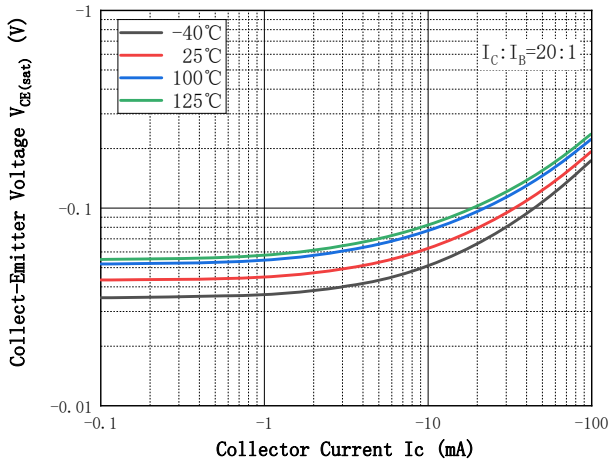


Fig. 4 - Base-Emmitter Voltage

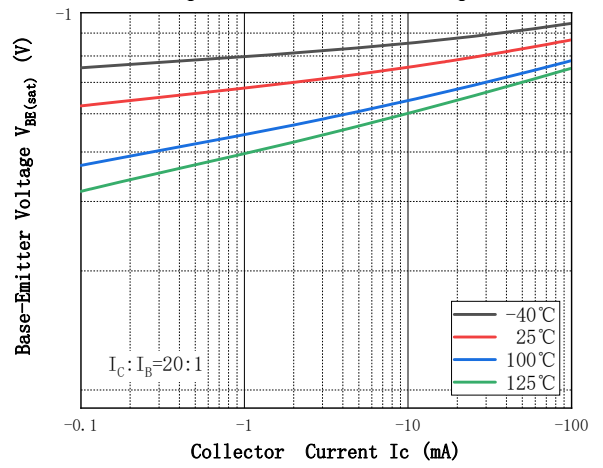


Fig. 5 - Base-Emmitter On Voltage

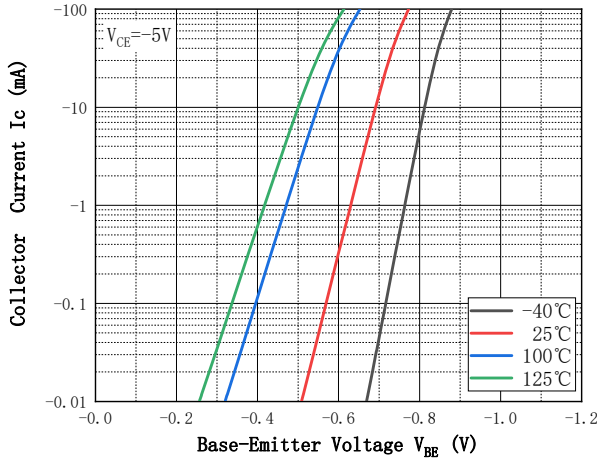
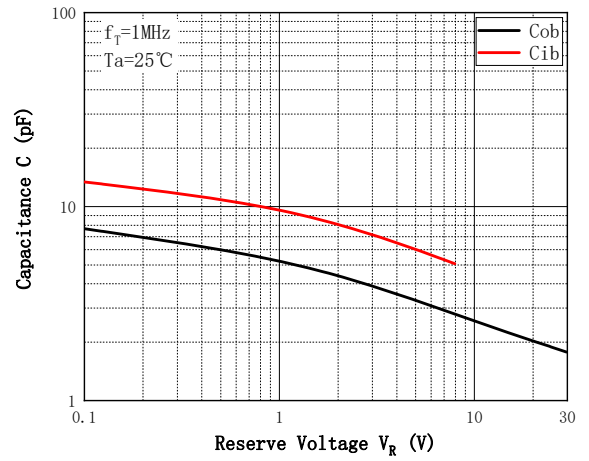


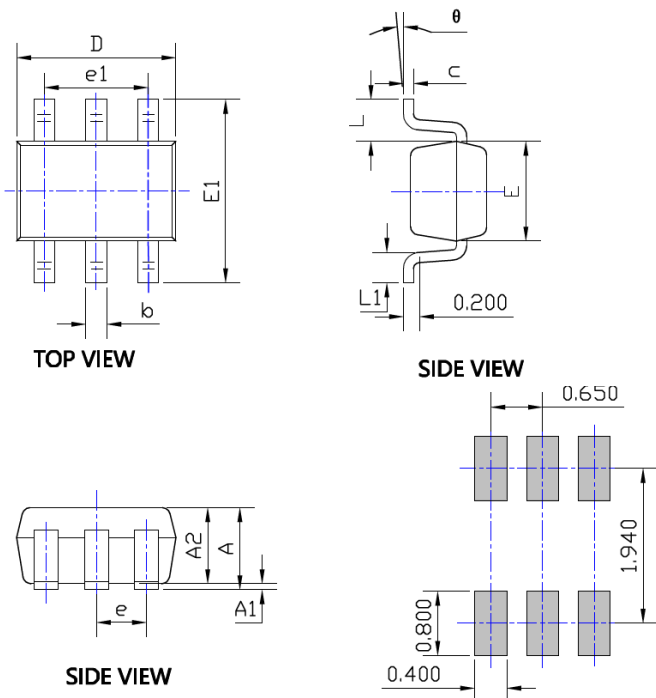
Fig. 6 - Cob/Cib— $V_{CB}/V_{EB}$





# BC857BSHQ

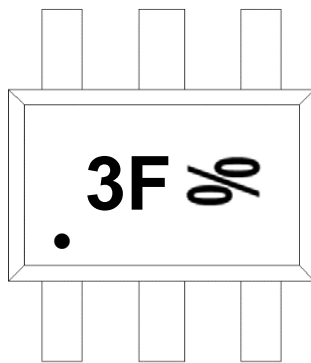
## ■ SOT-363 Package Outline Dimensions & Suggested Pad Layout



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.014	0.150	0.350
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
$\theta$	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



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

\*Date Code vary depending upon production date.



## BC857BSHQ

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