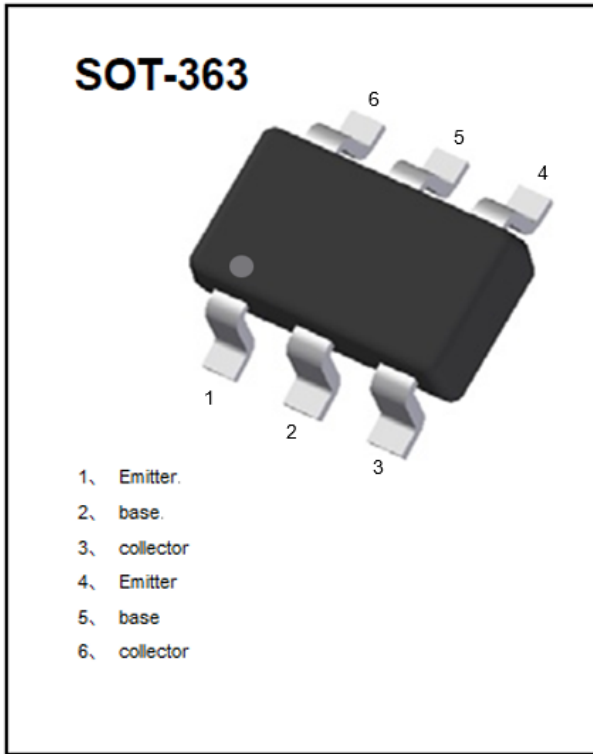


Dual NPN Small Signal Transistor



Features

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

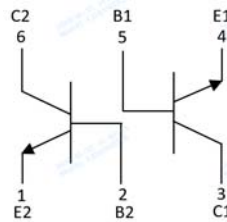
Application

- 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	6
Collector Current -Continuous	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.



BC847BSHQ

■ 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	$I_E=10\mu A, I_C=0$	6		
Collector cut-off current	I_{CBO}	nA	$V_{CB}=30V, I_E=0$			100
Collector cut-off current	I_{EBO}	nA	$V_{EB}=5V, I_C=0$			100
DC current gain	h_{FE}		$V_{CE}=5V, I_C=2mA$	200		450
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=0.5mA$			0.25
			$I_C=100mA, I_B=5mA$			0.65
Base-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=10mA, I_B=0.5mA$			1.05
			$I_C=100mA, I_B=5mA$			1.1
Base-emitter Voltage	V_{BE}	V	$V_{CE}=5V, I_C=2mA$	0.58		0.7
Transition frequency	f_T	MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$	100		

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC847BSHQ	F2	Approximate 0.007g	3000	30000	120000	7" reel



■ Characteristics (Typical)

Fig.1-Static Characteristic

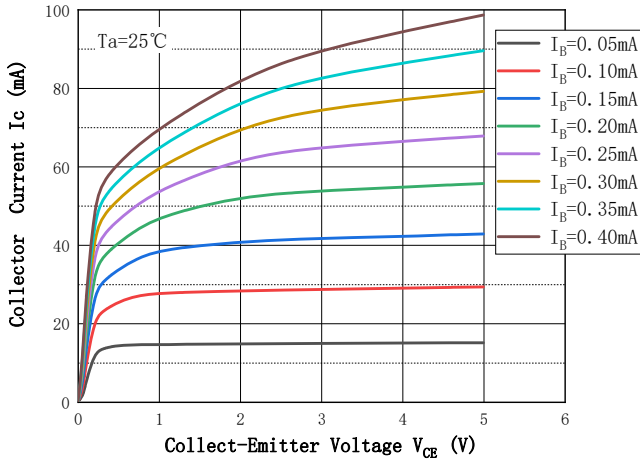


Fig.2 - DC Current Gian

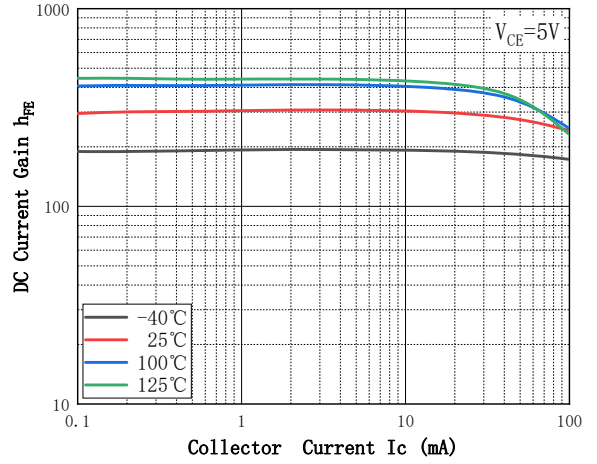


Fig.3 - Collect-Emittor Saturation Voltage

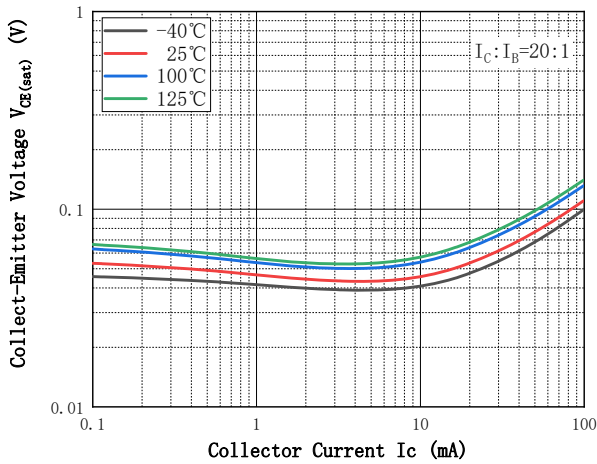


Fig.4 - Base-Emittor Voltage

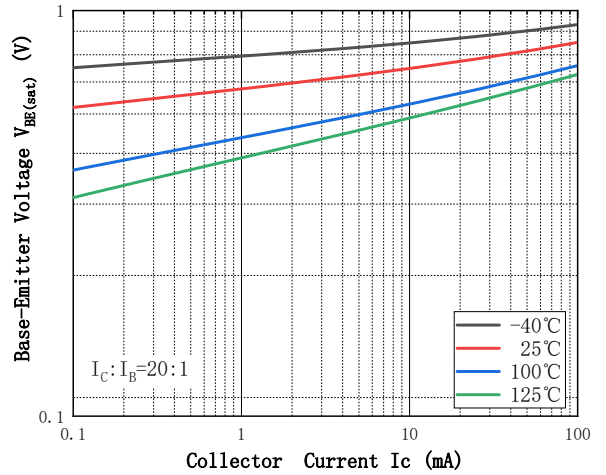


Fig.5 - Base-Emittor On Voltage

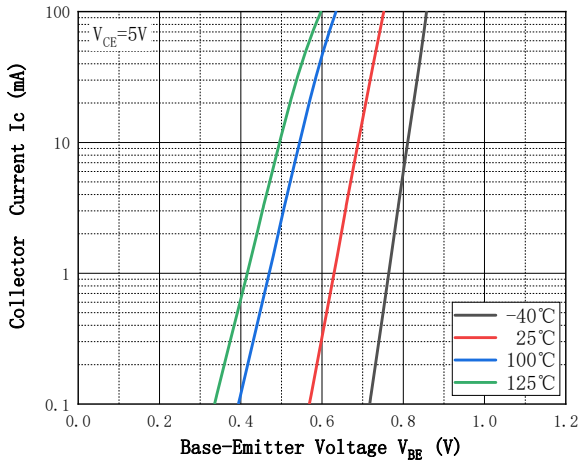
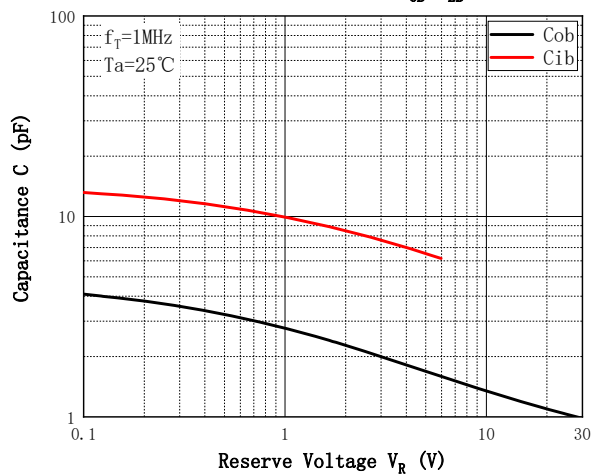


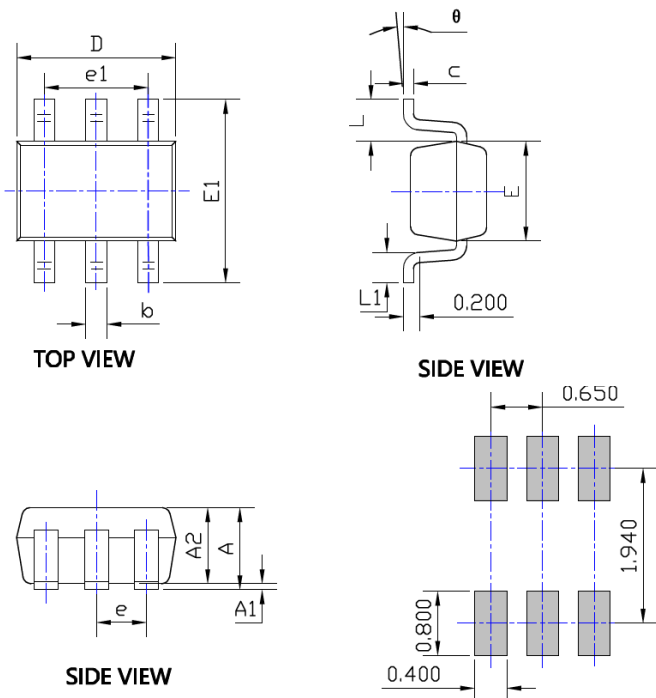
Fig.6 - Cob/Cib—Vce/Vbe





BC847BSHQ

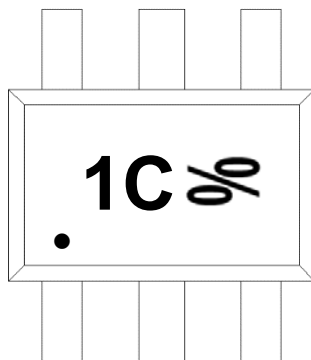
■ SOT-363 Package Outline Dimensions & Suggested Pad Layout



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
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



Note:

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

*Date Code vary depending upon production date.



BC847BSHQ

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.