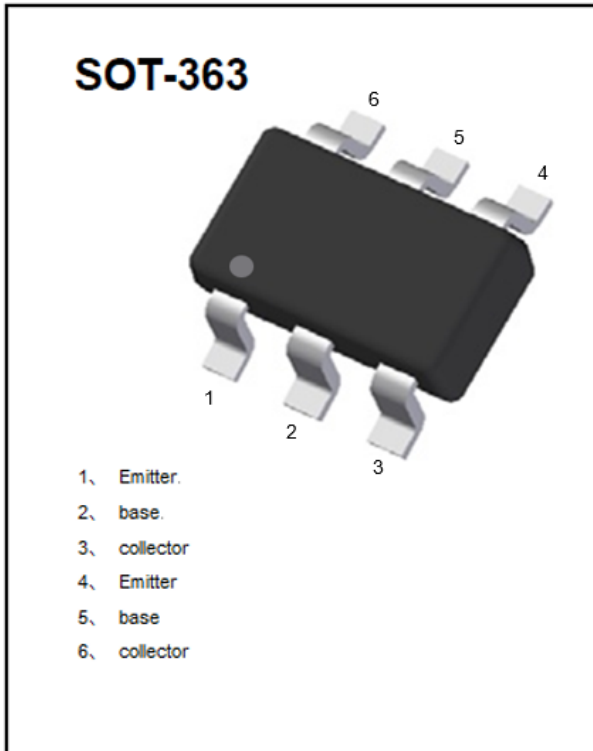


## Dual NPN Small Signal Transistor



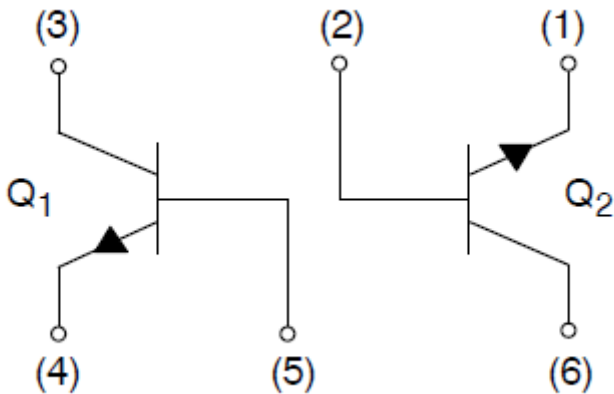
### Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- NPN

### Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 1C

### Equivalent circuit





# BC847BS

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

### Q1&Q2-NPN

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	VCBO	V	IC=10μA,IE=0	50
Collector-Emitter Voltage	VCEO	V	IC=10mA,IB=0	45
Emitter-Base Voltage	VEBO	V	IE=10μA,IC=0	6
Collector Current -Continuous	IC	mA		100
Total Device Dissipation	PC	mW		300
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150

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

### Q1&Q2-NPN

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	V	IC=10μA,IE=0	50		
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	V	IC=10mA,IB=0	45		
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	V	IE=10μA,IC=0	6		
Collector cut-off current	I <sub>CBO</sub>	nA	VCB=30V,IB=0			15
Collector cut-off current	I <sub>EBO</sub>	nA	VEB=5V, IC=0			100
DC current gain	h <sub>FE</sub>		VCE=5V,IC=2mA	200		450
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	V	IC=10mA,IB=0.5mA			0.25
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	V	IC=100mA,IB=5mA			0.65
Base-emitter saturation voltage	V <sub>BE(sat)*</sub>	V	IC=10mA,IB=0.5mA		0.7	
Base-emitter saturation voltage	V <sub>BE(sat)*</sub>	V	IC=100mA,IB=5mA		0.9	
Base-emitter Voltage	VBE	V	VCE=5V,IC=2mA	0.58	0.665	0.7
Transition frequency	Ft	MHz	VCE=5V,IC=10mA,f=100MHz		200	

## ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC847BS	F2	Approximate 0.009g	3000	30000	120000	7" reel



■ Characteristics (Typical)  
Q1&Q2-NPN

Fig. 1 - Static Characteristics

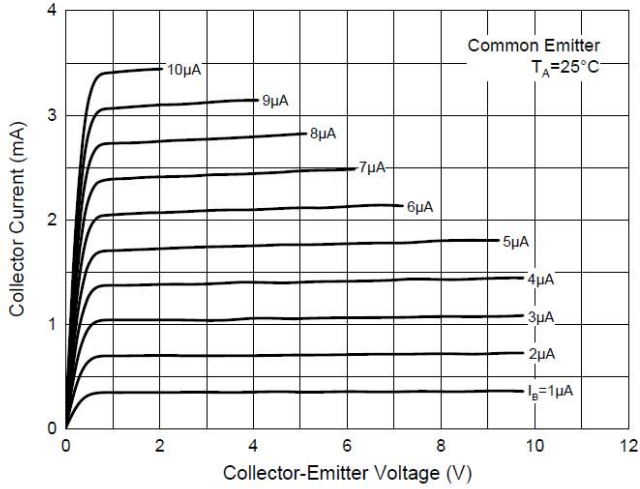


Fig. 2 - DC Current Gain Characteristics

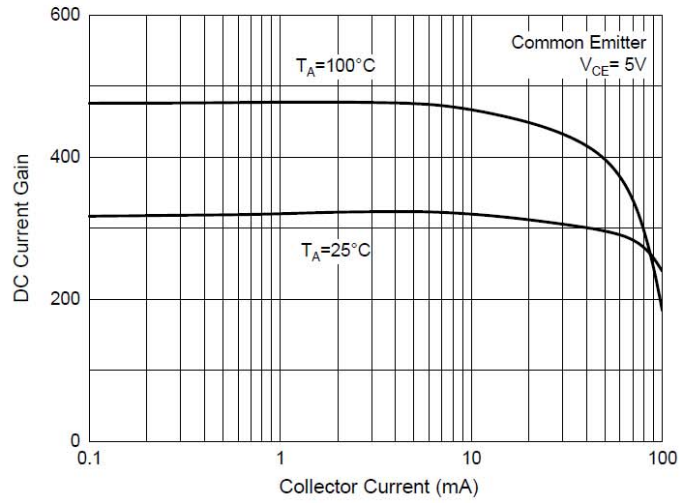


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

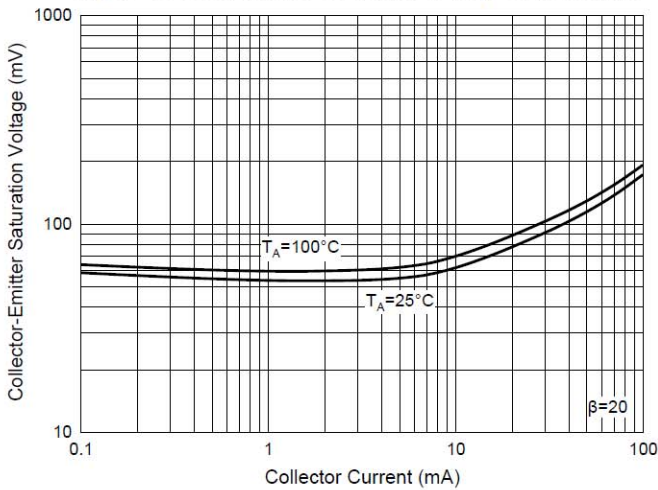


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

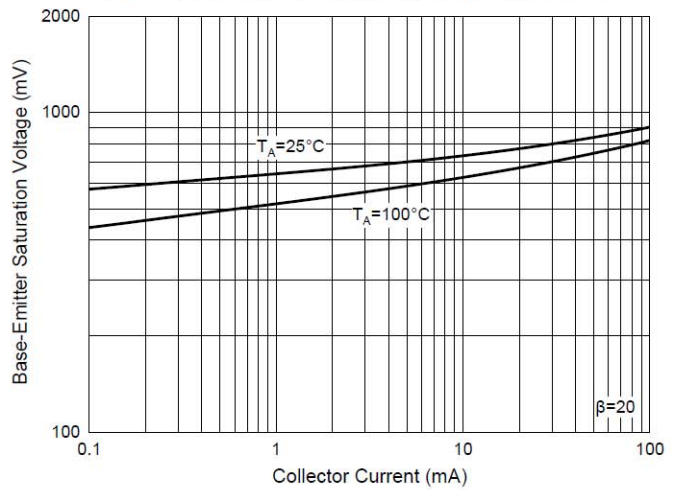


Fig. 5 - Base-Emitter Voltage Characteristics

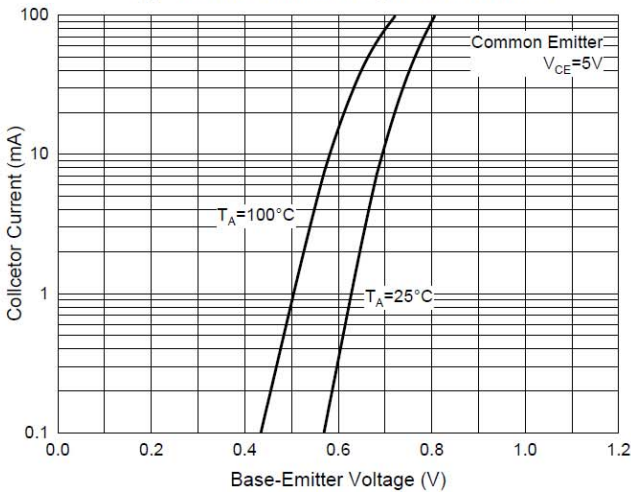
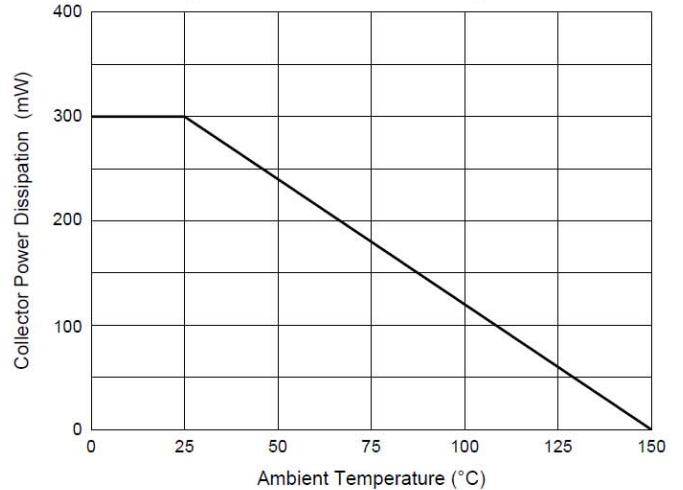


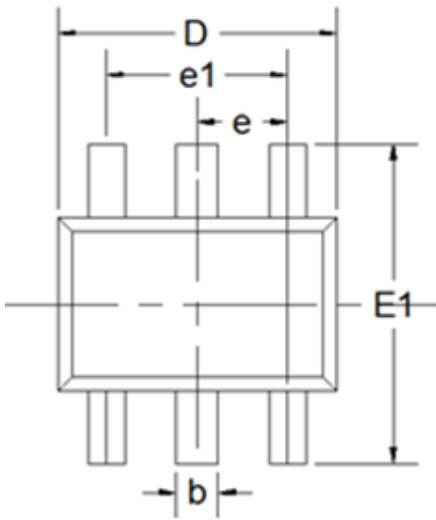
Fig. 6 - Collector Power Derating Curve



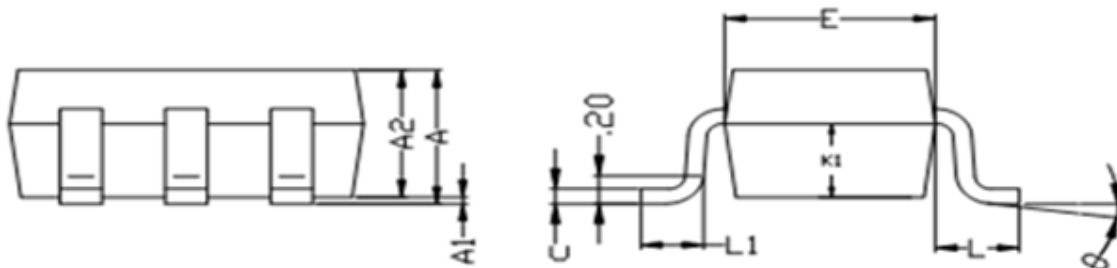


# BC847BS

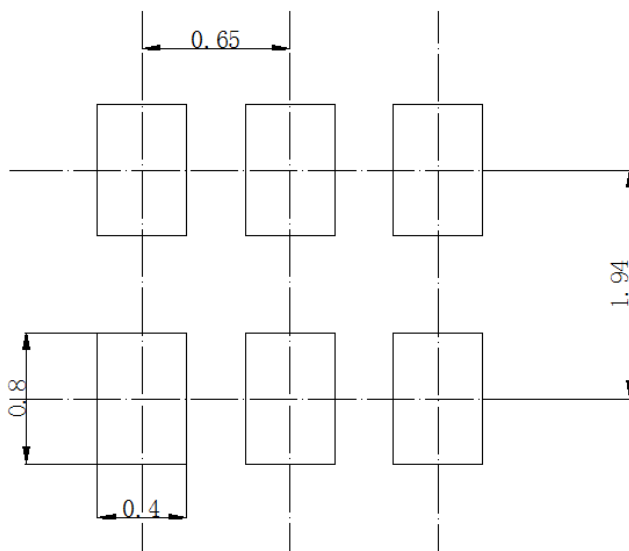
## ■SOT-363 Package Outline Dimensions



DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.9	1.1
A1	0	0.004	0	0.1
A2	0.035	0.039	0.9	1
b	0.006	0.014	0.15	0.35
c	0.002	0.01	0.05	0.25
D	0.071	0.087	1.8	2.2
E	0.045	0.053	1.15	1.35
E1	0.085	0.096	2.15	2.45
e	0.026Typ		0.65Typ	
e1	0.047	0.055	1.2	1.4
L	0.021Typ		0.525Typ	
L1	0.01	0.018	0.26	0.46
φ	0°	8°	0°	8°



## ■SOT-363 Suggested Pad Layout



Unit: mm



## BC847BS

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