

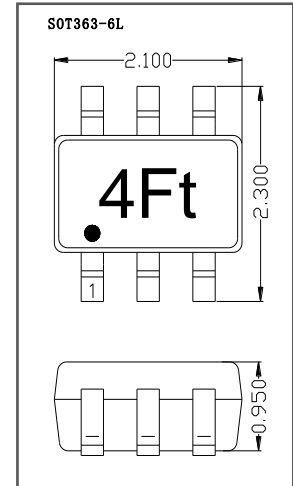
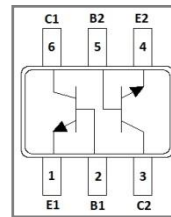
## DATA SHEET

### BC846BS

- ◇Epoxy meets UL 94 V-0 flammability rating
- ◇Lead Free Finish/RoHS Compliant
- ◇For Switching and AF Amplifier Applications
- ◇Rugged and reliable

Device Marking Code	
BC846BS	4Ft

Equivalent Circuit



### MAXIMUM RATINGS (Ta = 25 °C)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	65	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$P_C$	Collector Power Dissipation	200	mW
$I_C$	Collector Current	100	mA
$T_J$	Junction Temperature	-55 to 150	°C
$T_{STG}$	Storage Temperature	-55 to 150	°C
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	°C/W

### ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=10\mu A, I_E=0$	80			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	65			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu A, I_C=0$	6			V
$I_{CBO}$	Collector cut-off current	$V_{CB}=30V, I_E=0$			15	nA
$I_{EBO}$	Emitter-Base Cutoff Current	$V_{EB}=5V, I_C=0$			100	nA
$h_{FE}$	DC current gain*	$V_{CE}=5V, I_C=2mA$	200		450	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=10mA, I_B=0.5mA$			0.1	V
		$I_C=100mA, I_B=5mA$			0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=10mA, I_B=0.5mA$		0.75	0.85	V
$V_{BE}$	Base-Emitter Voltage	$V_{CE}=5V, I_C=2mA$			0.7	V
		$V_{CE}=5V, I_C=10mA$			0.77	V
$f_T$	Transition Frequency	$V_{CE}=5V, I_C=10mA,$ $f=100MHz$		100		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		1.5		pF

\* Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

TYPICAL CHARACTERISTICS

Fig. 1 - Static Characteristics

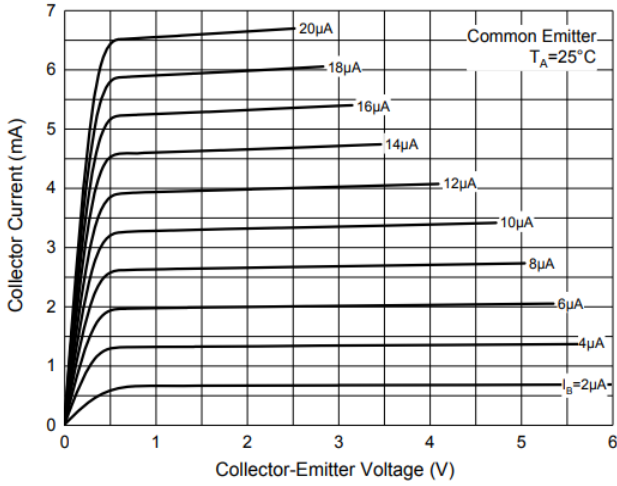


Fig. 2 - DC Current Gain Characteristics

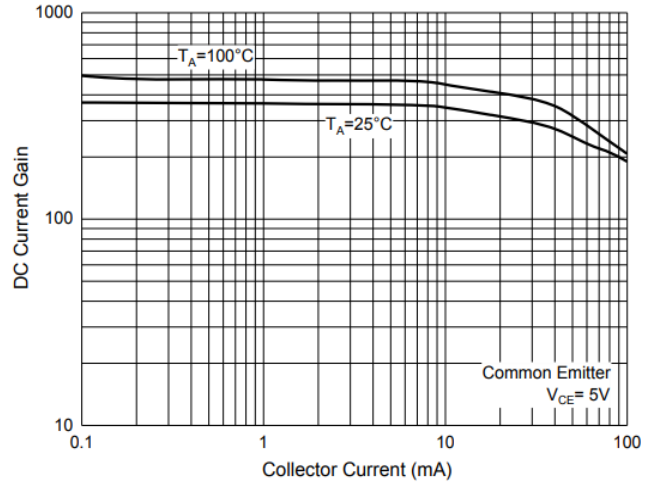


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

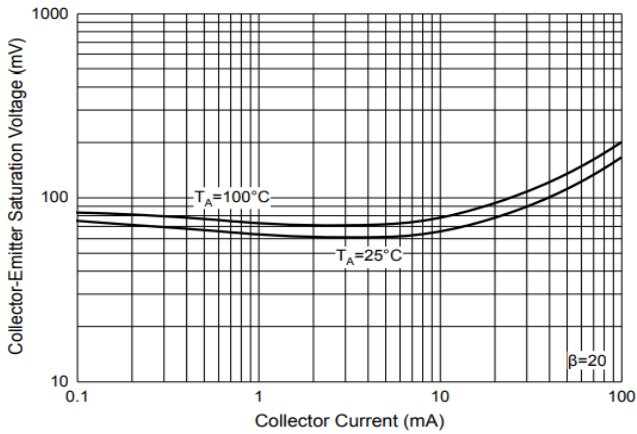


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

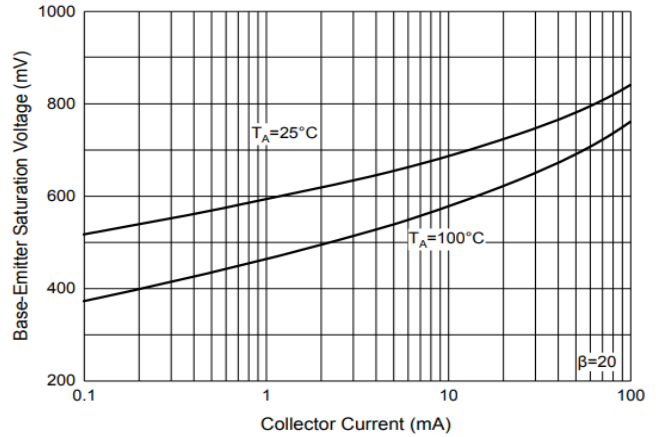


Fig. 5 - Base-Emitter Voltage Characteristics

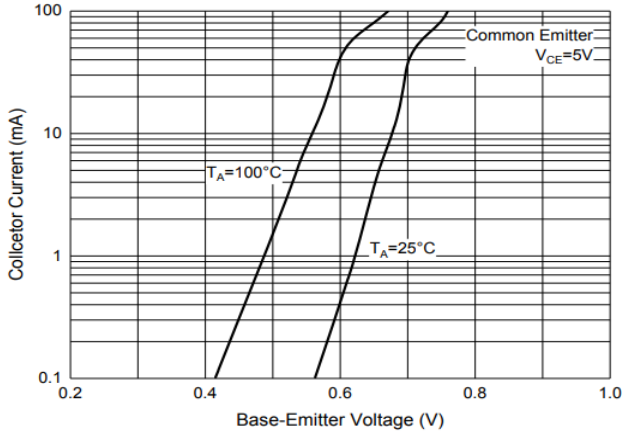
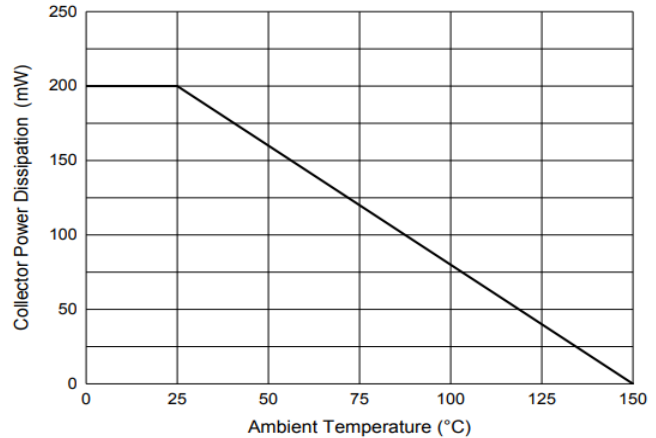


Fig. 6 - Collector Power Derating Curve

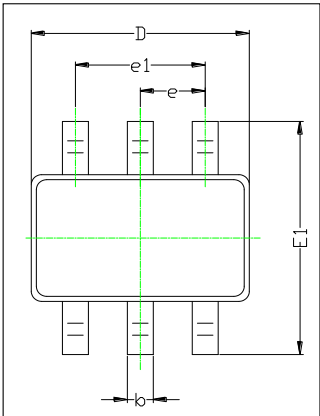
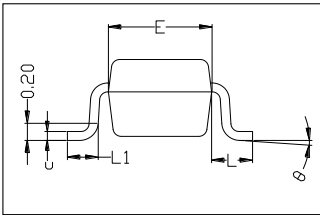
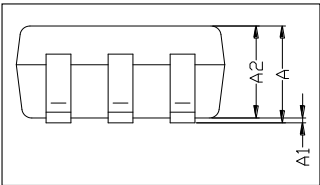
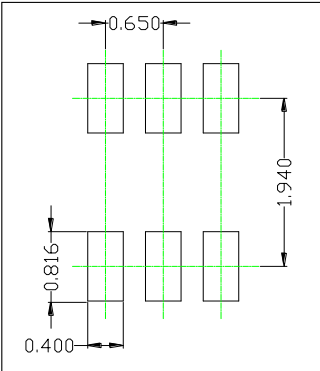


ORDERING INFORMATION

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
BC846BS	SOT363-6L	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

PACKAGE DIMENSIONS

Package outline : SOT363-6L

SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.900	1.000
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
θ	0°	8°

Notice:

- Lead plating: Pb free solder
- Lead thickness includes solder plating
- Lead frame: CAC-5
- Other Tolerance: ±0.05
- Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
- Unit: mm

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