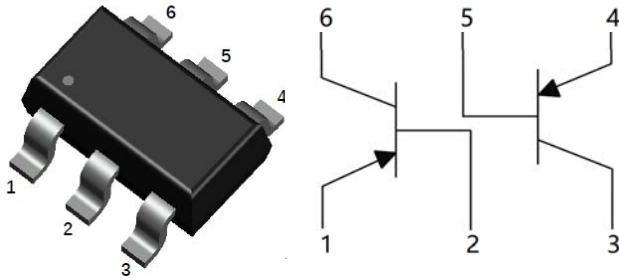


## Dual PNP Small Signal Transistor



1: Emitter 4: Emitter  
2: Base 5: Base  
3: Collector 6: Collector

### Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic Insertion

### Application

- Signal amplification
- Switching circuit

### Mechanical data

- **Package:** SOT-23-6L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

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

Item	Symbol	Unit	Conditions	Value
Device marking code				5Ft
Collector-base voltage	$V_{CB0}$	V	$I_C = -10\mu A, I_E = 0$	-80
Collector-emitter voltage	$V_{CE0}$	V	$I_C = -10mA, I_B = 0$	-65
Emitter-base voltage	$V_{EB0}$	V	$I_E = -10\mu A, I_C = 0$	-5
Collector current	$I_C$	mA		-100
Power dissipation	$P_D$	mW		200
Operation junction temperature	$T_J$	°C		-55 to +150
Storage temperature	$T_{STG}$	°C		-55 to +150



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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	$I_C = -10\mu A, I_E = 0$	-80		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	$I_C = -10mA, I_B = 0$	-65		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E = -10\mu A, I_C = 0$	-5		
Collector cut-off current	$I_{CBO}$	nA	$V_{CB} = -30V, I_B = 0$			-15
Emitter-base cutoff 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	$V_{CE(sat)1}$	V	$I_C = -10mA, I_B = -0.5mA$			-0.3
	$V_{CE(sat)2}$	V	$I_C = -100mA, I_B = -5mA$			-0.65
Base-emitter voltage	$V_{BE1}$	V	$V_{CE} = -5V, I_C = -2mA$	-0.6		-0.75
	$V_{BE2}$	V	$V_{CE} = -5V, I_C = -10mA$			-0.82
Transition frequency	$f_T$	MHz	$V_{CE} = -5V, I_C = -10mA, f = 100MHz$	100		

### ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	°C/W	625
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	°C/W	500

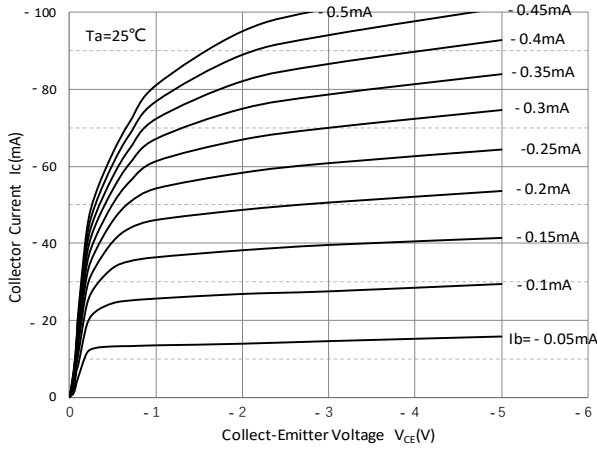
#### Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

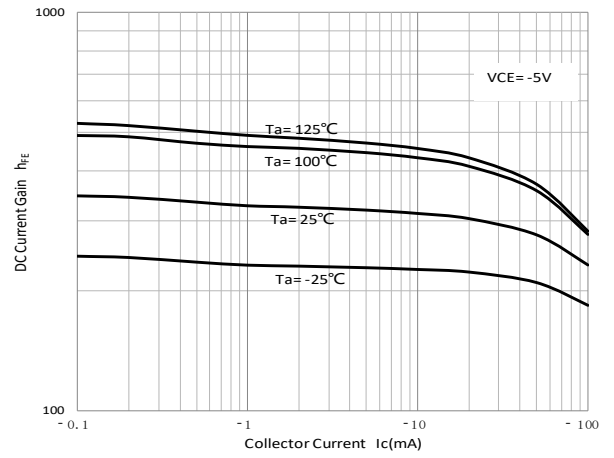


## ■ Characteristics

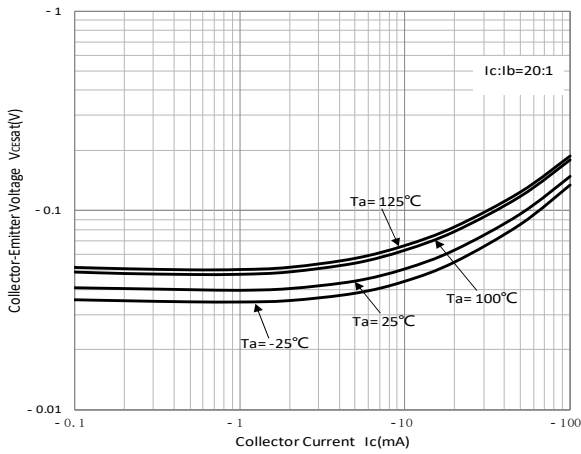
### Fig 1: Static Characteristics



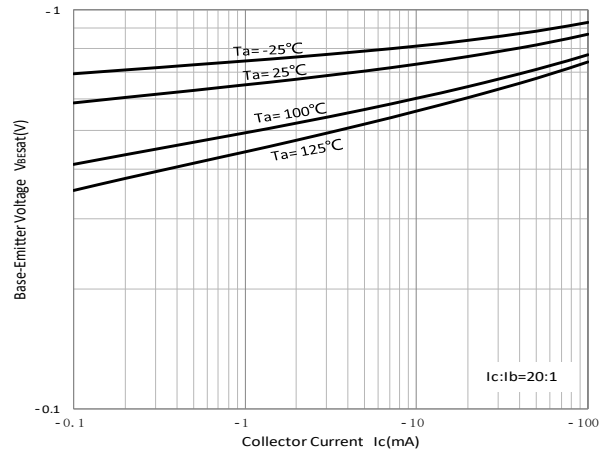
### Fig 2: DC Current Gain



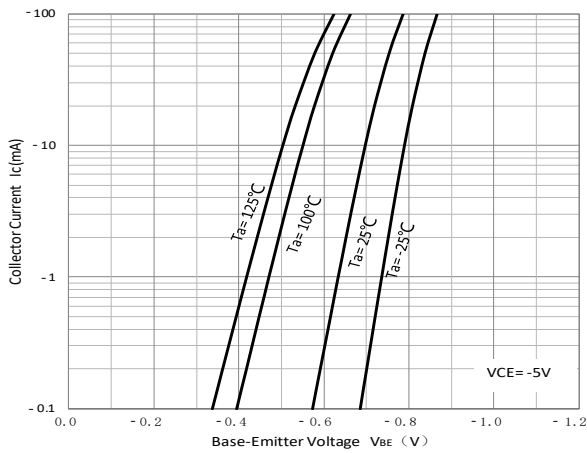
### Fig 3: Collector-Emitter Saturation Voltage



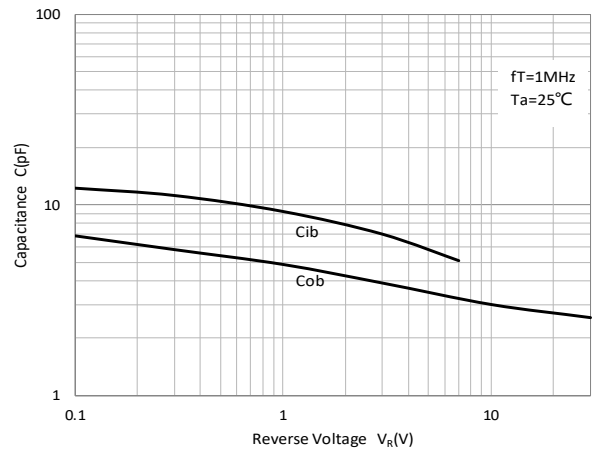
### Fig 4: Base-Emitter Saturation Voltage



### Fig 5: Base-Emitter On Voltage

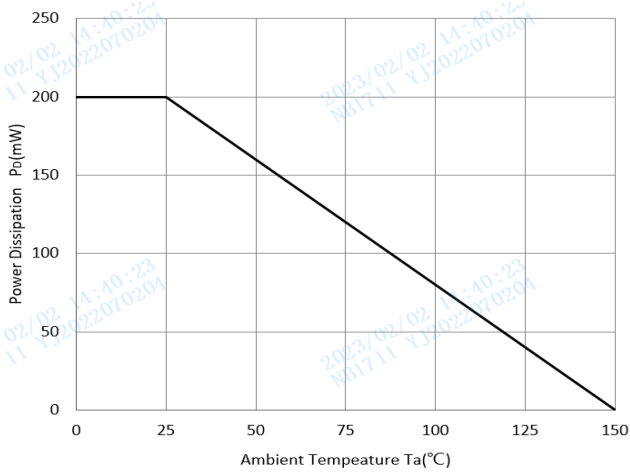


### Fig 6: Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>





**Fig 7: P<sub>D</sub>-T<sub>a</sub> Curve**



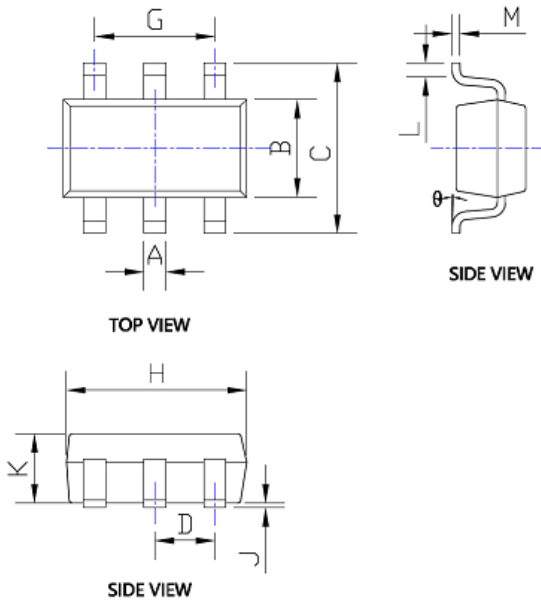


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## ■ Ordering Information

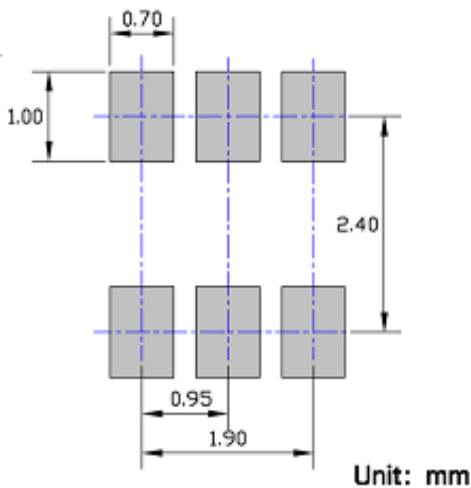
Prefered P/N	Packing Code	Unit weight(mg)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BC856DS	F2	Approximate 15.6	3000	30000	120000	7" reel

## ■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.012	0.020	0.300	0.500
B	0.059	0.067	1.500	1.700
C	0.104	0.116	2.650	2.950
D	0.037BSC		0.950BSC	
G	0.075BSC		1.900BSC	
H	0.111	0.119	2.820	3.020
J	0.000	0.004	0.000	0.100
K	0.041	0.045	1.050	1.150
L	0.012	0.024	0.300	0.600
M	0.004	0.008	0.100	0.200
$\theta$	0°	8°	0°	8°

## ■ Suggested Pad Layout





## BC856DS

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