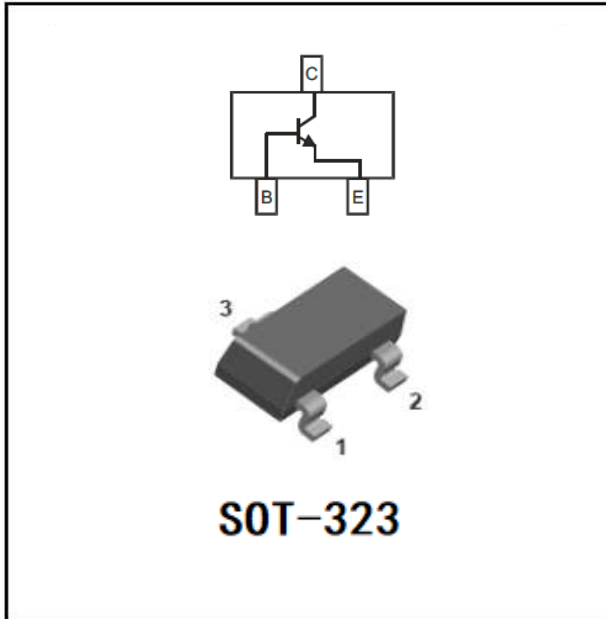


## NPN Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion

### Mechanical Data

- **Package:** SOT-323  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

BC846AW	1A
BC846BW	1B
BC847AW	1E
BC847BW	1F
BC847CW	1G
BC848AW	1J
BC848BW	1K
BC848CW	1L

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
VCBO	Collector-Base Voltage	80	V
	BC846AW、BC846BW	50	
	BC847AW、BC847BW、BC847CW BC848AW、BC848BW、BC848CW	30	
VCEO	Collector-Emitter Voltage	65	V
	BC846AW、BC846BW	45	
	BC847AW、BC847BW、BC847CW BC848AW、BC848BW、BC848CW	30	
VEBO	Emitter-Base Voltage	6	V
IC	Collector Current	0.1	A
PC	Collector Power Dissipation	200	mW
RθJA	Thermal Resistance From Junction To Ambient	625	°C/W
Tj	Junction Temperature	150	°C
Tstg	Storage Temperature	-55~+150	°C



# BC846AW THRU BC848CW

RoHS  
COMPLIANT

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

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC846 BC847 BC848	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	80 50 30		V
Collector-emitter breakdown voltage BC846 BC847 BC848	$V_{CEO}$	$I_C = 10mA, I_B = 0$	65 45 30		V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	6		V
Collector-base cut-off current BC846 BC847 BC848	$I_{CBO}$	$V_{CB} = 70V, I_E = 0$ $V_{CB} = 50V, I_E = 0$ $V_{CB} = 30V, I_E = 0$		0.1	$\mu A$
Collector-emitter cut-off current BC846 BC847 BC848	$I_{CEO}$	$V_{CE} = 60V, I_B = 0$ $V_{CE} = 45V, I_B = 0$ $V_{CE} = 30V, I_B = 0$		0.1	$\mu A$
Emitter-base cut-off current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$		0.1	$\mu A$
DC current gain BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW	$h_{FE}$	$V_{CE} = 5V, I_C = 2mA$	110 200 420	220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$		0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100mA, I_B = 5mA$		1.1	V
Transition frequency	$f_T$	$V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$	100		MHz
Collector-base output capacitance	$C_{ob}$	$V_{CB} = 10V, f = 1MHz$		4.5	pF

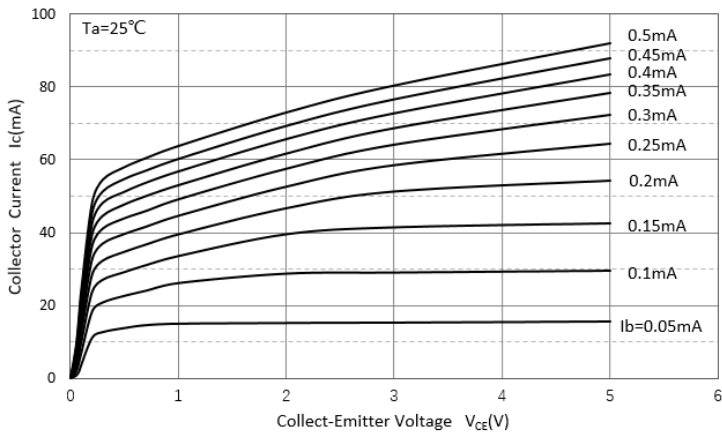
## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC846AW THRU BC848CW	F2	Approximate 0.005	3000	30000	120000	7" reel

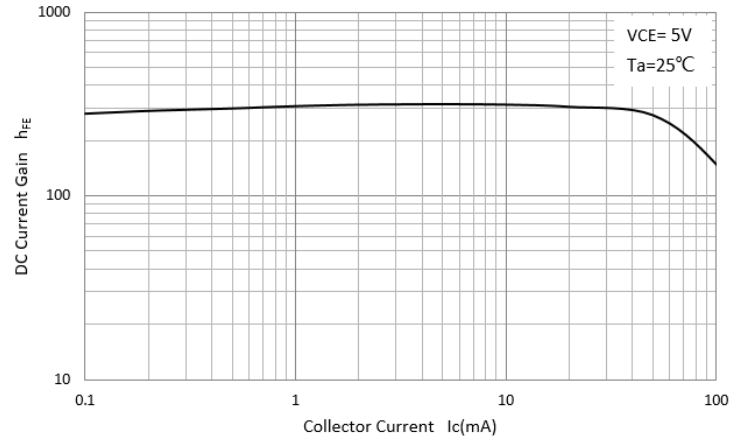


## ■ Characteristics(Typical)

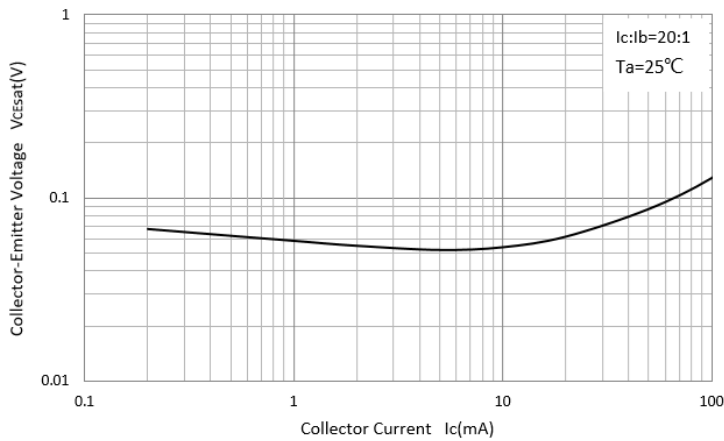
### Static Characteristic



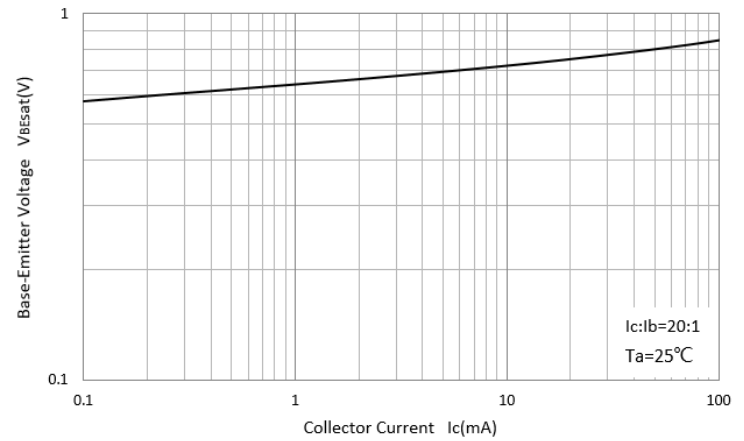
### DC Current Gain



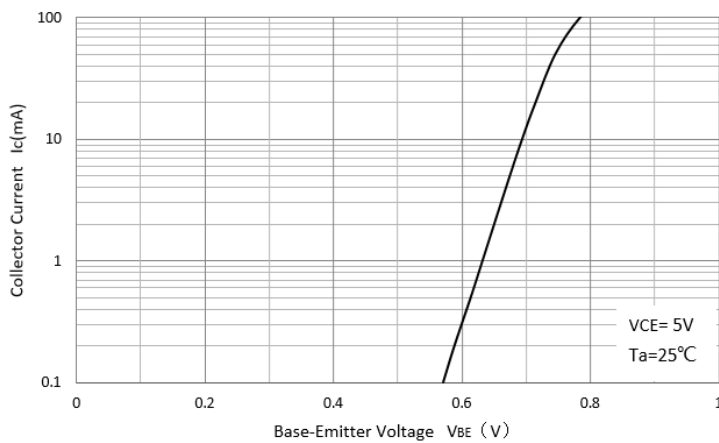
### Collector-Emmitter Saturation Voltage



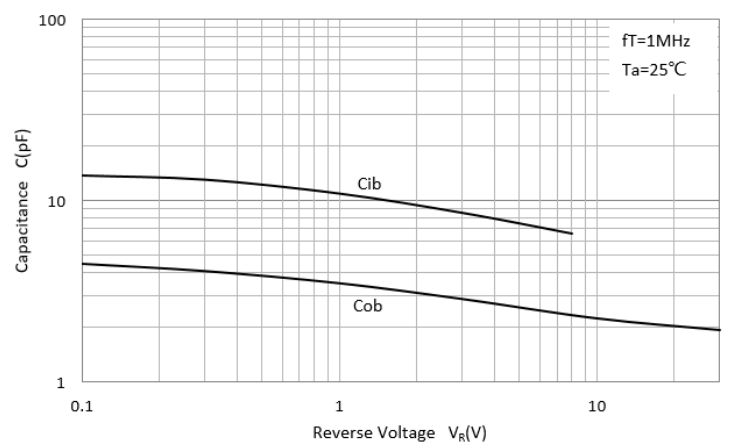
### Base-Emmitter Saturation Voltage



### Base-Emmitter On Voltage

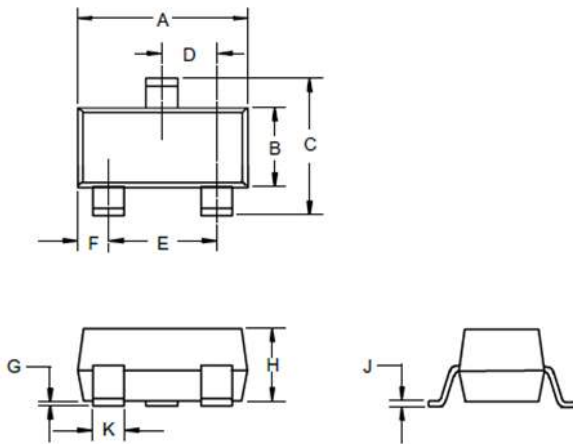


### Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>



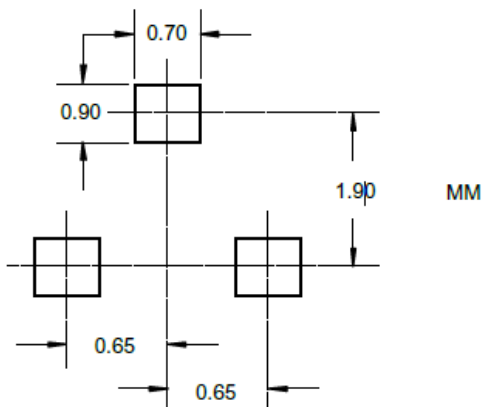


## ■ SOT-323 Package Outline Dimensions



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

## ■ SOT-323 Soldering Footprint





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