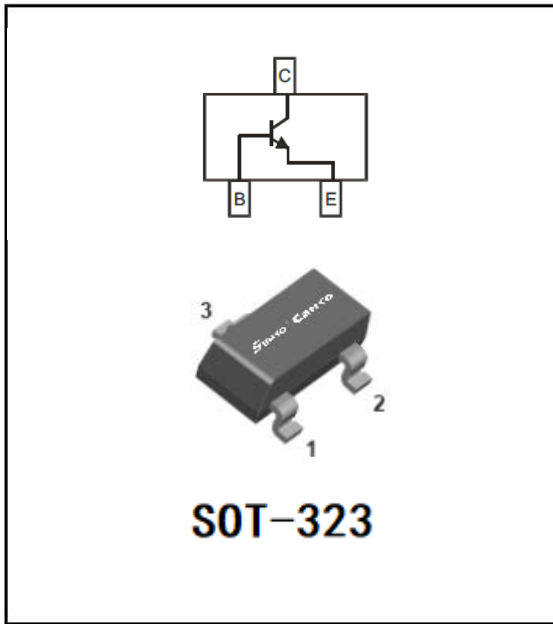


NPN Transistor



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, -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		
	BC846AW、BC846BW	80	V
	BC847AW、BC847BW、BC847CW	50	
BC848AW、BC848BW、BC848CW	30		
VCEO	Collector-Emitter Voltage		
	BC846AW、BC846BW	65	V
	BC847AW、BC847BW、BC847CW	45	
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

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

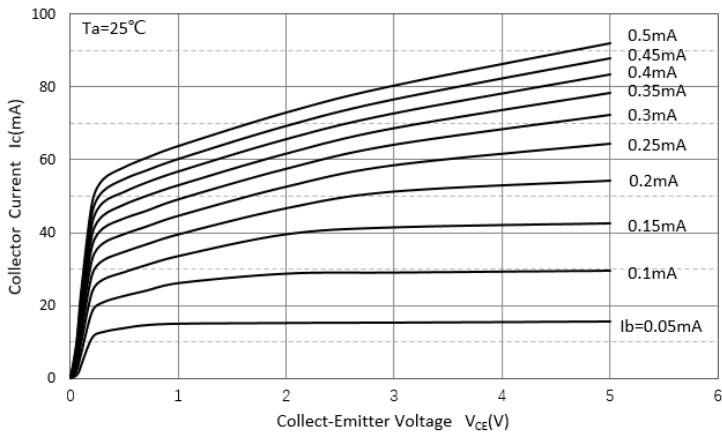
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC846 BC847 BC848	V <sub>CBO</sub>	IC= 10μA, IE=0	80 50 30		V
Collector-emitter breakdown voltage BC846 BC847 BC848	V <sub>CEO</sub>	IC= 10mA, IB=0	65 45 30		V
Emitter-base breakdown voltage	V <sub>EBO</sub>	IE= 10μA, IC=0	6		V
Collector-base cut-off current BC846 BC847 BC848	I <sub>CBO</sub>	V <sub>CB</sub> =70 V ,IE=0 V <sub>CB</sub> =50 V ,IE=0 V <sub>CB</sub> =30 V ,IE=0		0.1	μ A
Collector-emitter cut-off current BC846 BC847 BC848	I <sub>CEO</sub>	V <sub>CE</sub> =60 V ,IB=0 V <sub>CE</sub> =45 V ,IB=0 V <sub>CE</sub> =30 V ,IB=0		0.1	μ A
Emitter-base cut-off current	I <sub>EBO</sub>	VEB=5 V , IC=0		0.1	μ A
DC current gain BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW	h <sub>FE</sub>	V <sub>CE</sub> = 5V, IC= 2mA	110 200 420	220 450 800	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	IC=100mA, IB= 5mA		0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	IC=100mA, IB= 5mA		1.1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 5 V, IC= 10mA f=100MHz	100		MHz
Collector-base output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V,f=1MHz		4.5	pF

■ **Ordering Information** (Example)

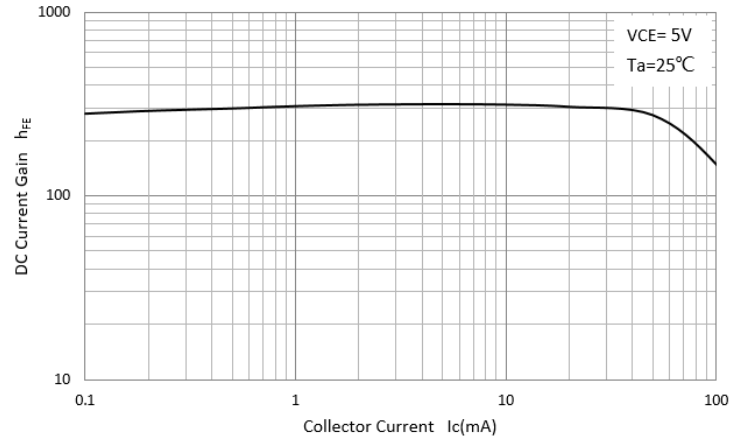
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC846AW THRU BC848CW	F2	Approximate 0.005	3000	30000	120000	7" reel

■ Characteristics(Typical)

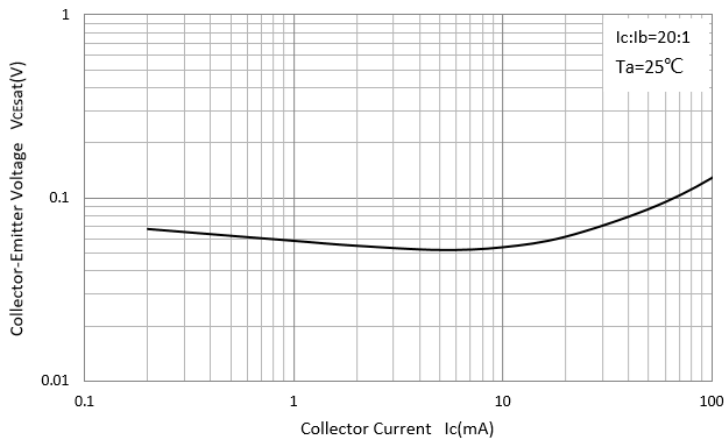
Static Characteristic



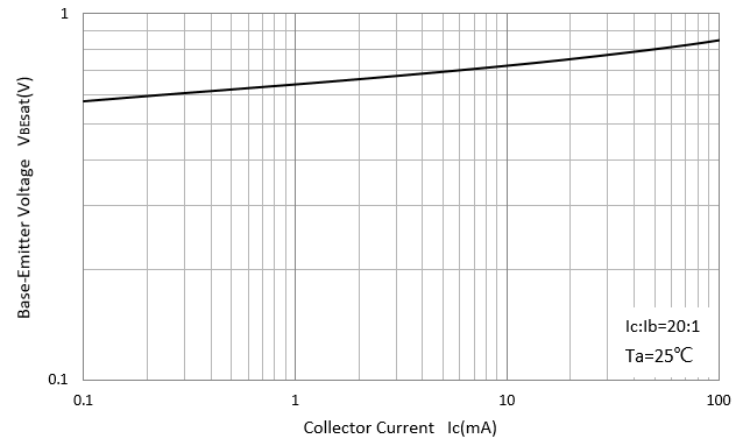
DC Current Gain



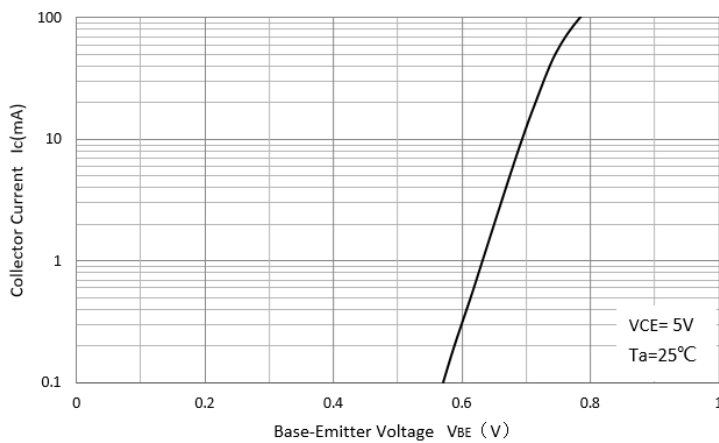
Collector-Emmitter Saturation Voltage



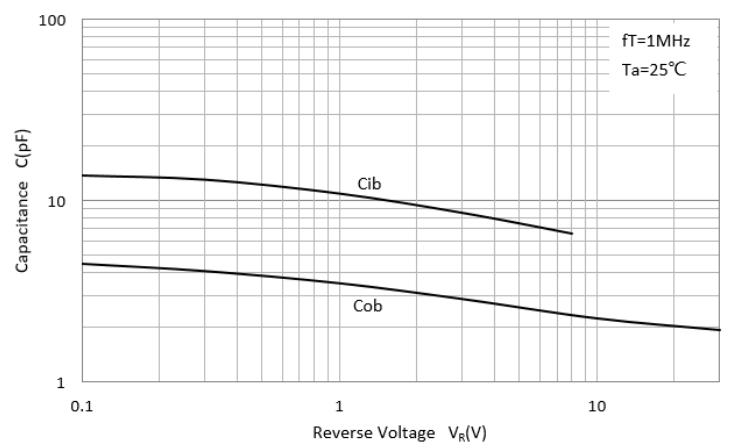
Base-Emmitter Saturation Voltage



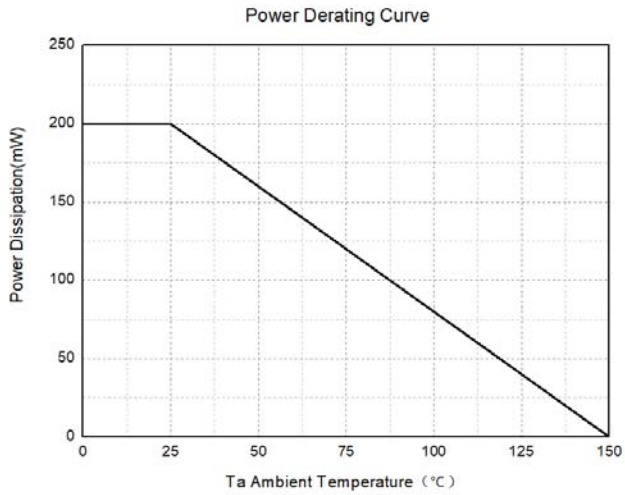
Base-Emmitter On Voltage



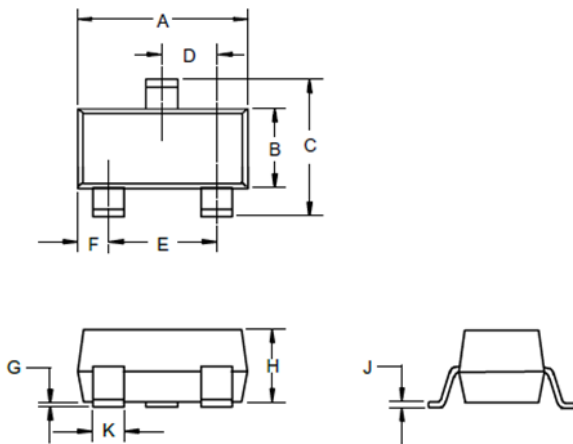
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



# BC846AW THRU BC848CW

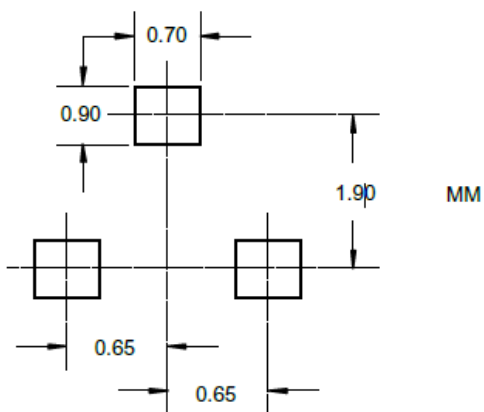


## ■ SOT-323 Package Outline Dimensions



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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