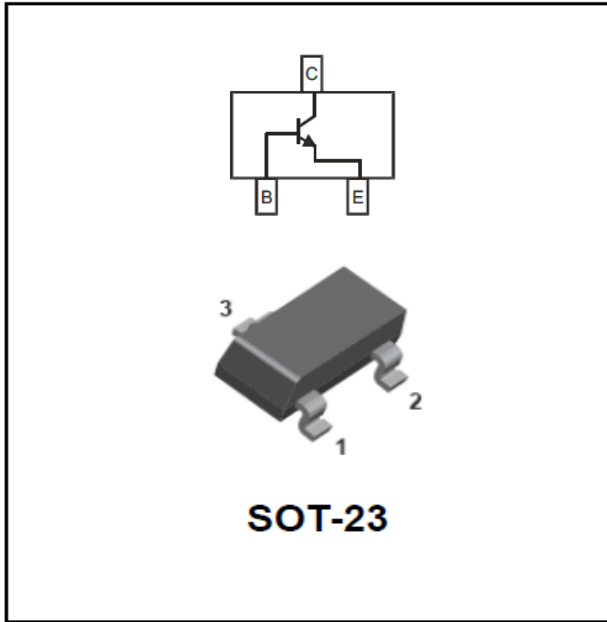


## NPN Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Marking:

BC846A	1A
BC846B	1B
BC847A	1E
BC847B	1F
BC847C	1G
BC848A	1J
BC848B	1K
BC848C	1L

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

Symbol	Parameter	Value	Unit
VCBO	Collector-Base Voltage	BC846	80
		BC847	50
		BC848	30
VCEO	Collector-Emitter Voltage	BC846	65
		BC847	45
		BC848	30
VEBO	Emitter-Base Voltage	6	V
IC	Collector Current	0.1	A
PC	Collector Power Dissipation	200	mW
ReJA	Thermal Resistance From Junction To Ambient	625	°C/W
Tj	Junction Temperature	150	°C
Tstg	Storage Temperature	-55~+150	°C



■ **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 BC846A,847A,848A BC846B,847B,848B BC847C,BC848C	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

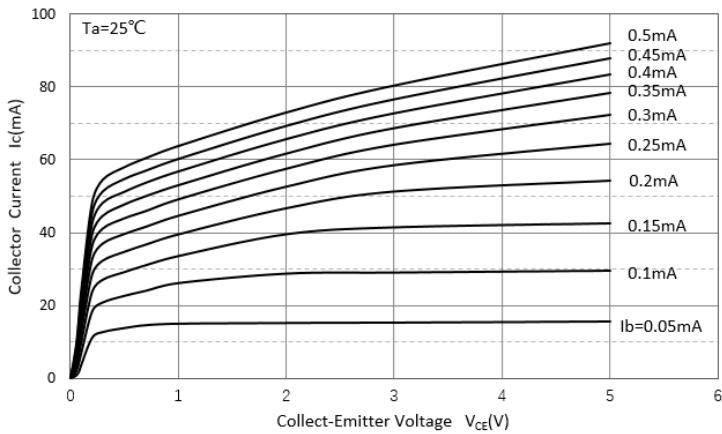
■ **Ordering Information** (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC846/BC847/BC848	F2	Approximate 0.008	3000	30000	120000	7" reel

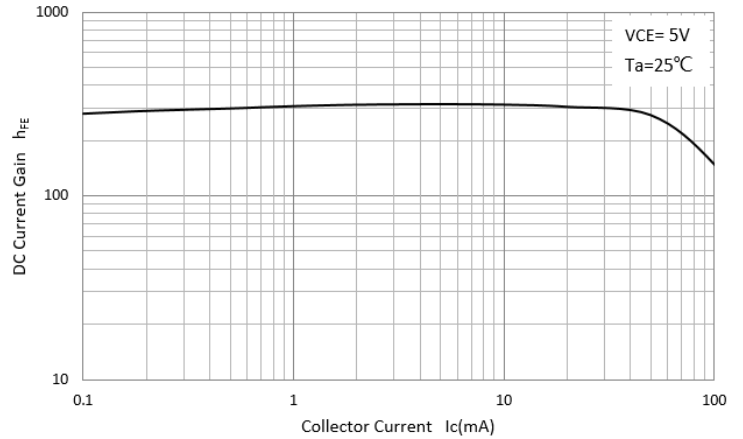


## ■ Characteristics(Typical)

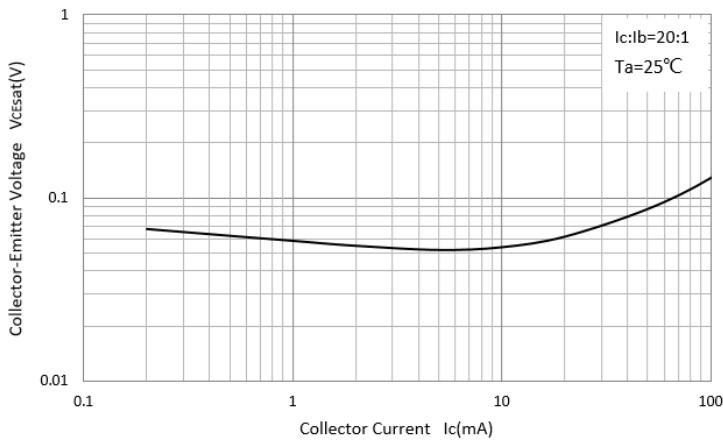
### Static Characteristic



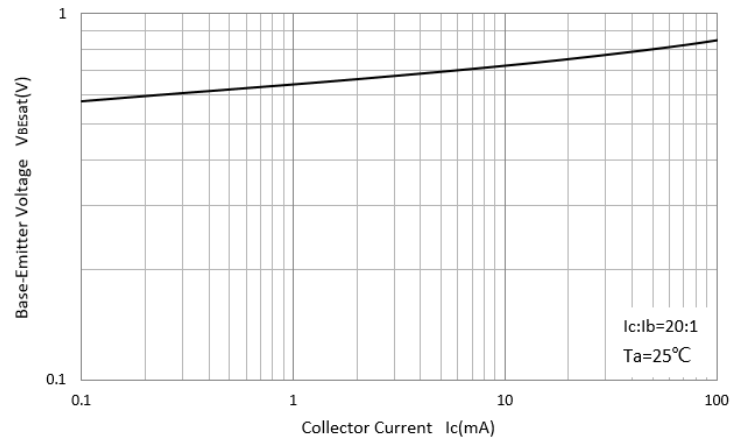
### DC Current Gain



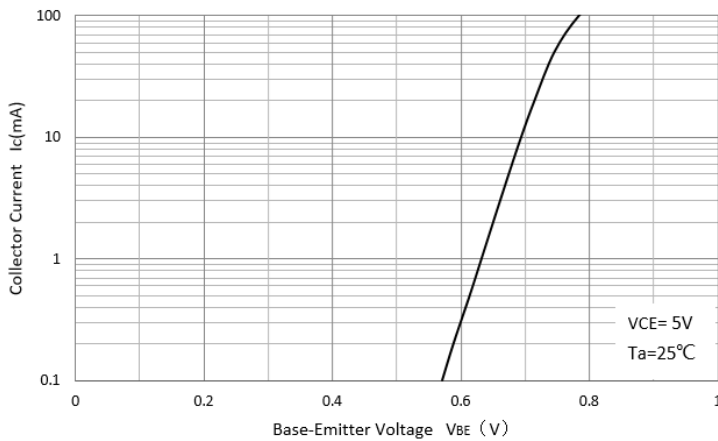
### Collector-Emmitter Saturation Voltage



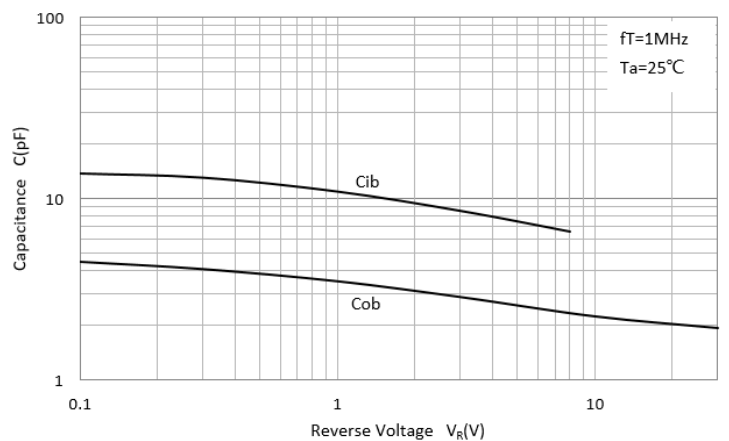
### Base-Emmitter Saturation Voltage



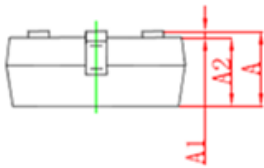
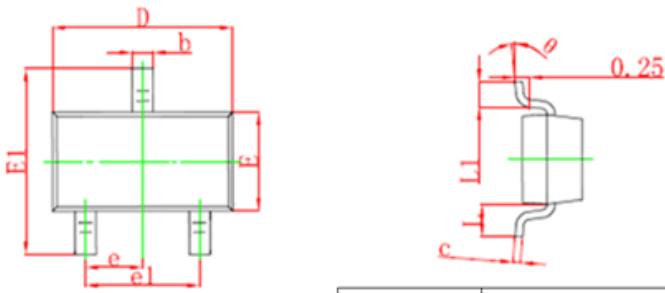
### Base-Emmitter On Voltage



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

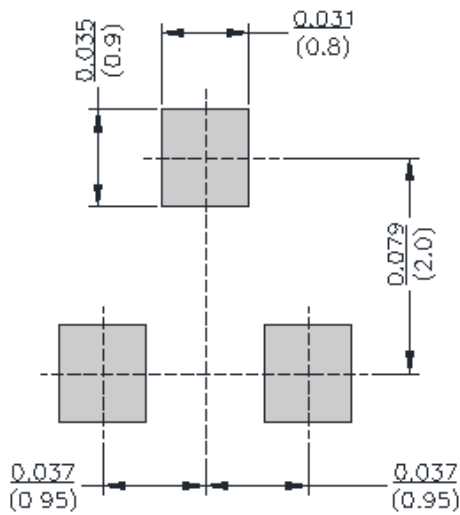


## ■SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°		8°	

## ■SOT-23 Soldering Footprint





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