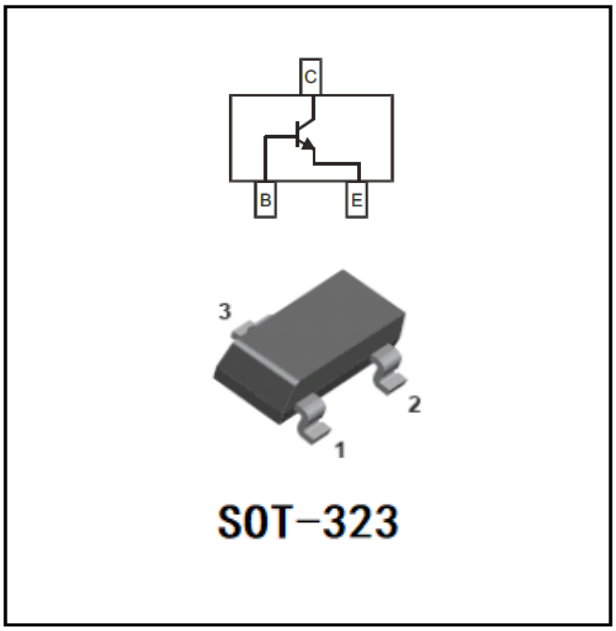
NPN Transistor



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℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage BC846AW、BC846BW BC847AW、BCB47BW、BC847CW BC848AW、BC848BW、BC848CW	80 50 30	V
V_{CEO}	Collector-Emitter Voltage BC846AW、BC846BW BC847AW、BC847BW、BC847CW BC848AW、BC848BW、BC848CW	65 45 30	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	0.1	A
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
Tj	Junction Temperature	150	℃
Tstg	Storage Temperature	-55～+150	℃

■ Electrical Characteristics (Ta=25℃ unless otherwise noted)

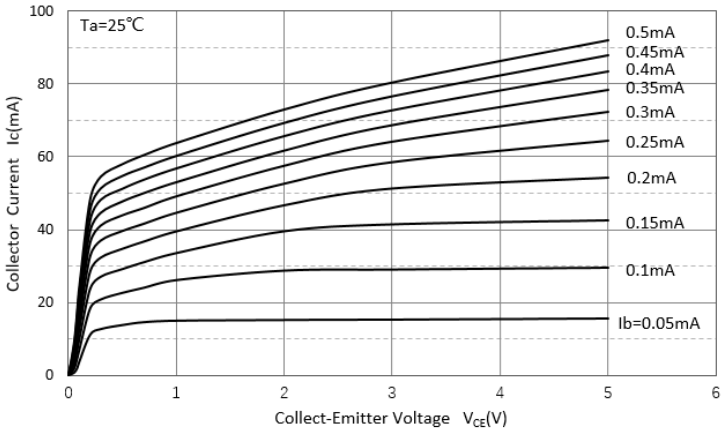
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC846 BC847 BC848	V_{CBO}	IC= 10μA, IE=0	 80 50 30		V
Collector-emitter breakdown voltage BC846 BC847 BC848	V_{CEO}	IC= 10mA, IB=0	 65 45 30		V
Emitter-base breakdown voltage	V_{EBO}	IE= 10μA, IC=0	6		V
Collector-base cut-off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

■ Ordering Information (Example)

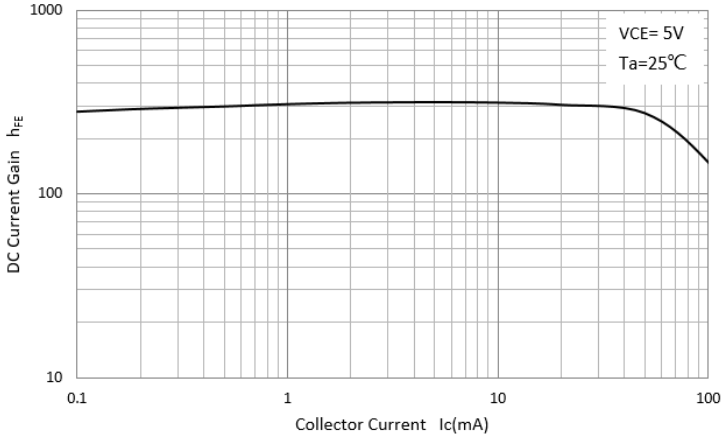
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC846AW THRU BC848CW	F2	Approximate 0.005	3000	30000	120000	7” reel

■ **Characteristics**(Typical)

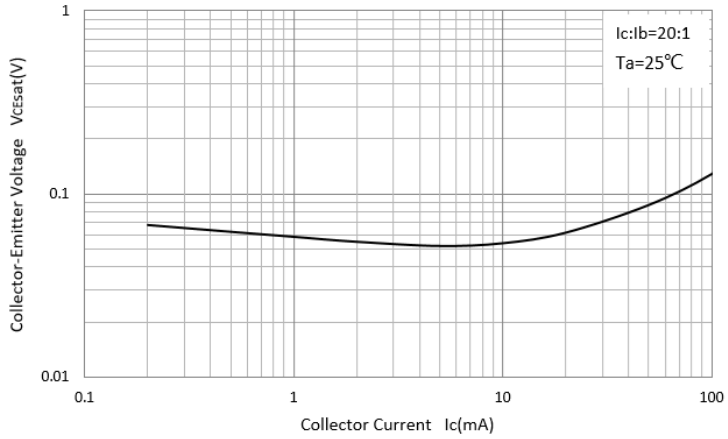
Static Characteristic



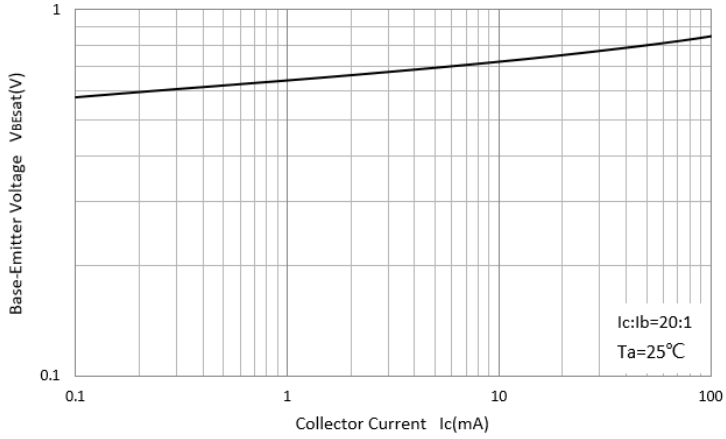
DC Current Gain



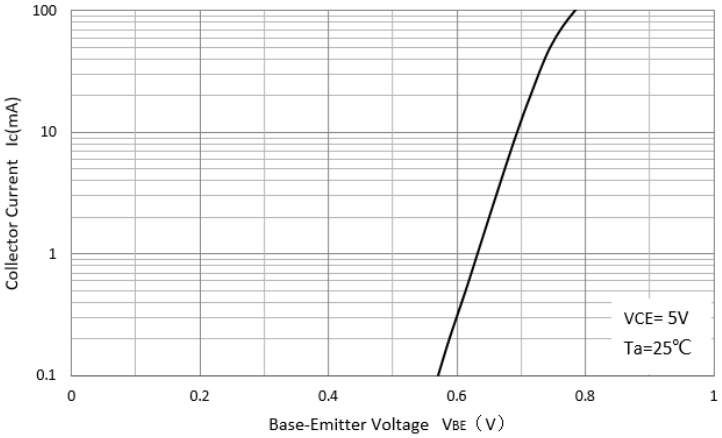
Collector-Emitter Saturation Voltage



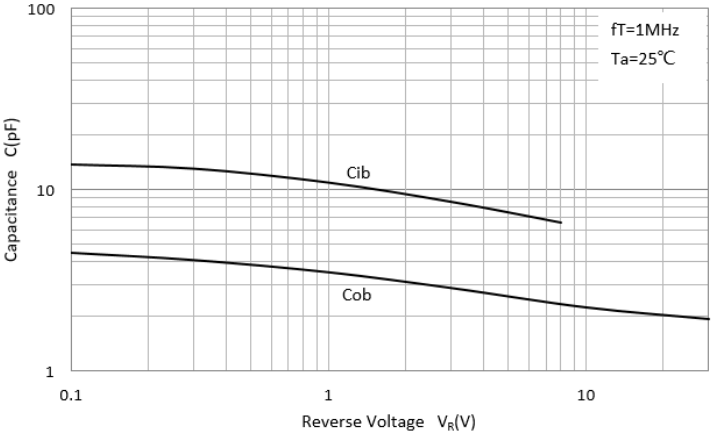
Base-Emitter Saturation Voltage



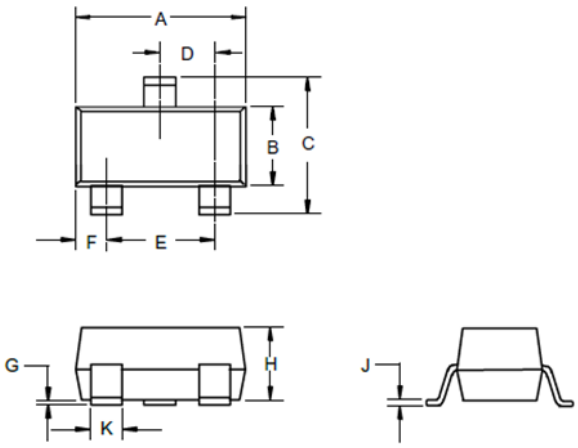
Base-Emitter On Voltage



Cob/Cib-V_{CB}/V_{EB}

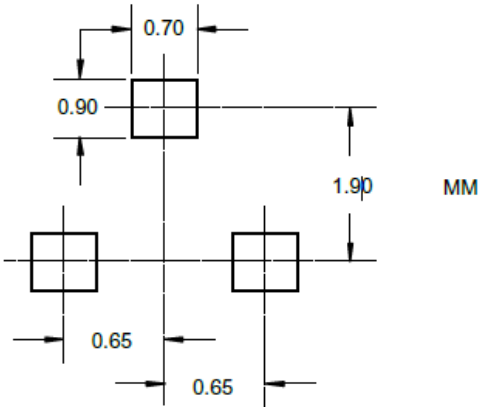


■ SOT-323 Package Outline Dimensions



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
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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