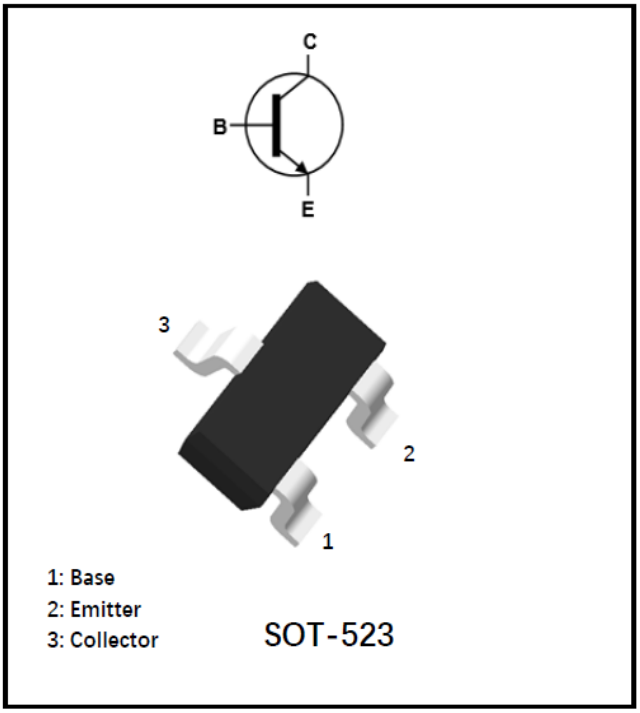
NPN Transistor



Features

- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- Halogen-free

Mechanical Data

- **Package**: SOT-523
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

BC846AT	1A
BC846BT	1B
BC847AT	1E
BC847BT	1F
BC847CT	1G
BC848AT	1J
BC848BT	1K
BC848CT	1L

■**Maximum Ratings** (Ta=25℃ Unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage BC846T BC847T BC848T	 80 50 30	V
V_{CEO}	Collector-Emitter Voltage BC846T BC847T BC848T	 65 45 30	V
V_{EBO}	Emitter-Base Voltage BC846T BC847T BC848T	 6 6 5	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	℃/W
Tj	Junction Temperature	150	℃
Tstg	Storage Temperature	-55～+150	℃

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

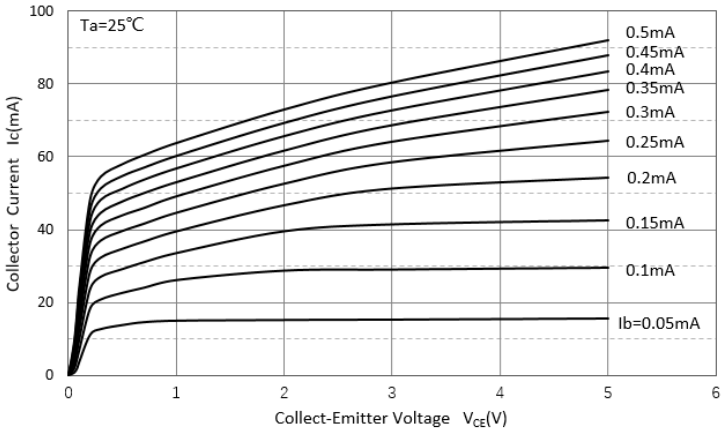
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage BC846T BC847T BC848T	V_{CBO}	IC=10μA, IE=0	80 50 30	-	V
Collector-emitter breakdown voltage BC846T BC847T BC848T	V_{CEO}	IC=10mA, IB=0	65 45 30	-	V
Emitter-base breakdown voltage BC846T BC847T BC848T	V_{EBO}	IE=10μA, IC=0	6 6 5	-	V
Collector-base cut-off current	I_{CBO}	VCB=30 V ,IE=0	-	15	nA
Emitter-base cut-off current	I_{EBO}	VEB=5V , IC=0	-	100	nA
DC current gain BC846A,847A,848A BC846B,847B,848B BC847C,BC848C	h_{FE}	VCE=5V, IC= 2mA	110 200 420	220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	IC=10mA, IB= 0.5mA	-	0.25	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	IC=100mA, IB= 5mA	-	0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	IC=10mA, IB=0.5mA	-	0.9	V
Base-emitter saturation voltage	$V_{BE(sat)}$	IC=100mA, IB=5mA	-	1.1	V
Base-emitter voltage	$V_{BE(ON)}$	VCE=5V, IC=2mA	0.58	0.7	V
Base-emitter voltage	$V_{BE(ON)}$	VCE=5V, IC=10mA	-	0.77	V
Transition frequency	f_T	VCE=5V, IC=10mA f=100MHz	100	-	MHz

■ Ordering Information (Example)

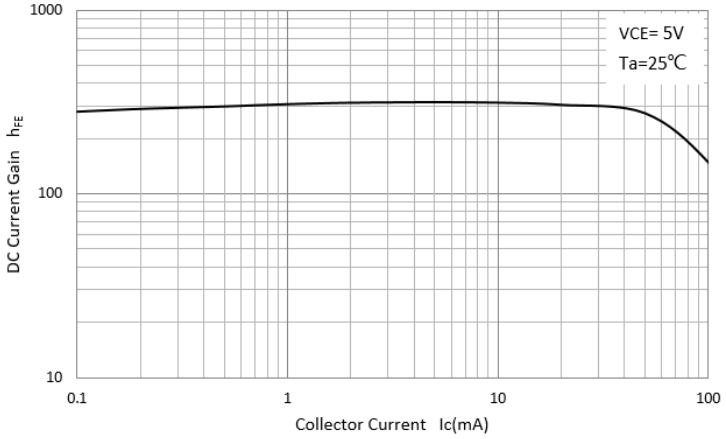
Prefered P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
BC846T/BC847T/BC848T	F2	Approximate 0.0027	3000	30000	120000	7” reel

■ **Characteristics** (Typical)

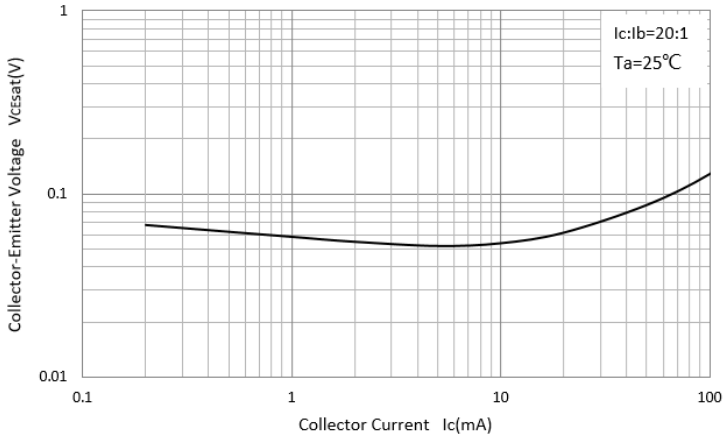
Static Characteristic



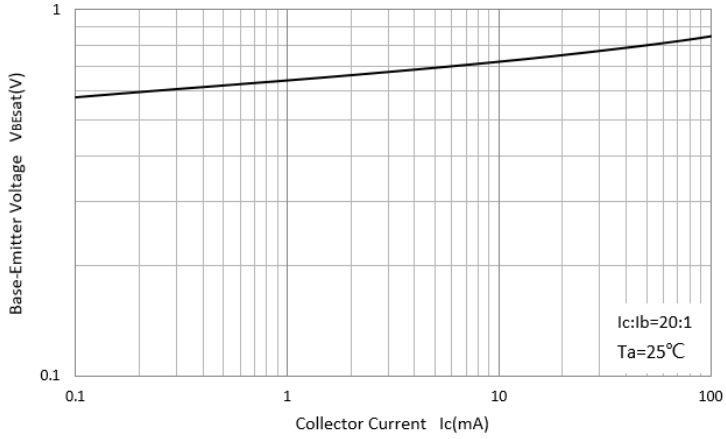
DC Current Gain



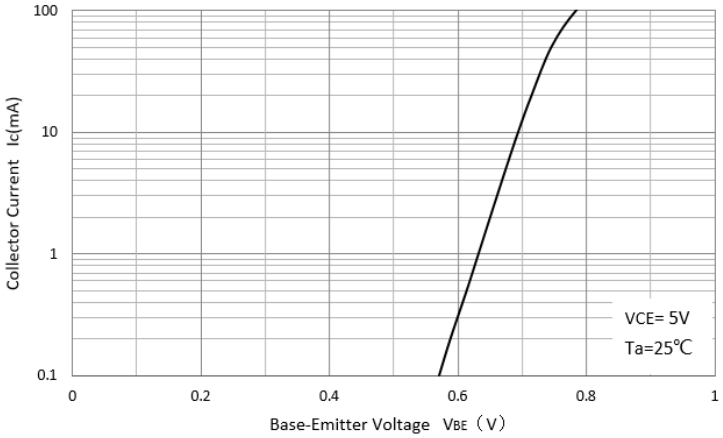
Collector-Emitter Saturation Voltage



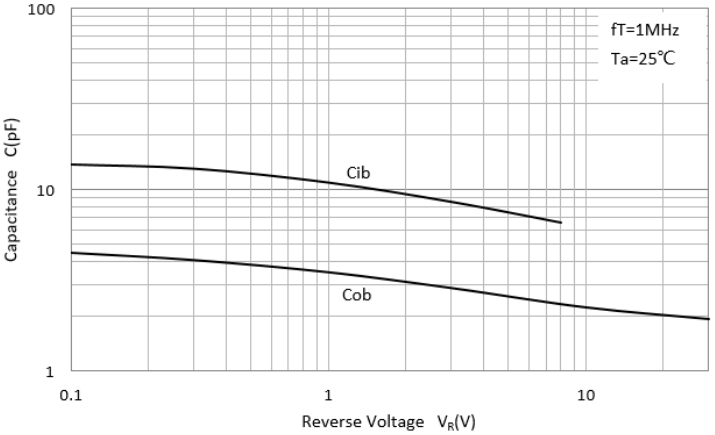
Base-Emitter Saturation Voltage



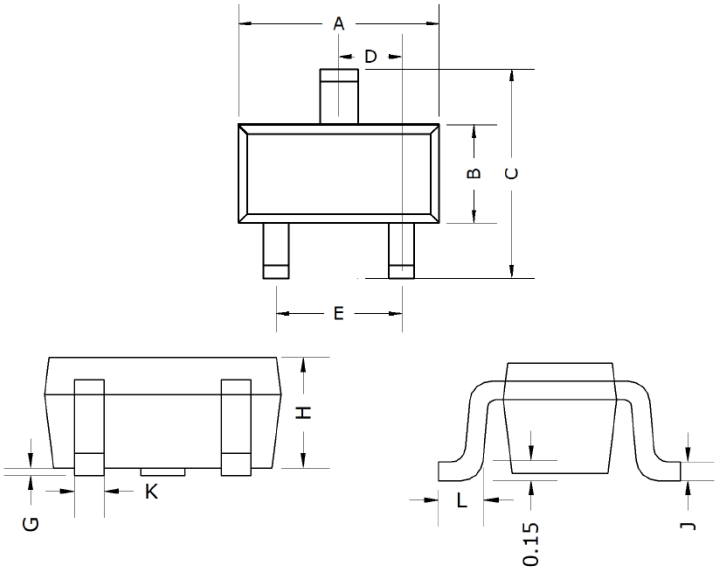
Base-Emitter On Voltage



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

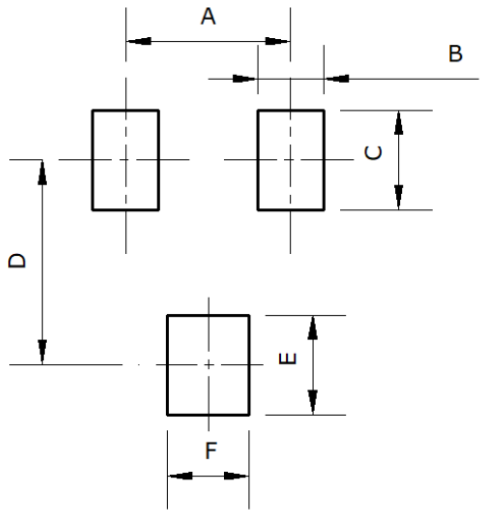


■ SOT-523 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.059	0.067	1.50	1.70
B	0.030	0.033	0.75	0.85
C	0.057	0.069	1.45	1.75
D	0.020TYP		0.50TYP	
E	0.035	0.043	0.90	1.10
G	0.000	0.004	0.00	0.10
H	0.024	0.031	0.60	0.80
J	0.004	0.008	0.10	0.20
K	0.006	0.014	0.15	0.35
L	0.010	0.018	0.26	0.46

■ SOT-523 Suggested Pad Layout



DIMENSIONS	
DIM	MM (TYP)
A	1.00
B	0.40
C	0.60
D	1.24
E	0.60
F	0.50

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