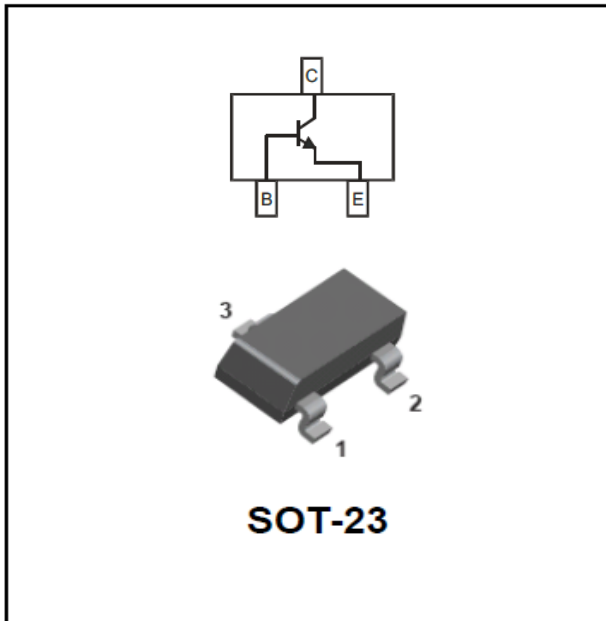


NPN Transistor



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 BC847 BC848	80 50 30	V
VCEO	Collector-Emitter Voltage BC846 BC847 BC848	65 45 30	V
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



BC846/BC847/BC848

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	μA
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	μA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	μA
DC current gain BC846A,847A,848A BC846B,847B,848B BC847C,BC848C	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

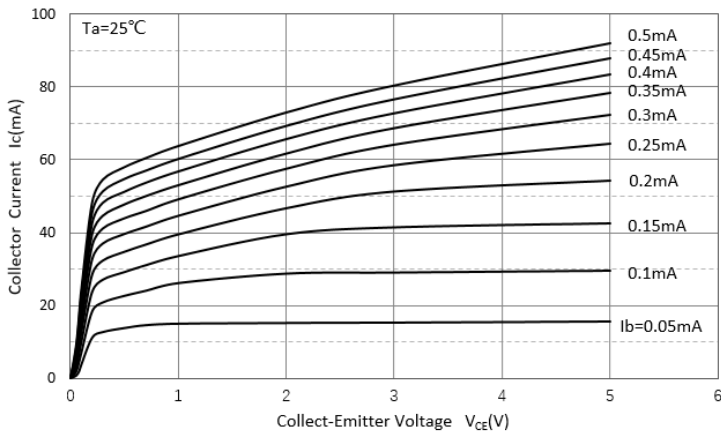
■ Ordering Information (Example)

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

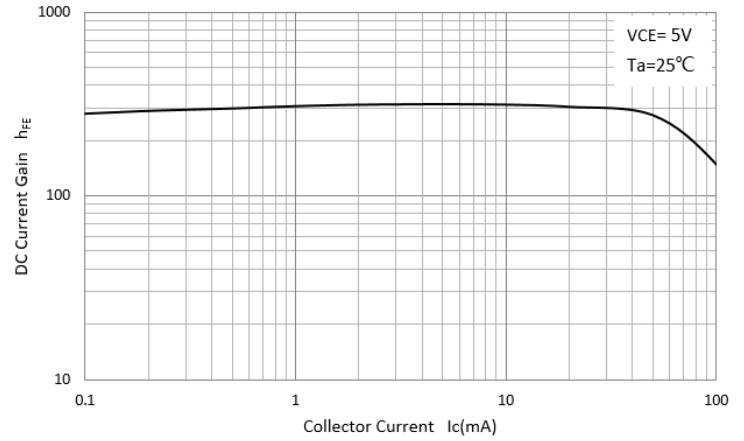


■ Characteristics(Typical)

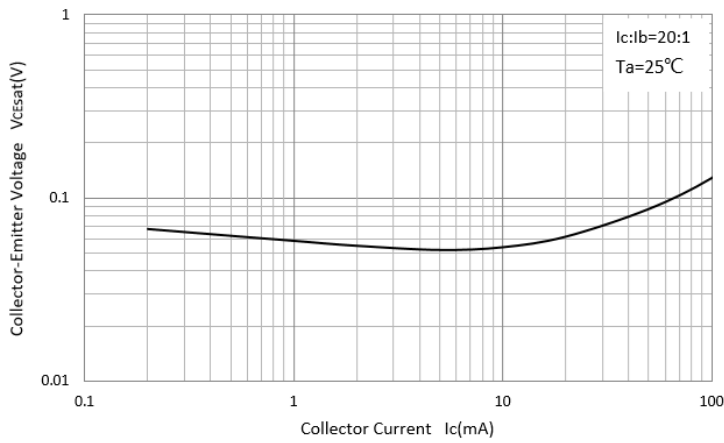
Static Characteristic



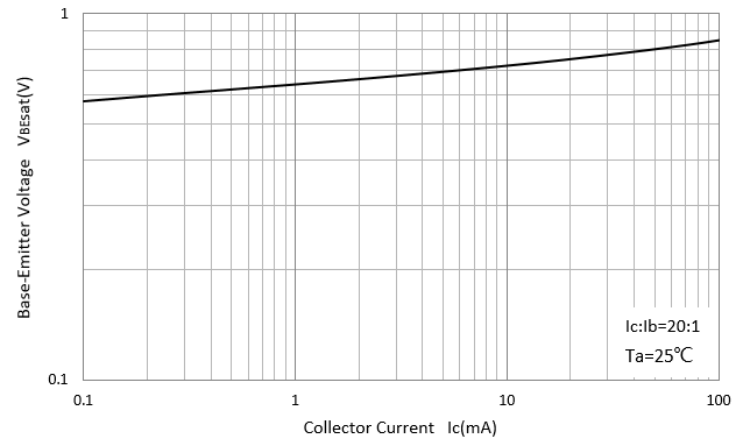
DC Current Gain



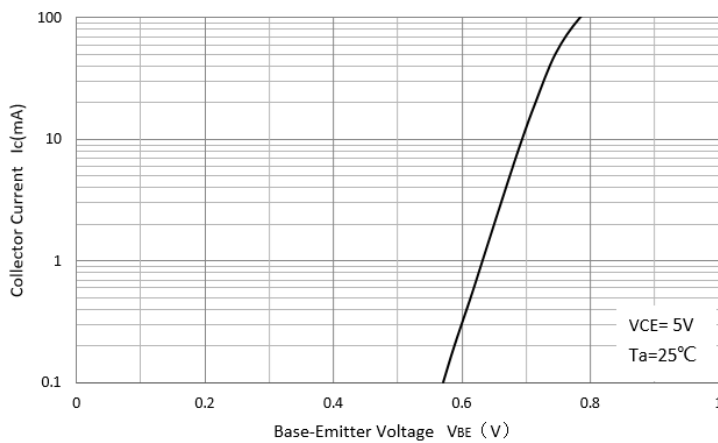
Collector-Emittor Saturation Voltage



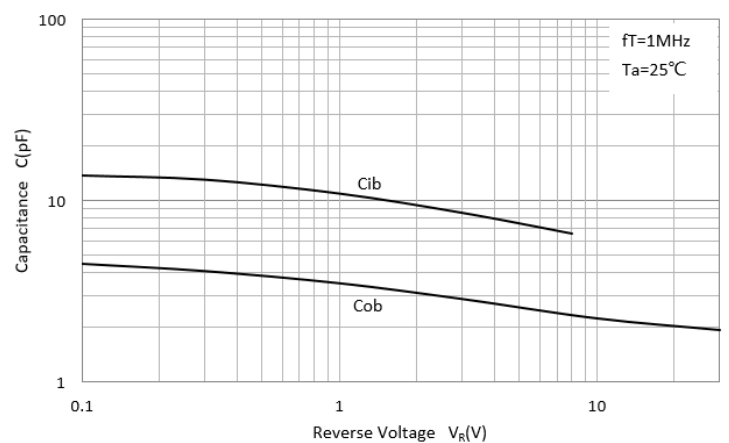
Base-Emittor Saturation Voltage



Base-Emittor On Voltage

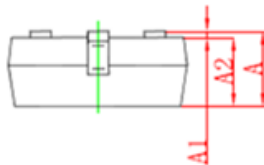
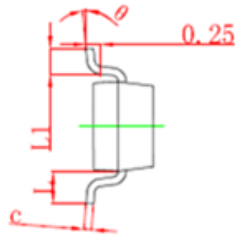
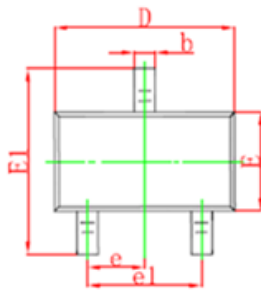


$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



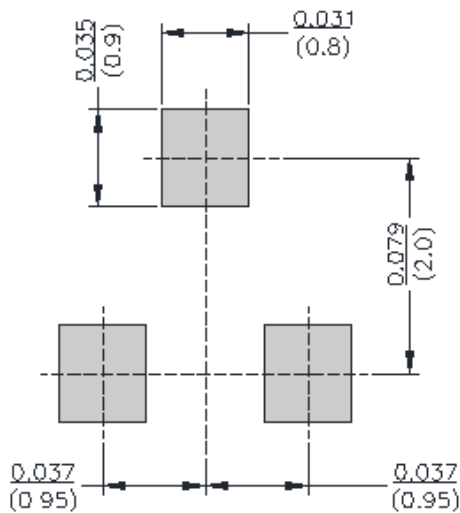


■SOT-23 Package Outline Dimensions



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°	0°	8°

■SOT-23 Soldering Footprint



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