



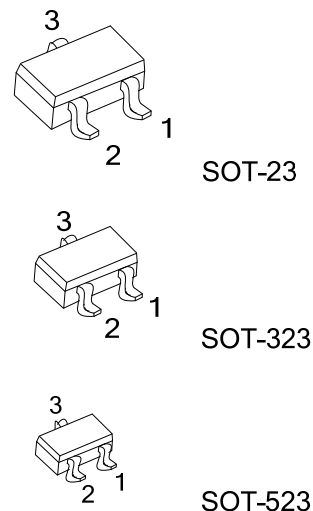
BC846-BC850

NPN SILICON TRANSISTOR

SWITCHING AND AMPLIFIER APPLICATION

FEATURES

- * Suitable for automatic insertion in thick and thin-film circuits.
- * Complement to BC856 ... BC860



Lead-free:

BC846L/BC847L/BC848L/BC849L/BC850L

Halogen-free:

BC846G/BC847G/BC848G/BC849G/BC850G

ORDERING INFORMATION

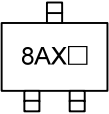
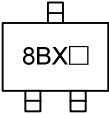
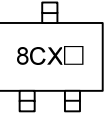
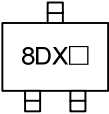
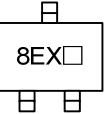
Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
BC846-x-AE3-R	BC846L-x-AE3-R	BC846G-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC847-x-AE3-R	BC847L-x-AE3-R	BC847G-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC848-x-AE3-R	BC848L-x-AE3-R	BC848G-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC849-x-AE3-R	BC849L-x-AE3-R	BC849G-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC850-x-AE3-R	BC850L-x-AE3-R	BC850G-x-AE3-R	SOT-23	E	B	C	Tape Reel
BC846-x-AL3-R	BC846L-x-AL3-R	BC846G-x-AL3-R	SOT-323	E	B	C	Tape Reel
BC847-x-AL3-R	BC847L-x-AL3-R	BC847G-x-AL3-R	SOT-323	E	B	C	Tape Reel
BC848-x-AL3-R	BC848L-x-AL3-R	BC848G-x-AL3-R	SOT-323	E	B	C	Tape Reel
BC849-x-AL3-R	BC849L-x-AL3-R	BC849G-x-AL3-R	SOT-323	E	B	C	Tape Reel
BC850-x-AL3-R	BC850L-x-AL3-R	BC850G-x-AL3-R	SOT-323	E	B	C	Tape Reel
BC846-x-AN3-R	BC846L-x-AN3-R	BC846G-x-AN3-R	SOT-523	E	B	C	Tape Reel
BC847-x-AN3-R	BC847L-x-AN3-R	BC847G-x-AN3-R	SOT-523	E	B	C	Tape Reel
BC848-x-AN3-R	BC848L-x-AN3-R	BC848G-x-AN3-R	SOT-523	E	B	C	Tape Reel
BC849-x-AN3-R	BC849L-x-AN3-R	BC849G-x-AN3-R	SOT-523	E	B	C	Tape Reel
BC850-x-AN3-R	BC850L-x-AN3-R	BC850G-x-AN3-R	SOT-523	E	B	C	Tape Reel

BC846L-x-AE3-R (1)Packing Type (2)Package Type (3)Rank (4)Lead Plating	(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free, L: Lead Free, Blank: Pb/Sn
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BC846-BC850

NPN SILICON TRANSISTOR

■ MARKING

BC846	BC847	BC848	BC849	BC850
				

X: Rank Code, refer to Classification of h_{FE}
□: L: Lead Free, G: Halogen Free

■ **ABSOLUTE MAXIMUM RATING** (Ta=25°C, unless otherwise specified)

PARAMETER		SYMBOL	VALUE	UNIT
Collector-Base Voltage	BC846	V_{CBO}	80	V
	BC847 / BC850		50	V
	BC848 / BC849		30	V
Collector-Emitter Voltage	BC846	V_{CEO}	65	V
	BC847 / BC850		45	V
	BC848 / BC849		30	V
Emitter-Base Voltage	BC846 / BC847	V_{EBO}	6	V
	BC848 / BC849 / BC850		5	V
Collector Current (DC)		I_C	100	mA
Collector Dissipation	SOT-23	P_D	310	mW
	SOT-323		200	mW
	SOT-523		150	mW
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

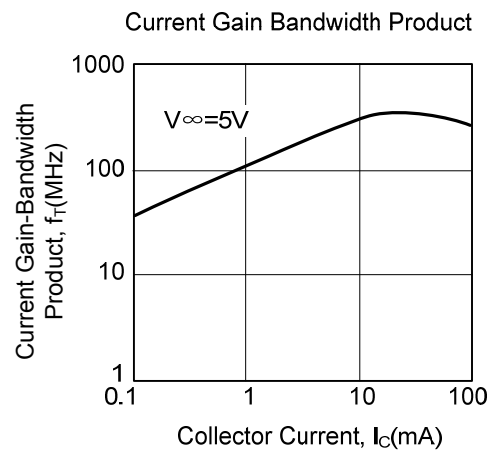
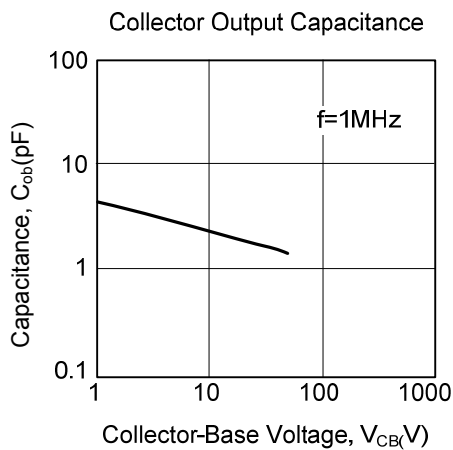
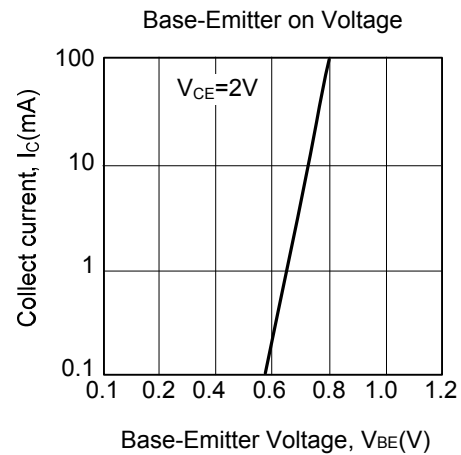
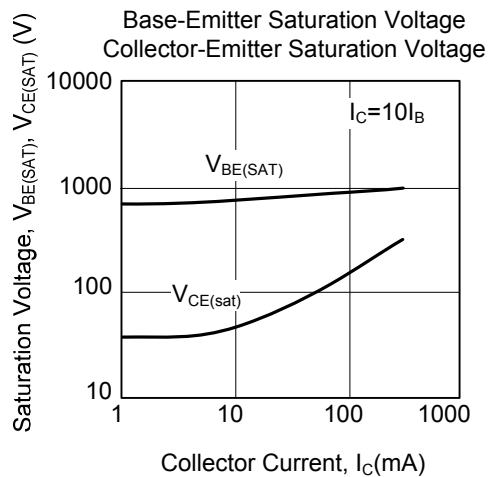
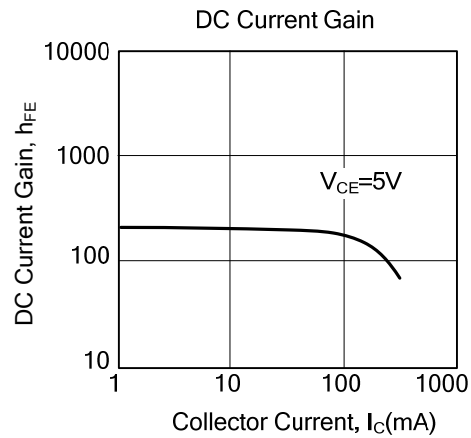
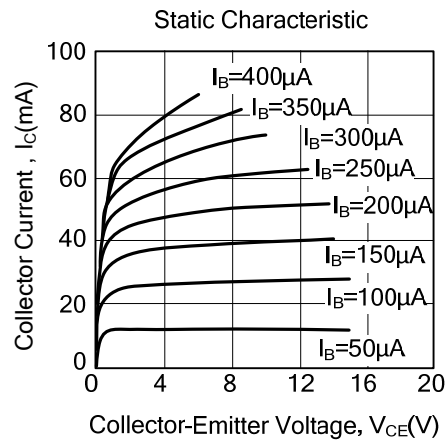
■ **ELECTRICAL CHARACTERISTICS** (Ta=25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current		I _{CBO}	V _{CB} =30V, I _E =0			15	nA
DC Current Gain		h _{FE}	V _{CE} =5.0V, I _C =2.0mA	110		800	
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	I _C =10mA, I _B =0.5mA		90	250	mV
			I _C =100mA, I _B =5.0mA		200	600	mV
Collector-Base Saturation Voltage		V _{BE(SAT)}	I _C =10mA, I _B =0.5mA		700		mV
			I _C =100mA, I _B =5.0mA		900		mV
Base-Emitter On Voltage		V _{BE(ON)}	V _{CE} =5.0V, I _C =2.0mA	580	660	700	mV
			V _{CE} =5.0V, I _C =10mA			720	mV
Current Gain Bandwidth Product		f _T	V _{CE} =5.0V, I _C =10mA f=100MHz		300		MHz
Output Capacitance		C _{ob}	V _{CB} =10V, I _E =0, f=1.0MHz		3.5	6	pF
Input Capacitance		C _{ib}	V _{EB} =0.5V, I _C =0, f=1.0MHz		9		pF
Noise Figure	BC846/BC847/BC848	NF	V _{CE} =5V, I _C =200μA, f=1KHz, R _G =2KΩ		2	10	dB
	BC849/BC850				1.2	4	dB
	BC849		V _{CE} =5V, I _C =200μA, R _G =2KΩ, f=30~15000Hz		1.4	4	dB
	BC850				1.4	3	dB

■ **CLASSIFICATION OF h_{FE}**

RANK	A	B	C
RANGE	110-220	200-450	420-800

■ TYPICAL CHARACTERISTICS



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