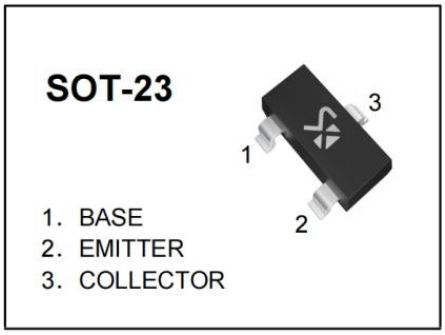
BC846 THRU BC850

NPN Silicon Epitaxial Planar Transistor



Features

- Low current(Max. 100mA)
- For switching and amplifier applications
- Complementary types:BC856---BC860

Maximum Ratings(T_A=25℃,unless otherwise noted.)

Parameter		Symbol	Limit	Unit
Collector-Base Voltage	BC846	V_{CBO}	80	V
	BC847,BC850		50	
	BC848,BC849		30	
Collector-Emitter Voltage	BC846	V_{CEO}	65	V
	BC847,BC850		45	
	BC848,BC849		30	
Emitter-Base Voltage	BC846,BC847	V_{EBO}	6	V
	BC848,BC849,BC850		5	
Collector Current Continuous		I_C	100	mA
Peak Collector Current		I_{CM}	200	mA
Power Dissipation		P_{tot}	200	mW
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-65~+150	℃

Marking Code

Type	Marking	Type	Marking
BC846A	1A	BC848C	1L
BC846B	1B	BC849A	2A
BC846C	1C	BC849B	2B
BC847A	1E	8C849C	2C
BC847B	1F	BC850A	2E
BC847C	1G	BC850B	2F
BC848A	1J	BC850C	2G
BC848B	1K		

Electrical Characteristics(T_A=25℃,unless otherwise noted.)

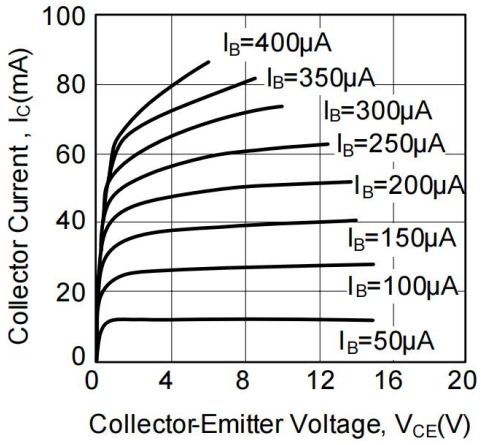
Parameter		Symbol	Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BC846	$V_{(BR)CBO}$	I_C=10μA,I_E=0	80			V
	BC847,BC850			50			
	BC848,BC849			30			
Collector-Emitter Breakdown Voltage	BC846	$V_{(BR)CEO}$	I_C=10mA,I_B=0	65			V
	BC847,BC850			45			
	BC848,BC849			30			
Emitter-Base Breakdown Voltage	BC846,BC847	$V_{(BR)EBO}$	I_E=10μA,I_C=0	6			V
	BC848,BC849,BC850			5			
Collector Cutoff Current		I_{CBO}	V_{CB}=30V,I_E=0			15	nA
DC Current Gain		h_{FE}	V_{CE}=5V,I_C=2mA	110		800	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=10mA,I_B=0.5mA			0.25	V
			I_C=100mA,I_B=5mA			0.6	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=10mA,I_B=0.5mA		0.7	0.85	V
			I_C=100mA,I_B=5mA		0.9	1.1	
Base-Emitter On Voltage		$V_{BE(on)}$	V_{CE}=5V,I_C=2mA			0.7	V
			V_{CE}=5V,I_C=10mA			0.72	
Transition Frequency		f_T	V_{CE}=5V,I_C=10mA, f=100MHz		300		MHz
Output Capacitance		C_{ob}	V_{CE}=10V,I_C=0,f=1MHz			6	pF
Input Capacitance		C_{ib}	V_{CE}=0.5V,I_C=0,f=1MHz		9		pF
Noise Figure	BC846,BC847,BC848	NF	I_C=200μA,V_{CE}=5V, R_G=2KΩ,f=1KHz			10	dB
	BC849,BC850					4	
	BC849		I_C=200μA,V_{CE}=5V, R_G=2KΩ,f=30~15KHz			4	
	BC850					3	

h_{FE} Classification

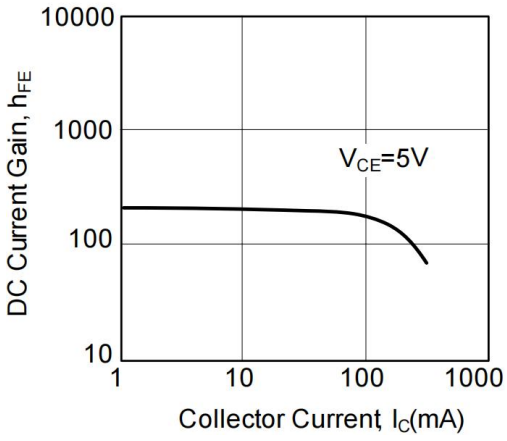
Classification	A	B	C
h_{FE}	110~220	200~450	420~800

Typical Characteristics

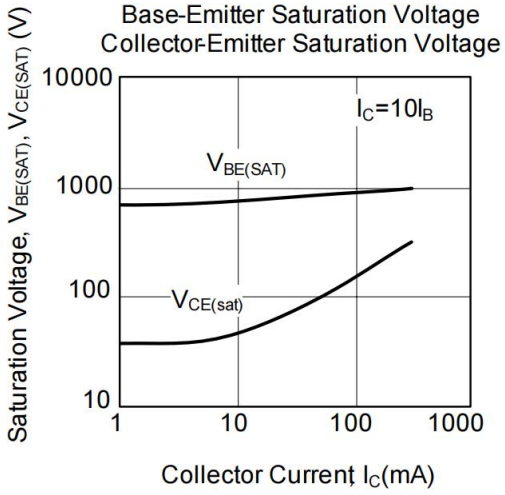
Static Characteristic



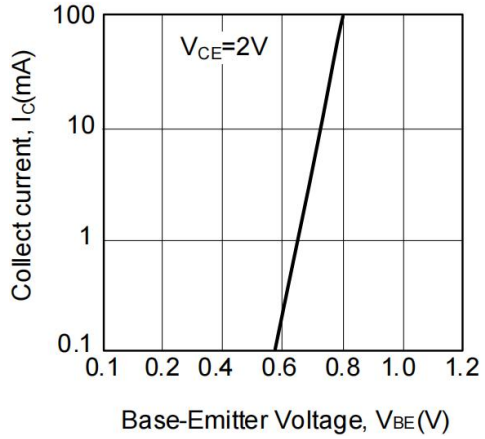
DC Current Gain



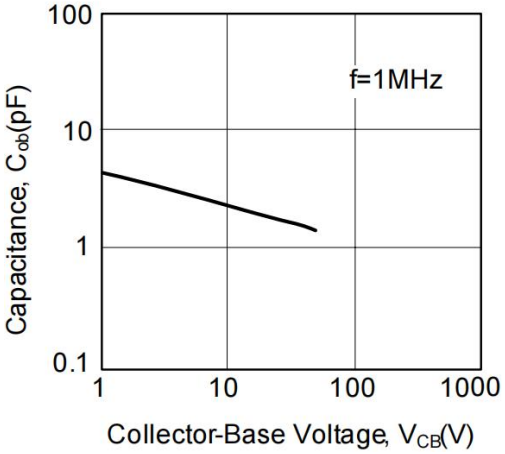
Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



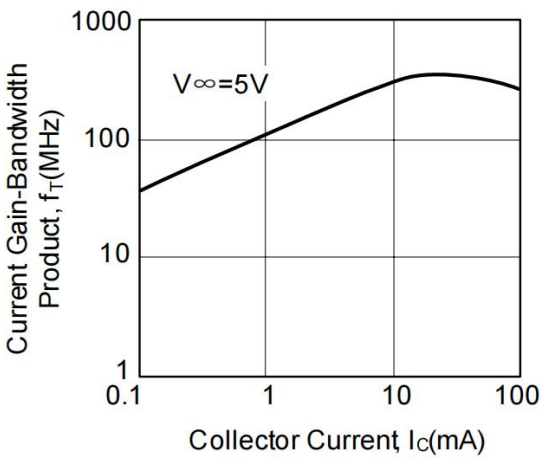
Base-Emitter on Voltage



Collector Output Capacitance



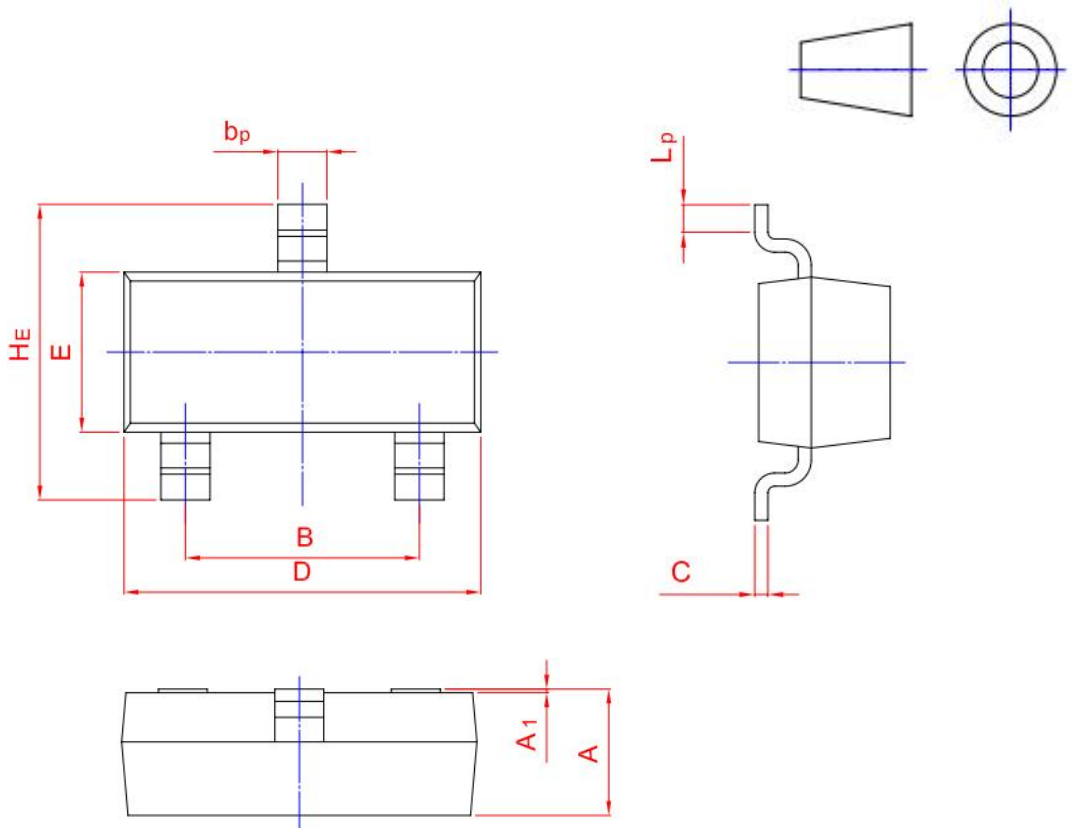
Current Gain Bandwidth Product



Package Information

SOT-23

Dimensions in mm



Uint	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

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