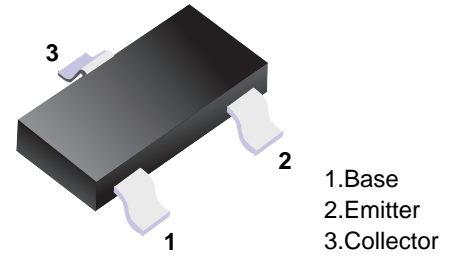


■ NPN Transistors



■ Simplified outline(SOT-23)

■ Features

- Ideally suited for automatic insertion
- For switching and AF amplifier applications

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	BC846	BC847	BC848	Unit
Collector - Base Voltage	V <sub>CB0</sub>	80	50	30	V
Collector - Emitter Voltage	V <sub>CEO</sub>	65	45	30	
Emitter - Base Voltage	V <sub>EB0</sub>	6	6	6	
Collector Current - Continuous	I <sub>C</sub>	100			mA
Collector Power Dissipation	P <sub>C</sub>	200			mW
Junction Temperature	T <sub>J</sub>	150			°C
Storage Temperature Range	T <sub>stg</sub>	-55 to 150			

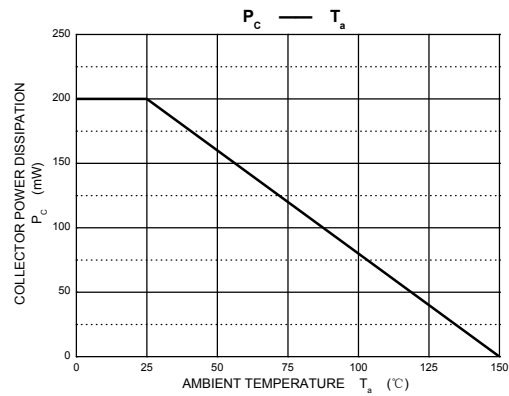
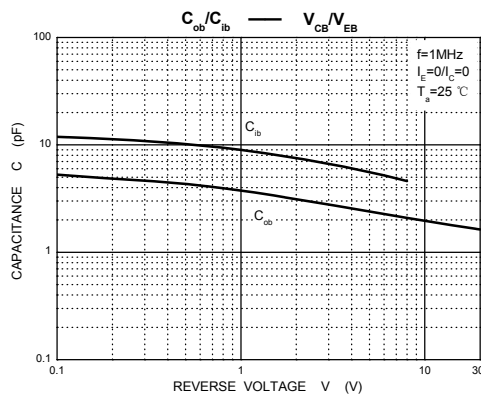
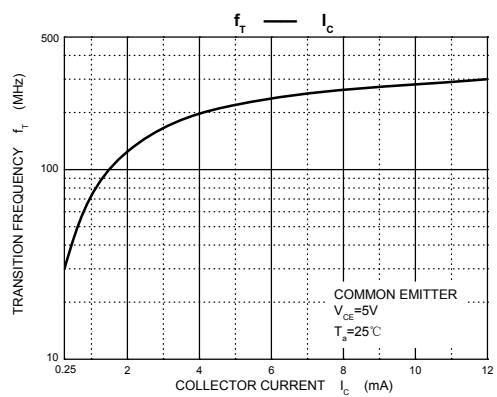
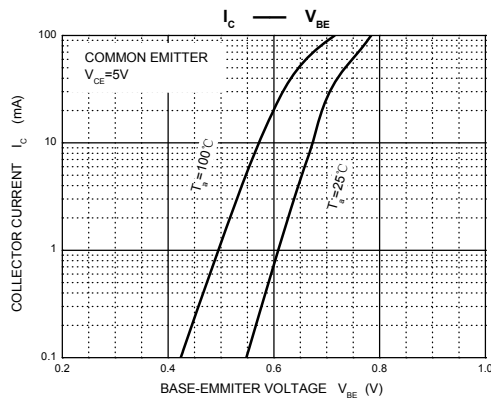
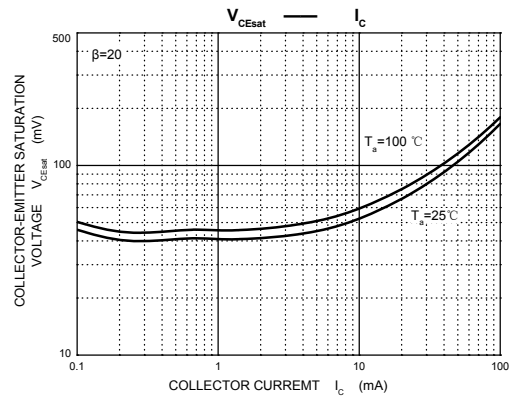
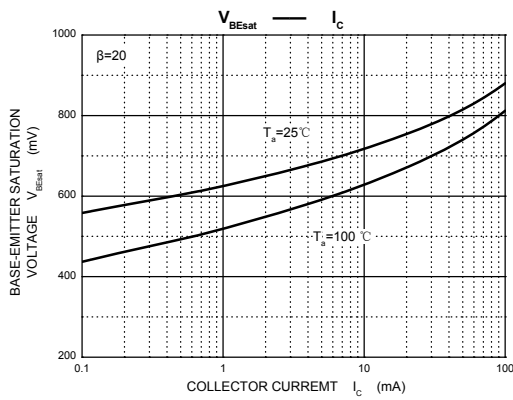
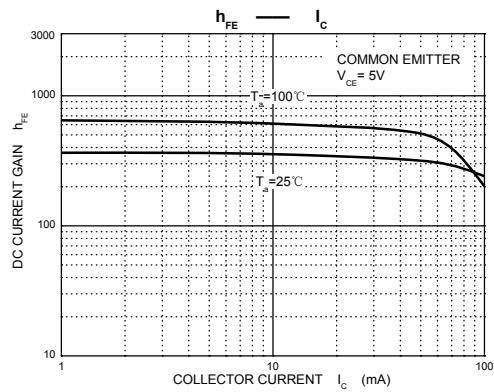
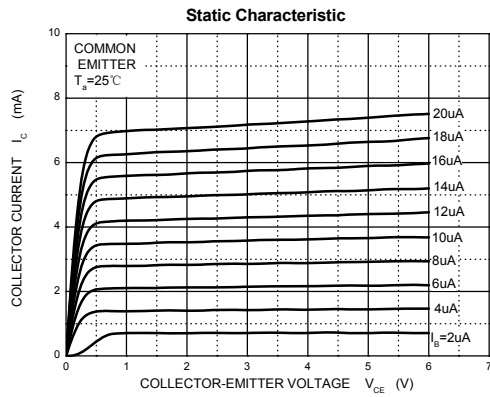
**■ Electrical Characteristics Ta = 25°C**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BC846	$I_c = 100 \mu A, I_E = 0$	80			V
	BC847		50			
	BC848		30			
Collector- emitter breakdown voltage	BC846	$I_c = 1 mA, I_B = 0$	65			
	BC847		45			
	BC848		30			
Emitter - base breakdown voltage	VEBO	$I_E = 100 \mu A, I_c = 0$	6			
Collector-base cut-off current	BC846	$V_{CB} = 70 V, I_E = 0$			100	nA
	BC847	$V_{CB} = 50 V, I_E = 0$				
	BC848	$V_{CB} = 30 V, I_E = 0$				
Collector- emitter cut-off current	BC846	$V_{CE} = 60 V, I_E = 0$			1	uA
	BC847	$V_{CE} = 45 V, I_E = 0$				
	BC848	$V_{CE} = 30 V, I_E = 0$				
Emitter cut-off current	IEBO	$V_{EB} = 5 V, I_c = 0$			100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 100 mA, I_B = 5 mA$			0.4	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 100 mA, I_B = 5 mA$			1.1	
DC current gain	BC846A,847A,848A	$V_{CE} = 5 V, I_c = 2 mA$	110		220	
	BC846B,847B,848B		200		450	
	BC846C,847C,848C		420		800	
Collector output capacitance	Cob	$V_{CB} = 10 V, f = 1 MHz$			4.5	pF
Transition frequency	ft	$V_{CE} = 5 V, I_c = 10 mA, f = 100 MHz$	100			MHz

**■ Classification of hfe**

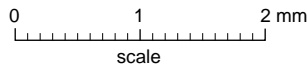
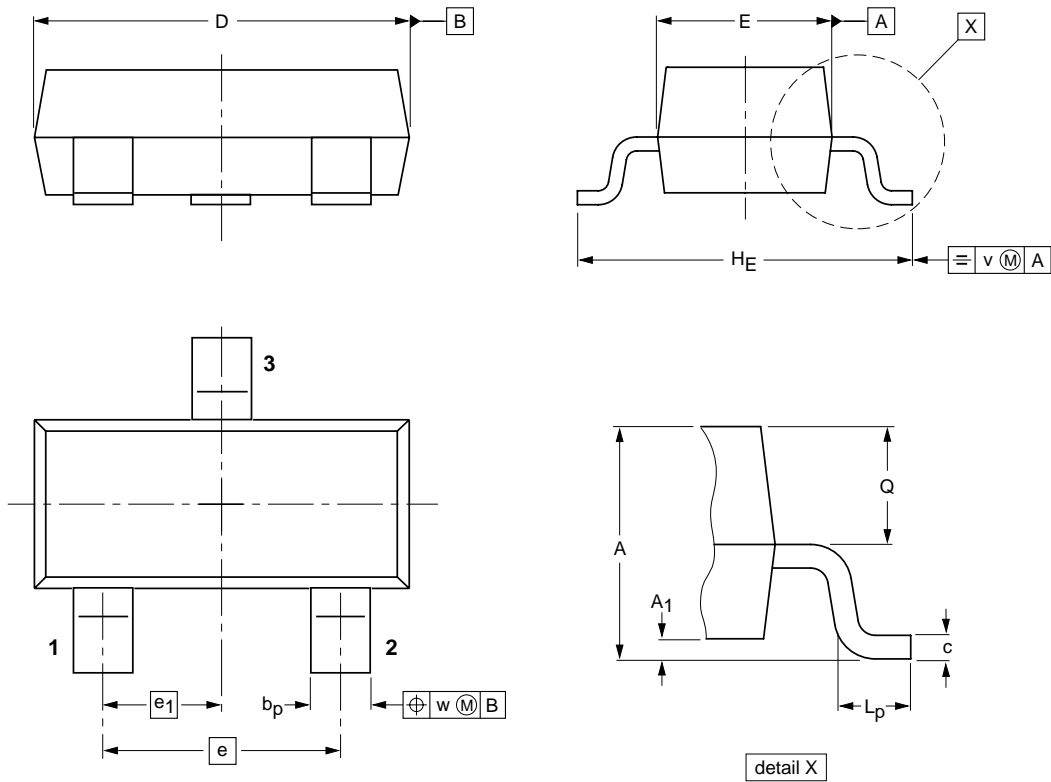
Type	BC846A	BC846B	BC846C	BC847A	BC847B	BC847C	BC848A	BC848B	BC848C
Range	110-220	220-450	420-800	110-220	220-450	420-800	110-220	220-450	420-800
Marking	1A	1B	1C	1E	1F	1G	1J	1K	1L

■ Typical Characteristics



**Package Outline**

**SOT-23**



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1