



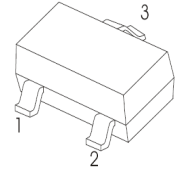
## SOT-23 Plastic-Encapsulate Transistors

**BC846** TRANSISTOR (NPN)  
**BC847**  
**BC848**

### FEATURES

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

### SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	BC846	80
		BC847	50
		BC848	30
V <sub>CEO</sub>	Collector-Emitter Voltage	BC846	65
		BC847	45
		BC848	30
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>c</sub>	Collector Current –Continuous	0.1	A
P <sub>c</sub>	Collector Power Dissipation	200	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

### DEVICE MARKING

BC846A=1A; BC846B=1B;  
BC847A=1E; BC847B=1F; BC847C=1G;  
BC848A=1J; BC848B=1K; BC848C=1L

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Collector-base breakdown voltage	BC846	$I_C = 10\mu A, I_E = 0$	80			V	
	BC847		50				
	BC848		30				
Collector-emitter breakdown voltage	BC846	$I_C = 10mA, I_B = 0$	65			V	
	BC847		45				
	BC848		30				
Emitter-base breakdown voltage		$I_E = 10\mu A, I_C = 0$	6			V	
Collector cut-off current	BC846	$I_{CBO}$	$V_{CB} = 70V, I_E = 0$		0.1	$\mu A$	
	BC847		$V_{CB} = 50V, I_E = 0$				
	BC848		$V_{CB} = 30V, I_E = 0$				
Collector cut-off current	BC846	$I_{CEO}$	$V_{CE} = 60V, I_B = 0$		0.1	$\mu A$	
	BC847		$V_{CE} = 45V, I_B = 0$				
	BC848		$V_{CE} = 30V, I_B = 0$				
Emitter cut-off current		$I_{EBO}$	$V_{EB} = 5V, I_C = 0$		0.1	$\mu A$	
DC current gain	BC846A,847A,848A	$h_{FE}$	$V_{CE} = 5V, I_C = 2mA$	110	220		
	BC846B,847B,848B			200			450
	BC847C,BC848C			420			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 output capacitance		$C_{ob}$	$V_{CB} = 10V, f = 1MHz$		4.5	pF	

# Typical Characteristics BC846/BC847/BC848

