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Part Number	BC847A
product family	SOT-23 Plastic-Encapsulate Bipolar Transistors
Product Polarity	NPN
SMD/ThroHole	SMD
VCEO	45V
VCBO	50V
VEBO	6.0V
Ic	100mA
PC	225mW
HFE(min)	110
@Ic	2.0mA
@VCE	5.0V
ICBO	0.1µA
IEBO	0.1µA
VCE(sat)	0.5V
VBE(sat)	1.1V
ft	100MHz
nf	
TON_max	
Package Qty	Tape: 3K/Reel , 120K/Ctn;

**Green/Pb Free/RoHS/REACH**

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Micro Commercial Components

# BC846A THRU BC849C

## NPN Plastic-Encapsulate Transistors

### Features

- Power Dissipation: 0.225W ( $T_{amb}=25^{\circ}C$ )(Note 1)
- Collector Current: 0.1A
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

### Maximum Ratings

- Operating temperature :  $-55^{\circ}C$  to  $+150^{\circ}C$
- Storage temperature :  $-55^{\circ}C$  to  $+150^{\circ}C$

### DEVICE MARKING

BC846A=1A,46A; BC846B=1B,46B;  
BC847A=1E,47A; BC847B=1F,47B; BC847C=1G,47C;  
BC848A=1J,48A; BC848B=1K,48B; BC848C=1L,48C  
BC849B=49B; BC849C=49C;

### Electrical Characteristics @ 25°C Unless Otherwise Specified

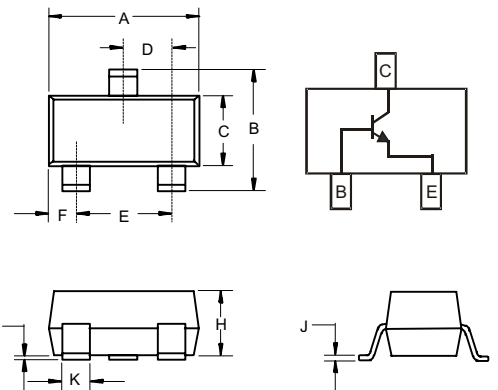
Symbol	Parameter	Min	Max	Units
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### OFF CHARACTERISTICS

$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=10\mu A_{dc}, I_E=0$ )	---	80	Vdc				
	BC846							
	BC847							
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=10mA_{dc}, I_B=0$ )	---	65	Vdc				
	BC846							
	BC847							
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ( $I_E=10\mu A_{dc}, I_C=0$ )	---	30	Vdc				
	BC848, BC849							
	BC848, BC849							
$I_{CBO}$	Collector Cut-off Current BC846 ( $V_{CB}=80V, I_E=0$ ) BC847 ( $V_{CB}=50V, I_E=0$ ) BC848, BC849 ( $V_{CB}=30V, I_E=0$ )	---	0.1	$\mu A_{dc}$				
	$I_{CEO}$				Collector Cut-off Current BC846 ( $V_{CE}=60V, I_B=0$ ) BC847 ( $V_{CE}=45V, I_B=0$ ) BC848, BC849 ( $V_{CE}=30V, I_B=0$ )	---	0.1	$\mu A_{dc}$
					$I_{EBO}$			
$H_{FE(1)}$		DC Current Gain( $V_{CE}=5V, I_C=2mA$ )	110	220				
	BC846A, 847A, 848A							
	BC846B, 847B, 848B, 849B							
	BC847C, BC848C, BC849C							
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=100mA, I_B=5mA$ )	---	0.5	Vdc				
	$V_{BE(sat)}$				Base-Emitter Saturation Voltage ( $I_C=100mA, I_B=5mA$ )	---	1.1	Vdc
$f_T$		Transition Frequency ( $V_{CE}=5V, I_C=10mA, f=100MHz$ )	100	---	MHZ			

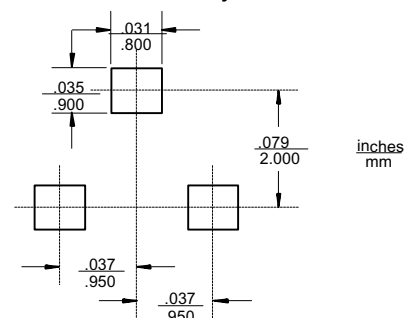
Note 1: Transistor mounted on an FR4 printed-circuit board

### SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout





## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel