



Micro Commercial Components



Micro Commercial Components  
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# BC846A THRU BC849C

## NPN Plastic-Encapsulate Transistors

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Power Dissipation: 0.225W ( $T_{amb}=25^{\circ}C$ )(Note 1)
- Collector Current: 0.1A
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

### 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

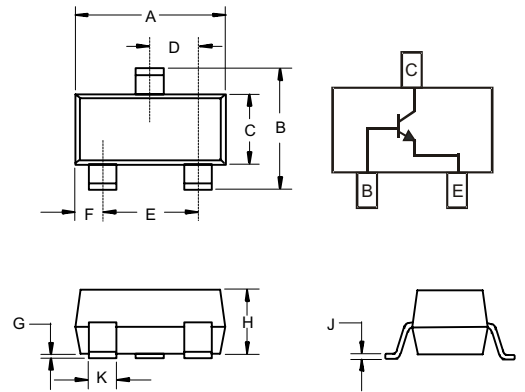
Symbol	Parameter	Min	Max	Units
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### OFF CHARACTERISTICS

$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=10\mu A$ , $I_E=0$ )			Vdc
	BC846	80	---	
	BC847 BC848, BC849	50 30	---	
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=10mA$ , $I_B=0$ )			Vdc
	BC846	65	---	
	BC847 BC848, BC849	45 30	---	
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ( $I_E=10\mu A$ , $I_C=0$ )	6	---	Vdc
$I_{CBO}$	Collector Cut-off Current ( $V_{CB}=70V$ , $I_E=0$ )	---	0.1	$\mu A$
	BC847 ( $V_{CB}=50V$ , $I_E=0$ )			
	BC848, BC849 ( $V_{CB}=30V$ , $I_E=0$ )			
$I_{CEO}$	Collector Cut-off Current ( $V_{CE}=60V$ , $I_B=0$ )	---	0.1	$\mu A$
	BC847 ( $V_{CE}=45V$ , $I_B=0$ )			
	BC848, BC849 ( $V_{CE}=30V$ , $I_B=0$ )			
$I_{EBO}$	Emitter Cut-off Current ( $V_{EB}=5V$ , $I_C=0mA$ )	---	0.1	$\mu A$
$H_{FE(1)}$	DC Current Gain ( $V_{CE}=5V$ , $I_C=2mA$ )			
	BC846A, 847A, 848A	110	220	
	BC846B, 847B, 848B, 849B BC847C, BC848C, BC849C	200 420	450 800	
$V_{CE(sat)}$	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

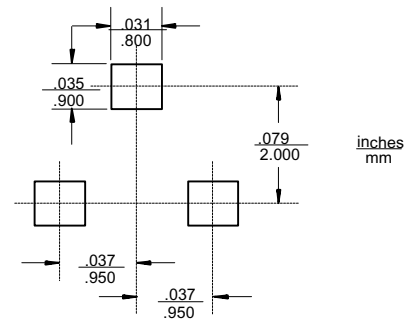
Note 1: Transistor mounted on an FR4 printed-circuit board

### SOT-23

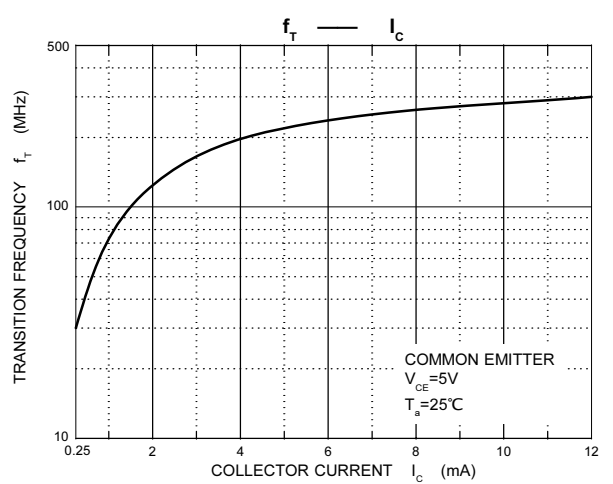
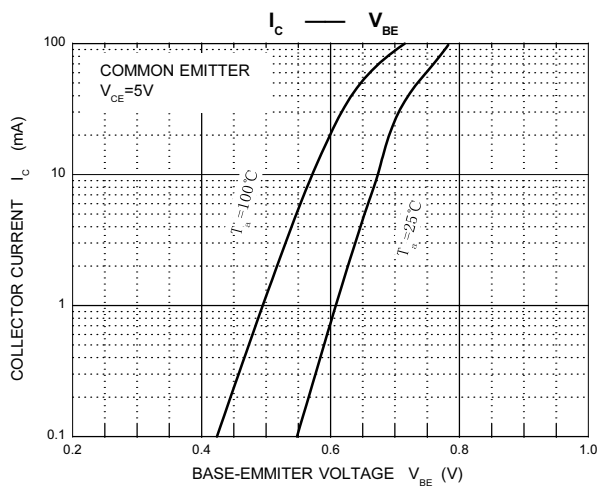
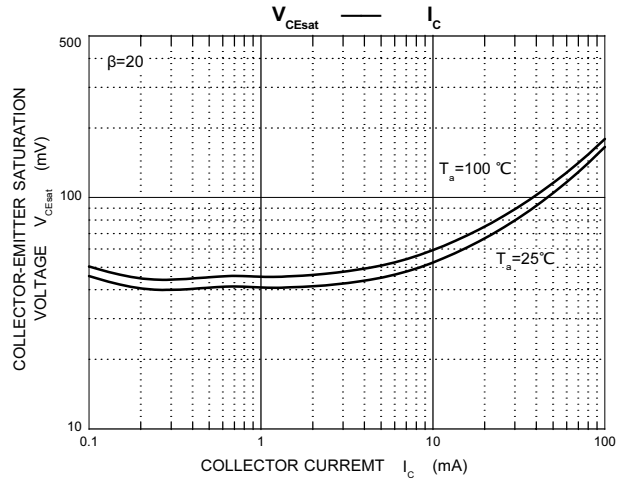
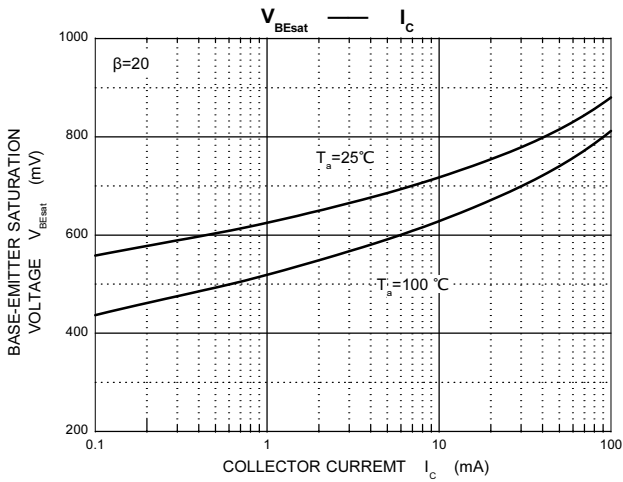
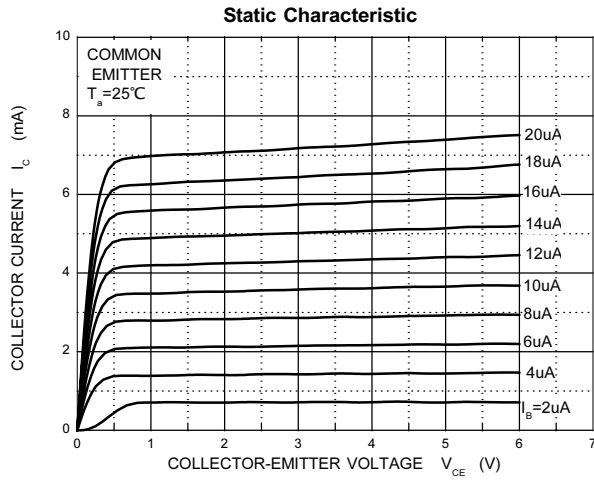


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

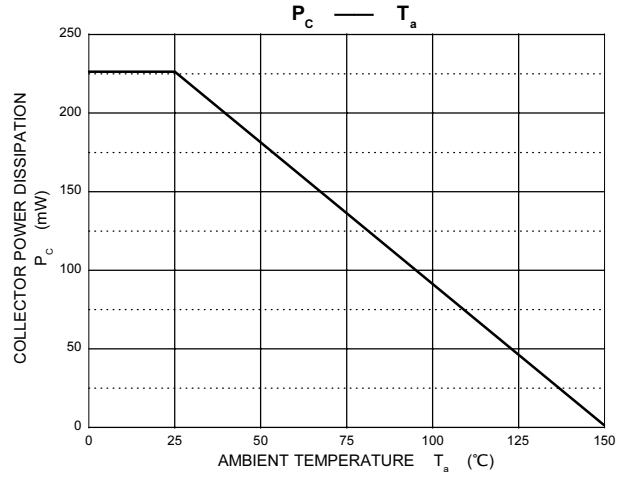
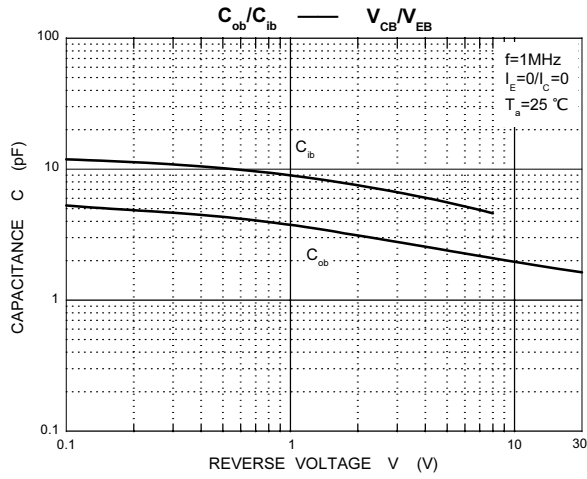
### Suggested Solder Pad Layout



# BC846A thru BC849C



# BC846A thru BC849C





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### Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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