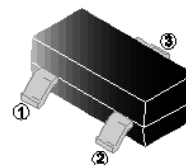


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

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

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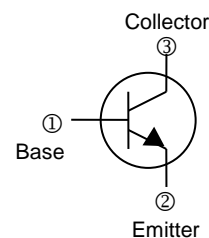


MARKING

Part Number	BC846A-C	BC846B-C	-
Marking	1A	1B	-
Part Number	BC847A-C	BC847B-C	BC847C-C
Marking	1E	1F	1G
Part Number	BC848A-C	BC848B-C	BC848C-C
Marking	1J	1K	1L

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V _{CBO}	80	V
		50	
		30	
Collector-Emitter Voltage	V _{CEO}	65	V
		45	
		30	
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current-Continuous	I _C	0.1	A
Collector Dissipation ¹	P _C	225	mW
Thermal Resistance, Junction-Ambient	R _{θJA}	625	°C/W
Junction, Storage Temperature Range	T _J , T _{STG}	150, -55~150	°C

Note:

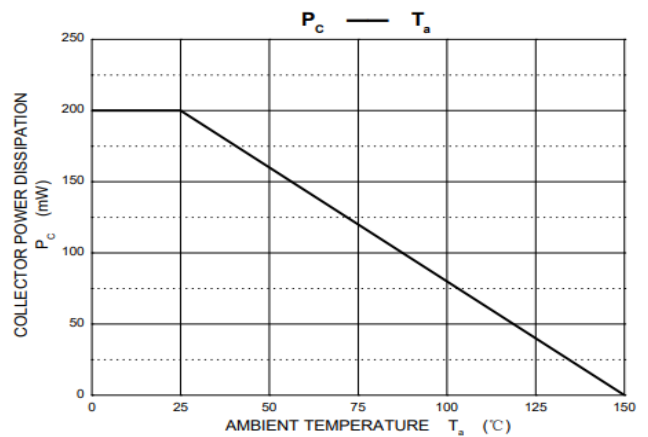
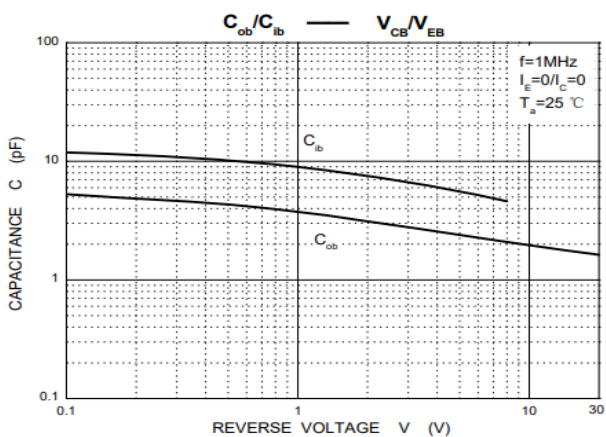
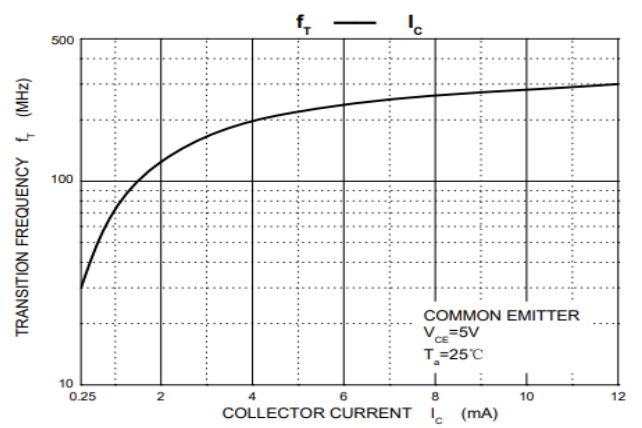
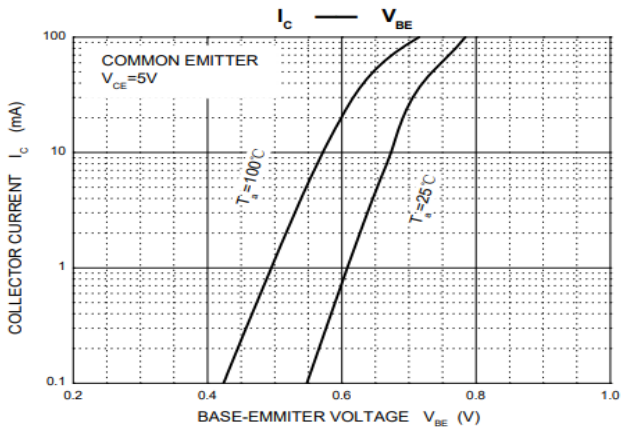
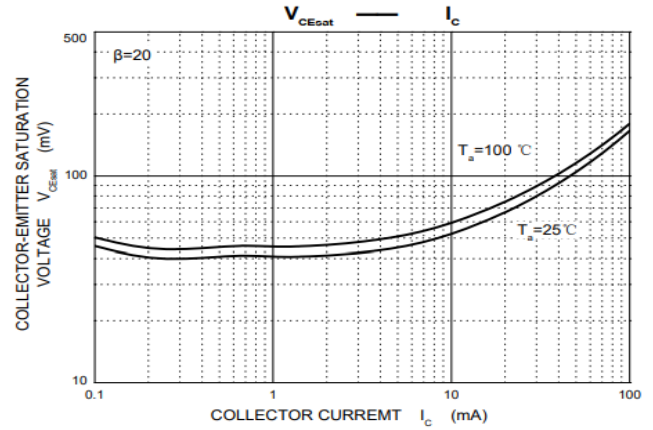
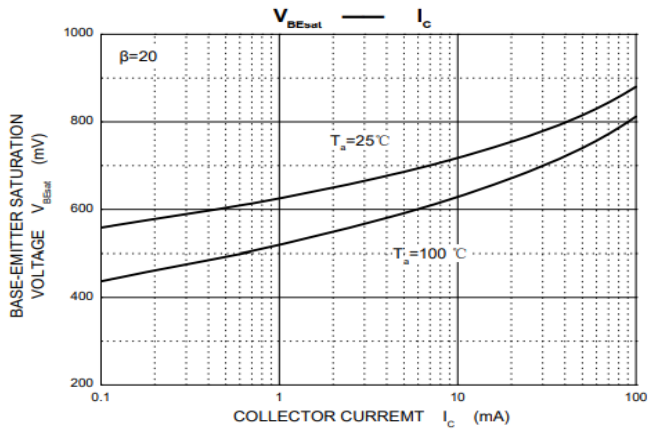
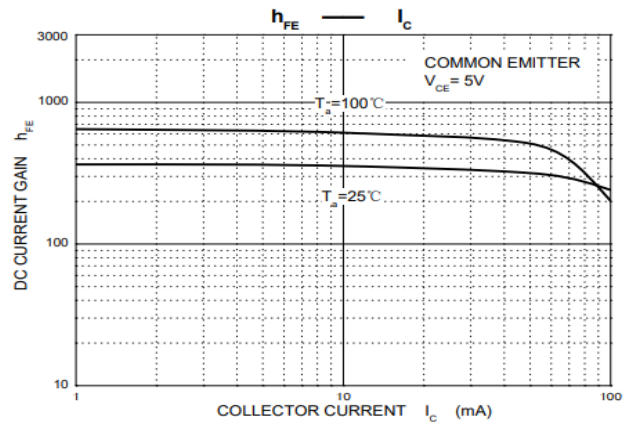
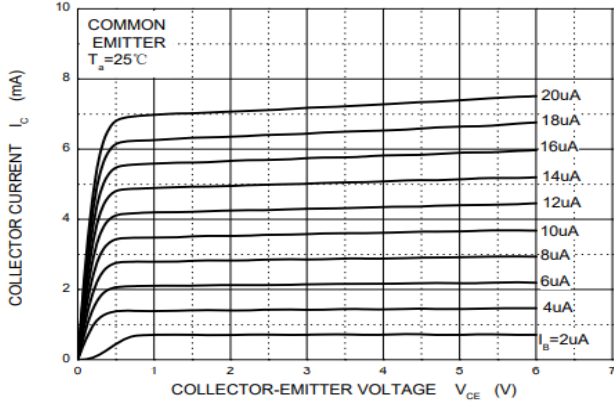
1. Device mounted on an FR-4 PCB, single-sided copper, tin-plated and standard footprint.

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	BC846	V_{CBO}	80	-	-	V	$I_C=10\mu\text{A}, I_E=0$
	BC847		50	-	-		
	BC848		30	-	-		
Collector-Emitter Breakdown Voltage	BC846	V_{CEO}	65	-	-	V	$I_C=10\text{mA}, I_E=0$
	BC847		45	-	-		
	BC848		30	-	-		
Emitter-Base Breakdown Voltage		V_{EBO}	6	-	-	V	$I_E=10\mu\text{A}, I_C=0$
Collector-Base Cut-off Current	BC846	I_{CBO}	-	-	0.1	μA	$V_{CB}=70\text{V}, I_E=0$
	BC847		-	-	0.1		$V_{CB}=50\text{V}, I_E=0$
	BC848		-	-	0.1		$V_{CB}=30\text{V}, I_E=0$
Collector-Emitter Cut-off Current	BC846	I_{CEO}	-	-	0.1	μA	$V_{CE}=60\text{V}, I_B=0$
	BC847		-	-	0.1		$V_{CE}=45\text{V}, I_B=0$
	BC848		-	-	0.1		$V_{CE}=30\text{V}, I_B=0$
Emitter-Base Cut-off Current		I_{EBO}	-	-	0.1	μA	$V_{EB}=5\text{V}, I_C=0$
DC Current Gain	BC846A,BC847A,BC848A	h_{FE}	110	-	220		$V_{CE}=5\text{V}, I_C=2\text{mA}$
	BC846B,BC847B,BC848B		200	-	450		
	BC847C,BC848C		420	-	800		
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	-	-	0.5	V	$I_C=100\text{mA}, I_B=5\text{mA}$
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	-	-	1.1	V	$I_C=100\text{mA}, I_B=5\text{mA}$
Transition Frequency		f_T	-	100	-	MHz	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$
Collector Capacitance		C_{ob}	-	4.5	-	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

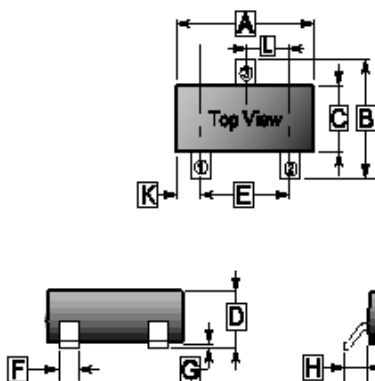
CHARACTERISTIC CURVES

Static Characteristic



PACKAGE OUTLINE DIMENSIONS

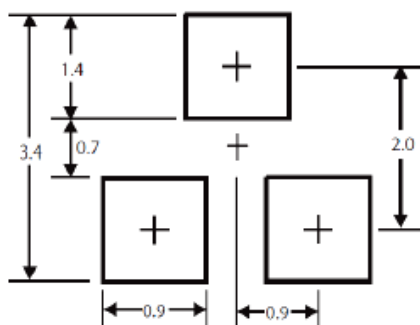
SOT-23



REF.	Millimeter	
	Min.	Max.
A	2.65	3.10
B	2.10	3.00
C	1.10	1.80
D	0.89	1.40
E	1.70	2.30
F	0.28	0.55
G	-	0.18
H	0.55 REF.	
J	0.05	0.26
K	0.60 REF.	
L	0.95 TYP.	

MOUNTING PAD LAYOUT

SOT-23



*Dimensions in millimeters