Elektronische Bauelemente

BC84 Series CR-C

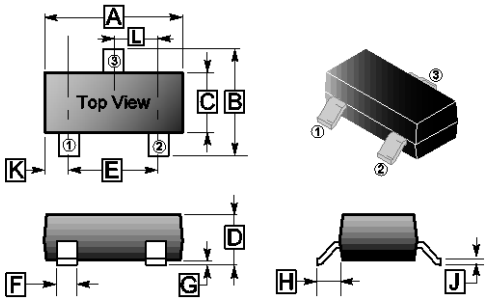
NPN Plastic Encapsulate Transistor

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

FEATURES

- High Current Gain
- Excellent h_{FE} Linearity
- Low Noise Between 30Hz and 15kHz
- For AF Input Stages and Driver Applications
- Qualified to AEC-Q101 Standards for High Reliability

SOT-23



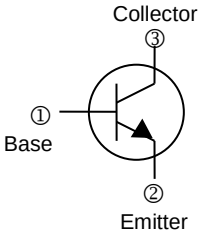
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.65	3.10	G	0	0.18
B	2.10	3.00	H	0.55 REF.	
C	1.10	1.80	J	0.08	0.26
D	0.89	1.40	K	0.60 REF.	
E	1.70	2.30	L	0.95 TYP.	
F	0.28	0.55			

MARKING

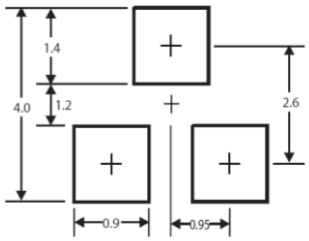
Part Number	BC846ACR-C	BC846BCR-C	-
Marking	1A	1B	-
Part Number	BC847ACR-C	BC847BCR-C	BC847CCR-C
Marking	1E	1F	1G
Part Number	BC848ACR-C	BC848BCR-C	BC848CCR-C
Marking	1J	1K	1L

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch



Mounting Pad Layout



*Dimensions in millimeters

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

Parameter		Symbol	Ratings	Unit
Collector-Base Voltage	BC846	V_{CBO}	80	V
	BC847		50	
	BC848		30	
Collector-Emitter Voltage	BC846	V_{CEO}	65	V
	BC847		45	
	BC848		30	
Emitter-Base Voltage	BC846	V_{EBO}	6	V
	BC847		6	
	BC848		5	
Collector Current-Continuous		I_C	0.1	A
Collector Dissipation		P_C	250	mW
Thermal Resistance, Junction-Ambient		$R_{\theta JA}$	500	°C/W
Junction, Storage Temperature Range		T_J, T_{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	BC846	$V_{(BR)CBO}$	80	-	-	V	I_C=10μA, I_E=0
	BC847		50	-	-		
	BC848		30	-	-		
Collector-Emitter Breakdown Voltage	BC846	$V_{(BR)CEO}$	65	-	-	V	I_C=10mA, I_E=0
	BC847		45	-	-		
	BC848		30	-	-		
Emitter-Base Breakdown Voltage	BC846	$V_{(BR)EBO}$	6	-	-	V	I_E=10μA, I_C=0
	BC847		6	-	-		
	BC848		5	-	-		
Collector-Base Cut-off Current		I_{CBO}	-	-	15	nA	V_{CB}=30V, I_E=0
			-	-	5	μA	V_{CB}=30V, I_E=0, T_J=150°C
Emitter-Base Cut-off Current		I_{EBO}	-	-	100	nA	V_{EB}=5V, I_C=0
Collector-Emitter Cut-off Current		I_{CEO}	-	-	1	mA	V_{CE}=30V, I_B=0
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	-	0.09	0.25	V	I_C=10mA, I_B=0.5mA
			-	0.2	0.6		I_C=100mA, I_B=5mA
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	-	0.7	0.9	V	I_C=10mA, I_B=0.5mA
			-	0.9	1.1		I_C=100mA, I_B=5mA
Base-Emitter Voltage		$V_{BE(on)}$	0.58	0.66	0.7	V	V_{CE}=5V, I_C=2mA
			-	-	0.77		V_{CE}=5V, I_C=10mA
DC Current Gain	BC846A,BC847A,BC848A	h_{FE}	-	110	-		V_{CE}=5V, I_C=10μA
	BC846B,BC847B,BC848B		-	250	-		
	BC847C,BC848C		-	480	-		
DC Current Gain	BC846A,BC847A,BC848A	h_{FE}	110	-	220		V_{CE}=5V, I_C=2mA
	BC846B,BC847B,BC848B		200	-	450		
	BC847C,BC848C		420	-	800		
Transition Frequency		f_T	-	100	-	MHz	V_{CE}=5V, I_C=10mA, f=100MHz
Collector Capacitance		C_{ob}	-	2.5	-	pF	V_{CB}=10V, I_E=0, f=1MHz

CHARACTERISTIC CURVES (BC846ACR-C)

Fig.1 DC current gain as a function of collector current; typical values.

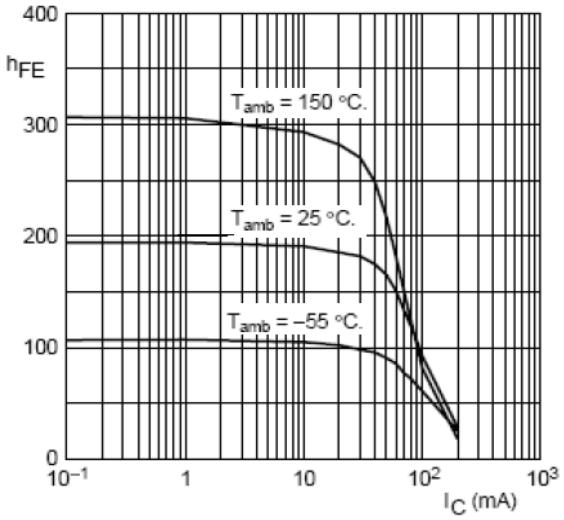


Fig.2 Base-emitter voltage as a function of collector current; typical values.

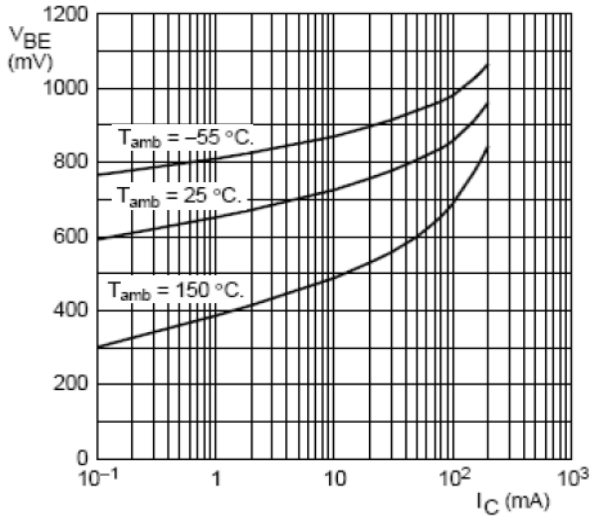


Fig.3 Collector-emitter saturation voltage as a function of collector current; typical values.

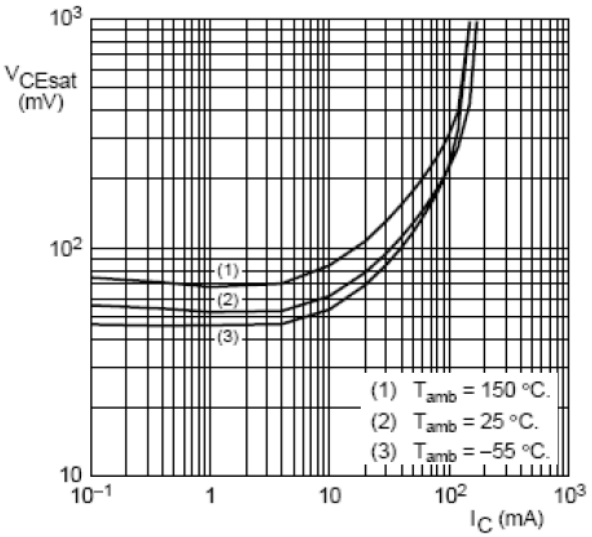
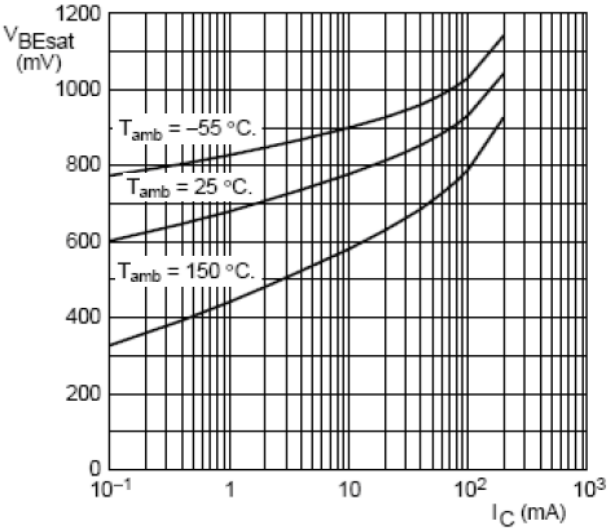


Fig.4 Base-emitter saturation voltage as a function of collector current; typical values.



CHARACTERISTIC CURVES (BC847BCR-C)

Fig.5 DC current gain as a function of collector current; typical values.

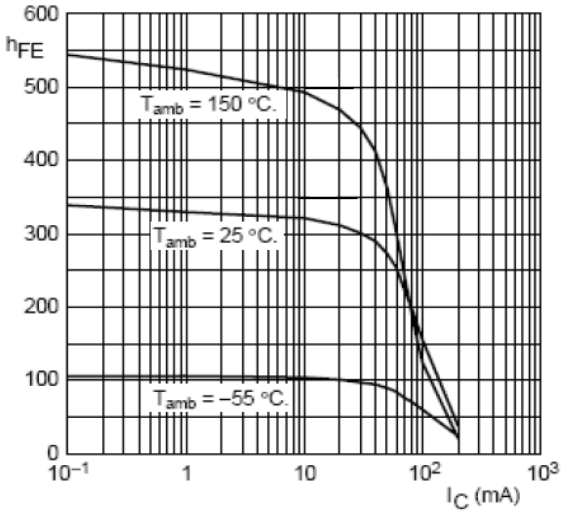


Fig.6 Base-emitter voltage as a function of collector current; typical values.

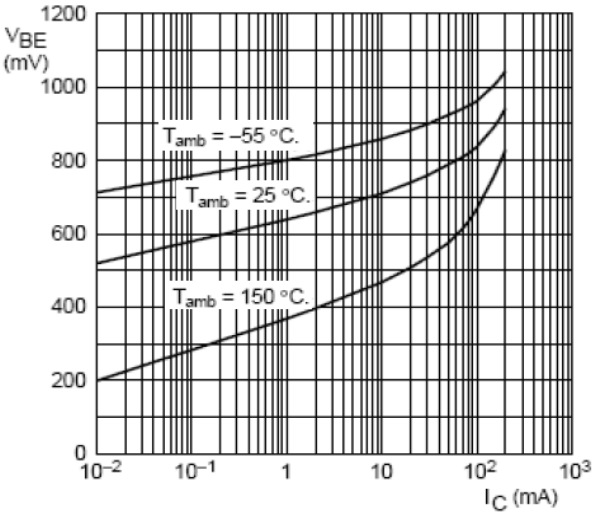


Fig.7 Collector-emitter saturation voltage as a function of collector current; typical values.

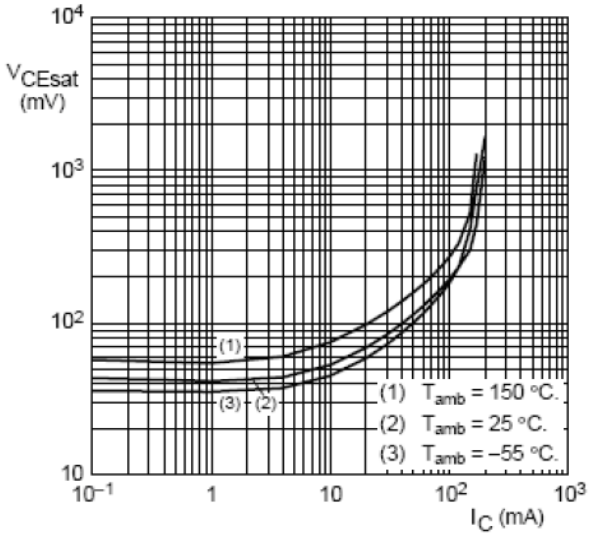
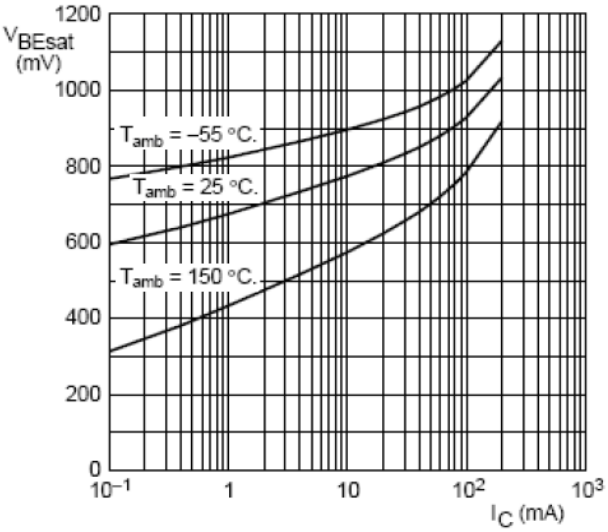


Fig.8 Base-emitter saturation voltage as a function of collector current; typical values.



CHARACTERISTIC CURVES (BC847CCR-C)

Fig.9 DC current gain as a function of collector current; typical values.

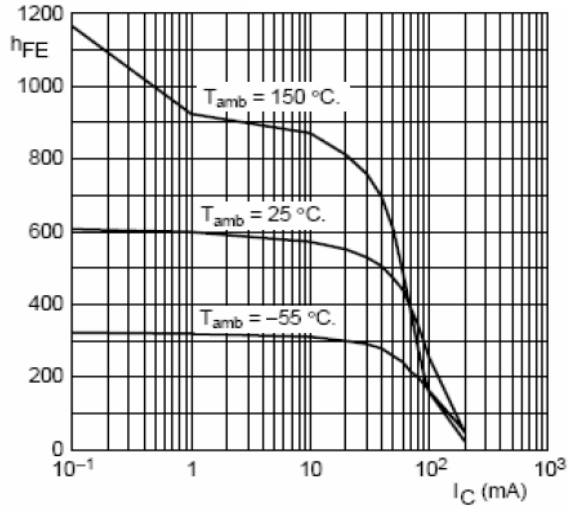


Fig.10 Base-emitter voltage as a function of collector current; typical values.

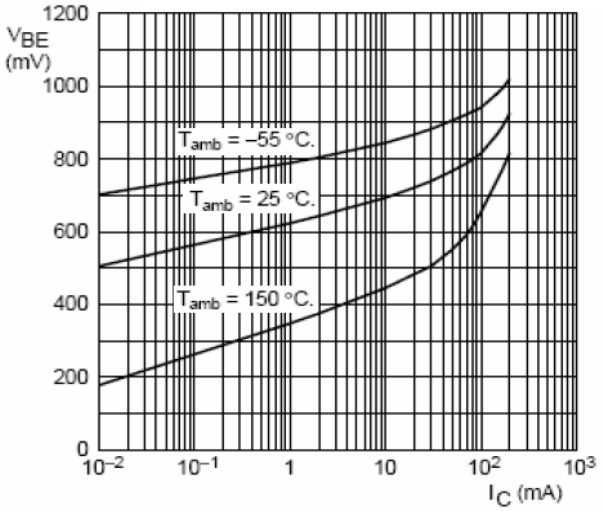


Fig.11 Collector-emitter saturation voltage as a function of collector current; typical values.

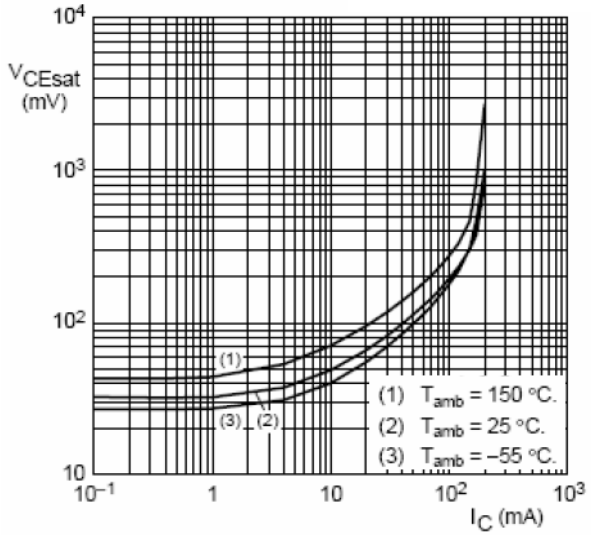


Fig.12 Base-emitter saturation voltage as a function of collector current; typical values.