DESCRIPTION

The BC846-AL/BL, A847-848AL/BL/CL are available in SOT-23 package.

FEATURES

- High current gain
- Excellent h_{FE} linearity
- Low noise between 30Hz and 15kHz
- For AF input stages and driver applications
- Available in SOT-23 package

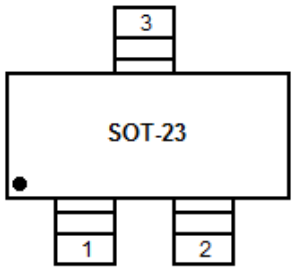
ORDERING INFORMATION

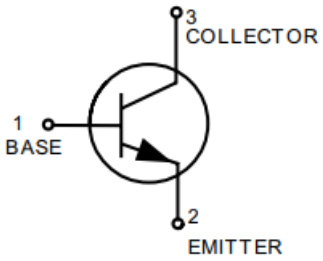
Package Type	Part Number
SOT-23	BC846AL
	BC846BL
	BC847AL
	BC847BL
	BC847CL
	BC848AL
	BC848BL
	BC848CL
Package	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

APPLICATIONS

- General purpose switching and amplification.

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	BC846	BC847	BC848	Unit
Collector-Emitter Voltage	V_{CEO}	65	45	30	V
Collector-Base Voltage	V_{CBO}	80	50	30	V
Emitter-Base Voltage	V_{EBO}	6.0	6.0	5.0	V
Collector Current-Continuous	I_C	0.1			A
Collector Dissipation	P_C	200			mW
Junction and Storage Temperature	T_J, T_{STG}	-65~150			°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	Characteristic		Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	BC846	80	-	-	V
			BC847	50	-	-	
			BC848	30	-	-	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	BC846	65	-	-	V
			BC847	45	-	-	
			BC848	30	-	-	
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	BC846	6.0	-	-	V
			BC847	6.0	-	-	
			BC848	5.0	-	-	
Collector Cutoff Current	I_{CBO}	V_{CB}=70V, I_E=0	BC846	-	-	0.1	μA
		V_{CB}=50V, I_E=0	BC847				
		V_{CB}=30V, I_E=0	BC848				
Collector Cutoff Current	I_{CEO}	V_{CE}=60V, I_B=0	BC846	-	-	0.1	μA
		V_{CE}=45V, I_B=0	BC847				
		V_{CE}=30V, I_B=0	BC848				
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0		-	-	0.1	μA
DC Current Gain	h_{FE}	V_{CE}=5.0V, I_C=2.0mA	BC846AL BC847AL BC848AL	110	-	220	
			BC846BL BC847BL BC848BL	200	-	450	
			BC847CL BC848CL	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}=5.0V, I_C=10mA, f=100MHz		100	-	-	MHz

TYPICAL PERFORMANCE CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Figure 1. Normalized DC Current Gain

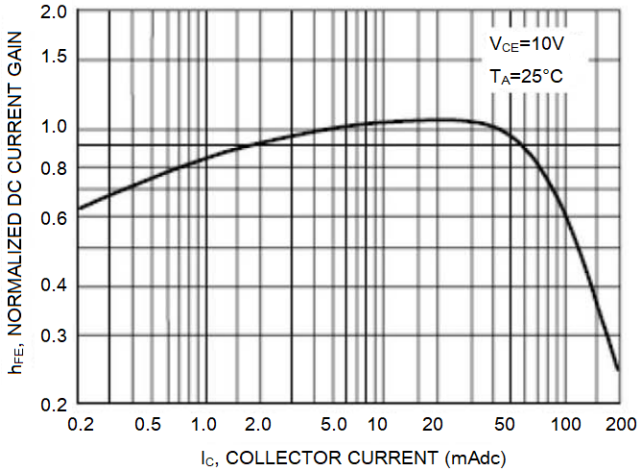


Figure 2. "Saturation" and "On" Voltage

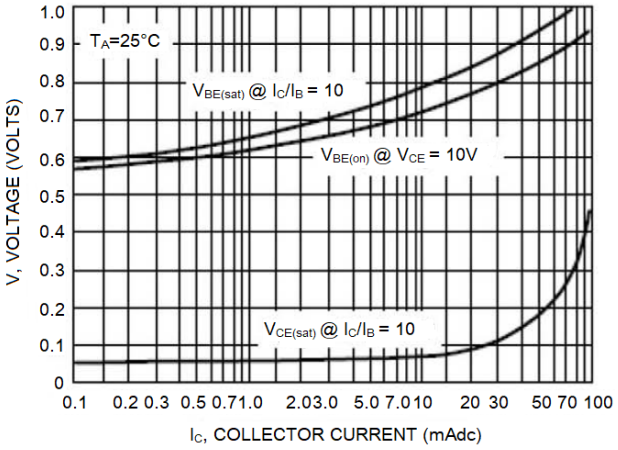


Figure 3. Collector Saturation Region

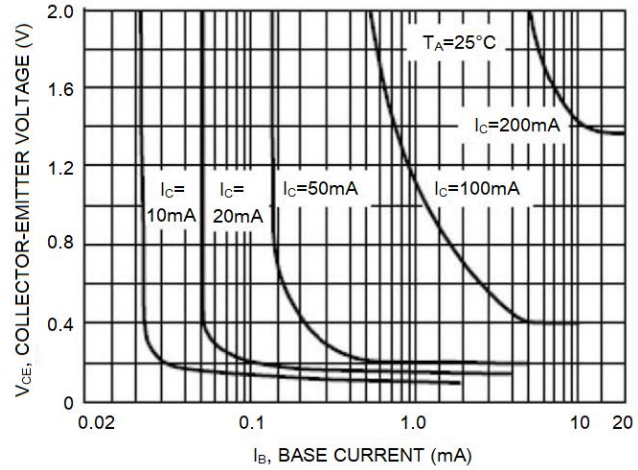


Figure 4. Base-Emitter Temperature Coefficient

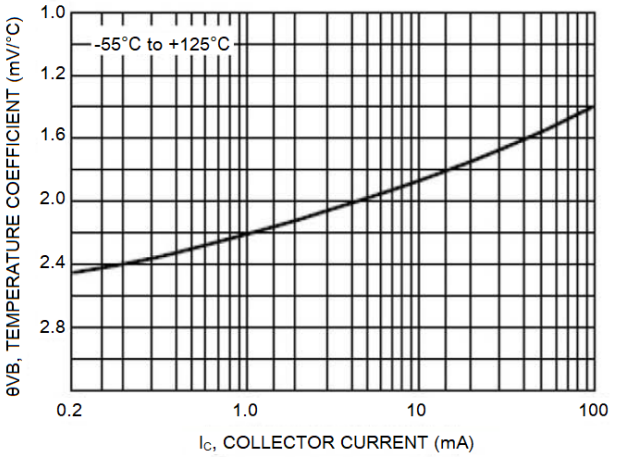


Figure 5. Capacitances

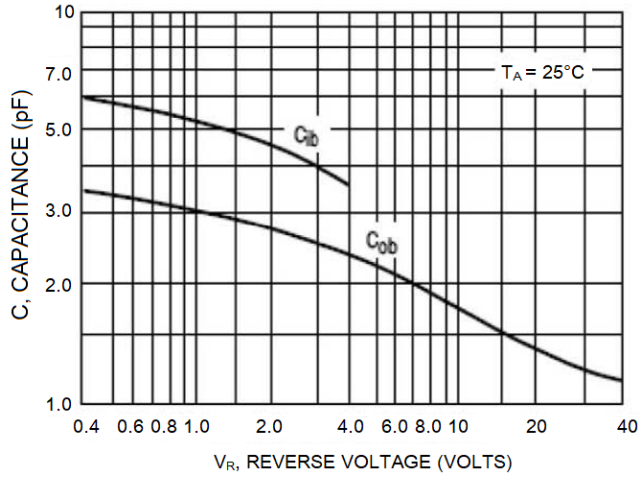
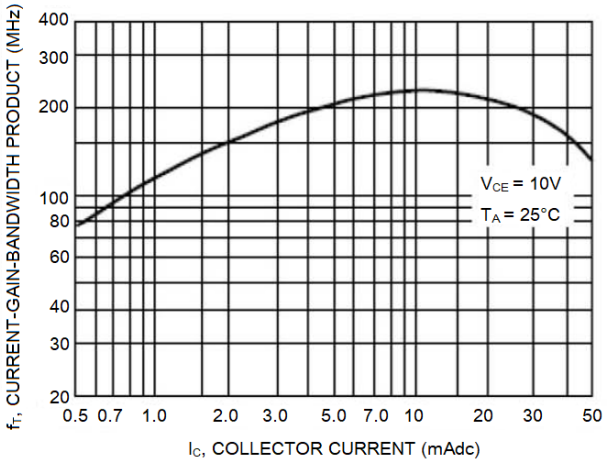
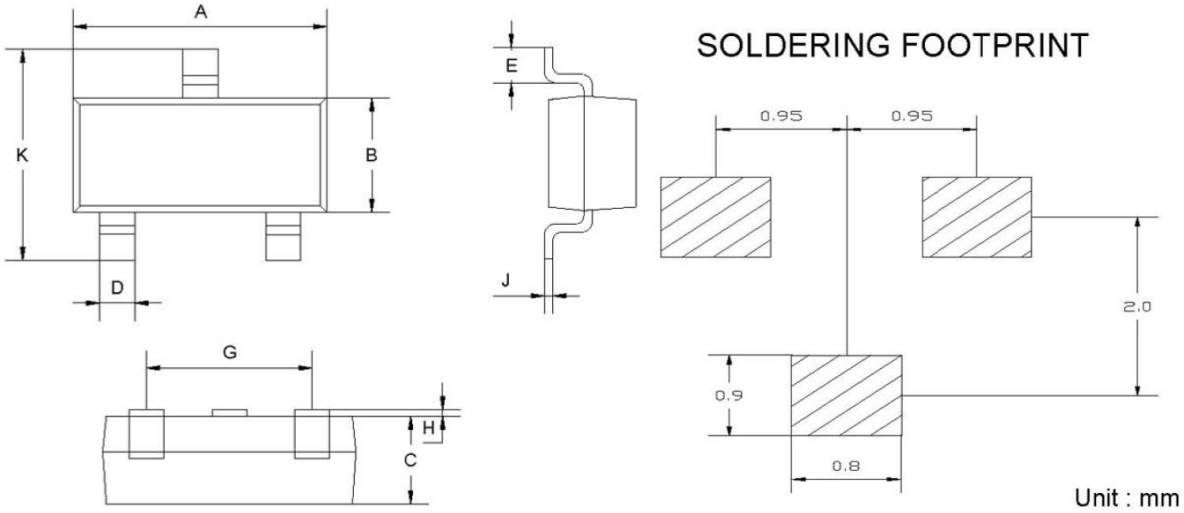


Figure 6. Current-Gain-Bandwidth Product



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	MIN	MAX
A	2.85	2.92
B	1.25	1.35
C	10 TYP	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 TYP	
K	2.35	2.45

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