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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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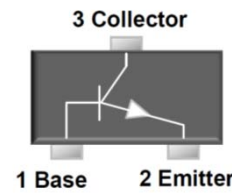
Small Signal Product

200mW, NPN Small Signal Transistor
FEATURES

- Epitaxial planar die construction
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel(Ni) under plate
- Pb free and RoHS compliant
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


SOT-23
MECHANICAL DATA

- Case: SOT- 23 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed: 260°C/10s
- Weight: 8mg (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)				
PARAMETER		SYMBOL	VALUE	UNIT
Power dissipation		P_D	200	mW
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		I_C	0.1	A
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Notes: 1. Valid provided that electrodes are kept at ambient temperature

PARAMETER		SYMBOL	MIN	MAX	UNIT		
Collector-Base Breakdown Voltage	BC846	$V_{(BR)CBO}$	80	-	V		
	BC847		50				
	BC848		30				
Collector-Emitter Breakdown Voltage	BC846	$V_{(BR)CEO}$	65	-	V		
	BC847		45				
	BC848		30				
Emitter-Base Breakdown Voltage	BC846	$V_{(BR)EBO}$	6	-	V		
	BC847		6				
	BC848		5				
Collector Cut-off Current	$V_{CB}=30\text{V}$	$I_E=0$	I_{CBO}	-	100	nA	
Emitter Cut-off Current	$V_{EB}=5\text{V}$	$I_C=0$	I_{EBO}	-	0.1	μA	
DC Current Gain	BC846A, BC847A, BC848A	$V_{CE}=5\text{V}$	$I_C=2\text{mA}$	h_{FE}	110	220	
	BC846B, BC847B, BC848B				200	450	
	BC847C, BC848C				420	800	
Collector-Emitter Saturation Voltage	$I_C=100\text{mA}$	$I_B=5\text{mA}$	$V_{CE(sat)}$	-	0.5	V	
Base-Emitter Saturation Voltage	$I_C=100\text{mA}$	$I_B=5\text{mA}$	$V_{BE(sat)}$	-	1.1	V	
Transition frequency	$V_{CE}=5\text{V}$	$I_C=10\text{mA}$	$f=100\text{MHz}$	f_T	100	-	MHz

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RATINGS AND CHARACTERISTICS CURVES

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

Fig.1 Static Characteristic

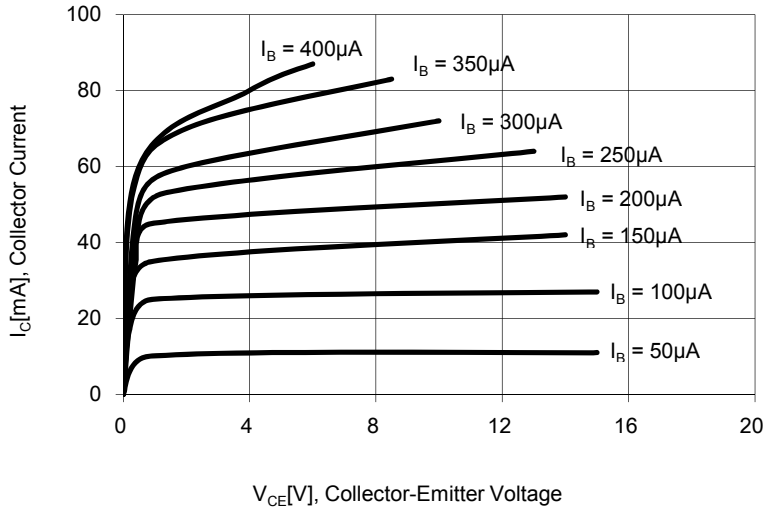


Fig.2 DC Current Gain

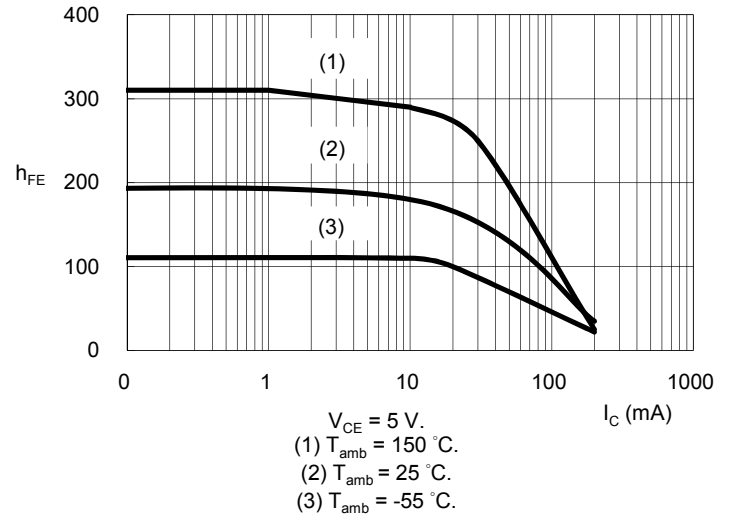


Fig.3 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

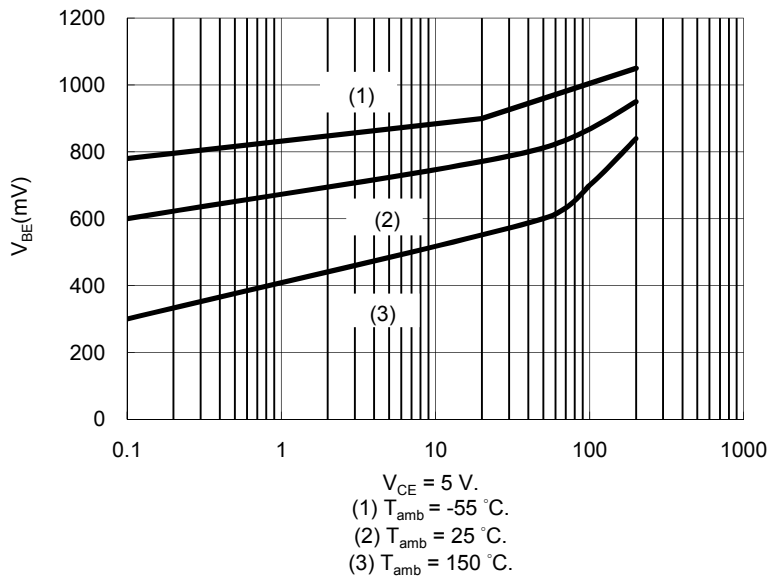


Fig. 4 Base-Emitter On Voltage

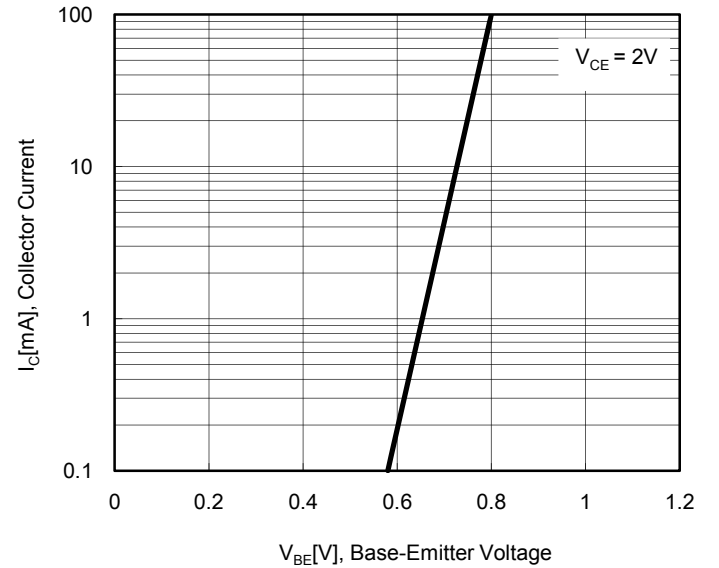


Fig.5 Collector Output Capacitance

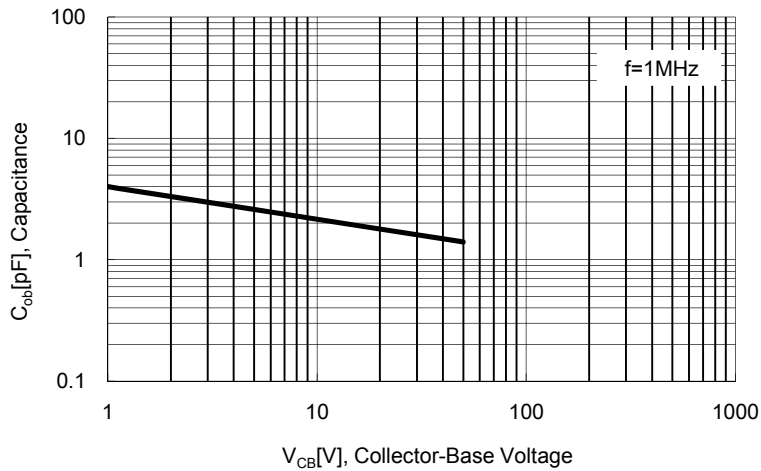
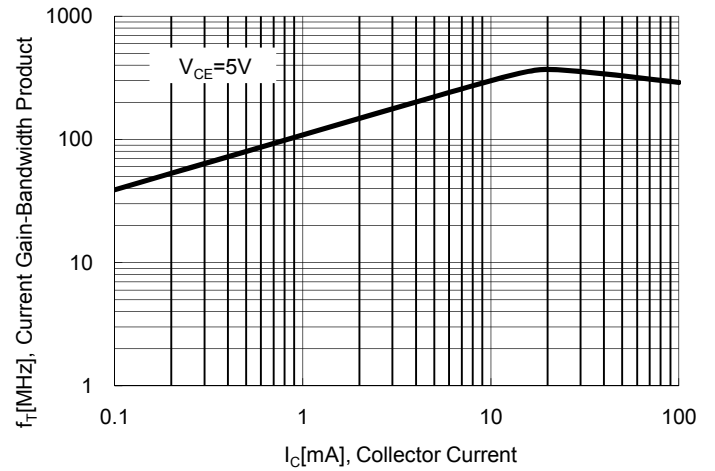


Fig. 6 Current Gain Bandwidth Product

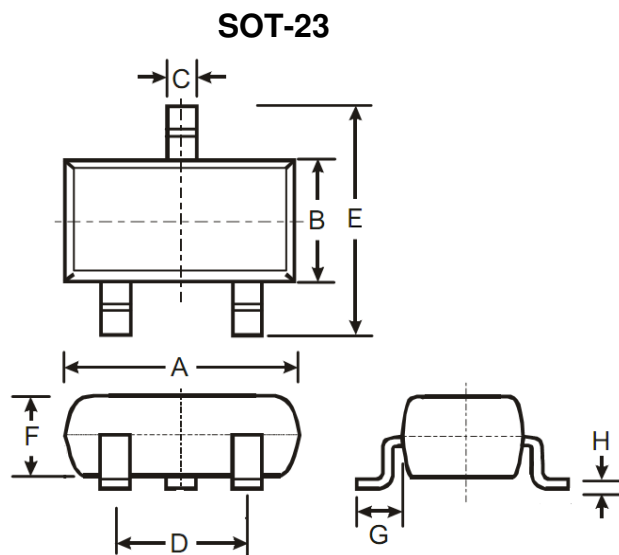


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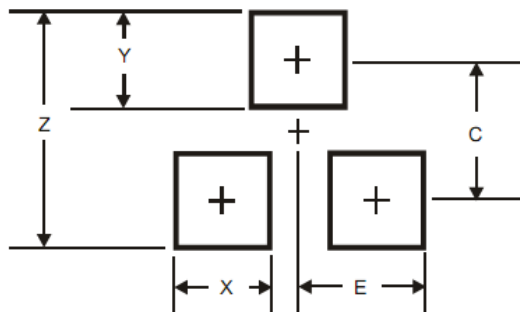
ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
BC84xx (Note 1)	RF	G	SOT-23	3K / 7" Reel
	R5			10K / 13" Reel

Note 1: "xx" is device code from "BC846A" ~ "BC848C", detail could follow the previous page

EXAMPLE				
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BC846A RFG	BC846A	RF	G	Green compound

DIMENSIONS


DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.1 REF		0.004 REF	

SUGGEST PAD LAYOUT


DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
Z	2.90	0.114
X	0.80	0.031
Y	0.90	0.035
C	2.00	0.079
E	1.35	0.053

MARKING CODE

PART NO.	MARKING
BC846A	1A
BC846B	1B
BC847A	1E
BC847B	1F
BC847C	1G
BC848A	1J
BC848B	1K
BC848C	1L

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