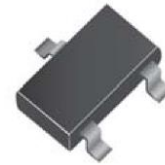


Small Signal Product

## 200mW, PNP Small Signal Transistor

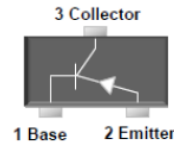
### FEATURES

- Epitaxial planar die construction
- Surface device type mounting
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- Pb free and RoHS compliant
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code



### 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 : 0.008 grams (approximately)



**SOT-23**

<b>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</b> (TA=25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P <sub>D</sub>	200	mW
Collector-Base Voltage	V <sub>CBO</sub>	BC856	-80
		BC857	-50
		BC858	-30
Collector-Emitter Voltage	V <sub>CEO</sub>	BC856	-65
		BC857	-45
		BC858	-30
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-0.1	A
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150	°C

PARAMETER	SYMBOL	MIN	MAX	UNIT		
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA I <sub>E</sub> = 0	BC856	-80	-	
			BC857	-50	-	
			BC858	-30	-	
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10mA I <sub>B</sub> = 0	BC856	-65	-	
			BC857	-45	-	
			BC858	-30	-	
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -1μA I <sub>C</sub> = 0	-5	-	V	
Collector Cut-off Current	I <sub>CBO</sub>	I <sub>E</sub> = 0	BC856	V <sub>CB</sub> = -70V	-	-100
			BC857	V <sub>CB</sub> = -45V	-	-100
			BC858	V <sub>CB</sub> = -25V	-	-100
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = -5V I <sub>C</sub> =0	-	-0.1	μA	
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V I <sub>C</sub> = -2mA	BC856A, BC857A, BC858A	125	250	
			BC856B, BC857B, BC858B	220	475	
			BC857C, BC858C	420	800	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -100mA I <sub>B</sub> = -5mA	-	-0.65	V	
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -100mA I <sub>B</sub> = -5mA	-	-1.1	V	
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = -5V I <sub>C</sub> = -10mA f= 100MHz	100	-	MHz	

Small Signal Product

**RATINGS AND CHARACTERISTIC CURVES**

(TA=25°C unless otherwise noted)

Fig. 1 Static Characteristic

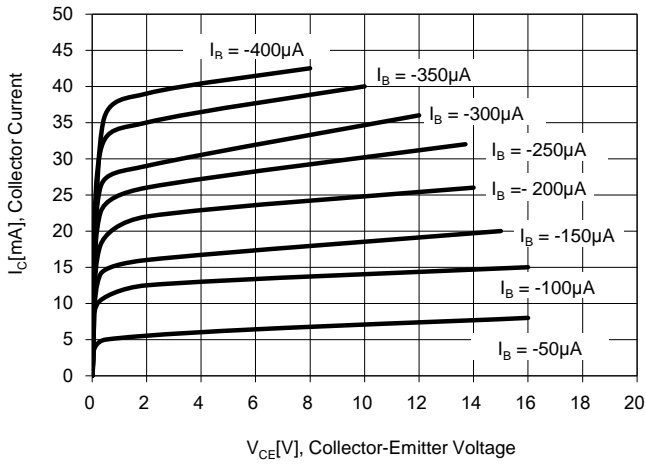


Fig. 2 DC Current Gain

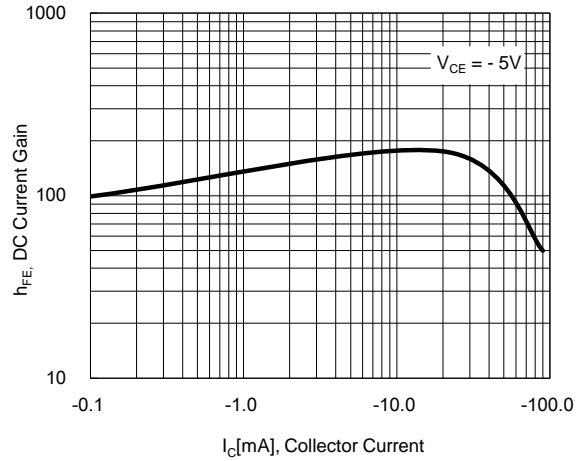


Fig.3 Base-Emitter Saturation Voltage VS. Collector-Emitter Saturation

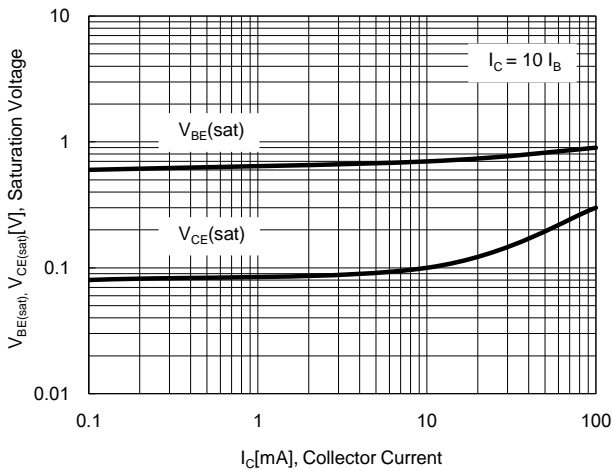


Fig. 4 Base-Emitter On Voltage

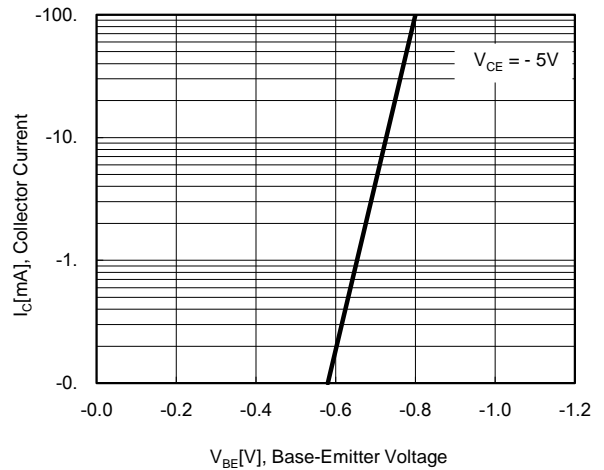


Fig.5 Collector Output Capacitance

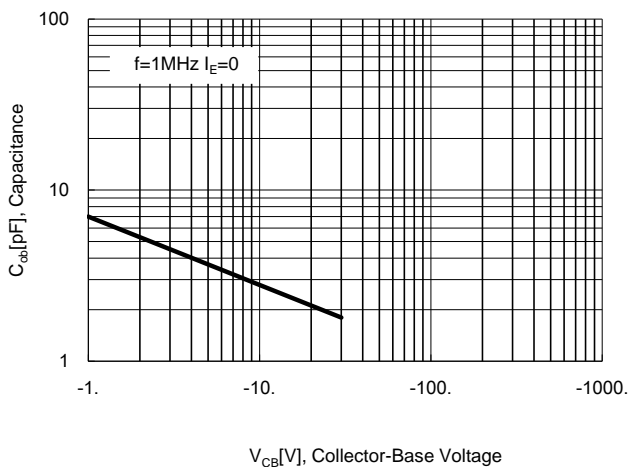
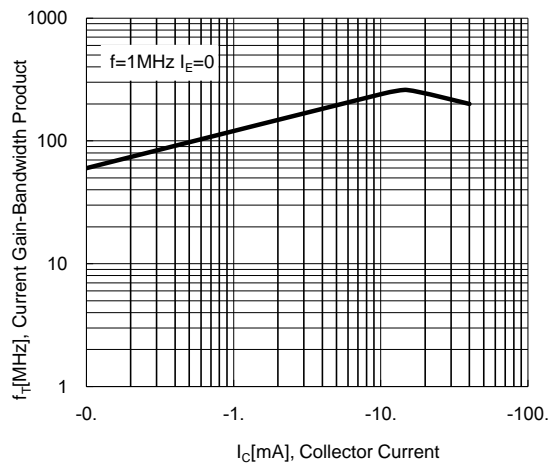


Fig. 6 Current Gain Bandwidth Product



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**RATINGS AND CHARACTERISTIC CURVES**

(TA=25°C unless otherwise noted)

Fig. 7 DC Current Gain as a Function of Collector Current; Typical Values

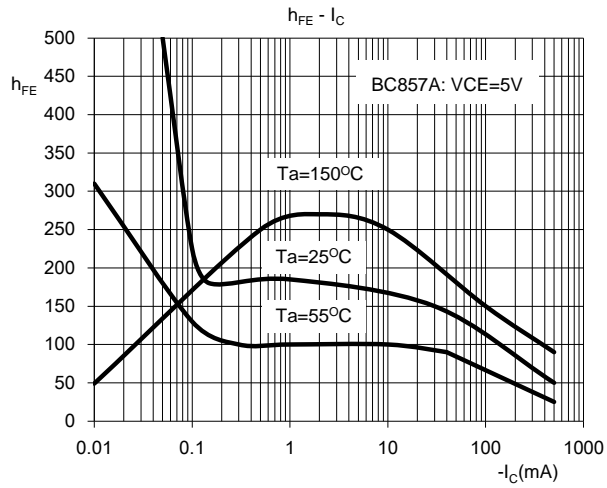
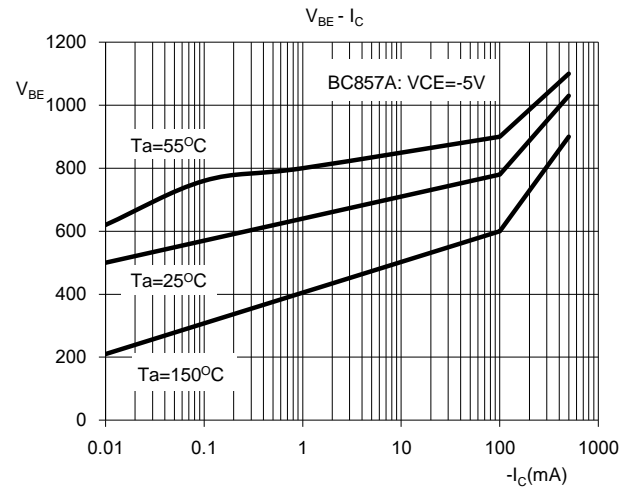


Fig. 8 Base-Emitter Voltage as a Function of Collector Current; Typical Values



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<b>Ordering information</b>				
<b>Part No.</b>	<b>Packing code</b>	<b>Packing code suffix(*)</b>	<b>Package</b>	<b>Packing</b>
BC85xx (Note 1)	RF	G	SOT-23	3K / 7 " Reel

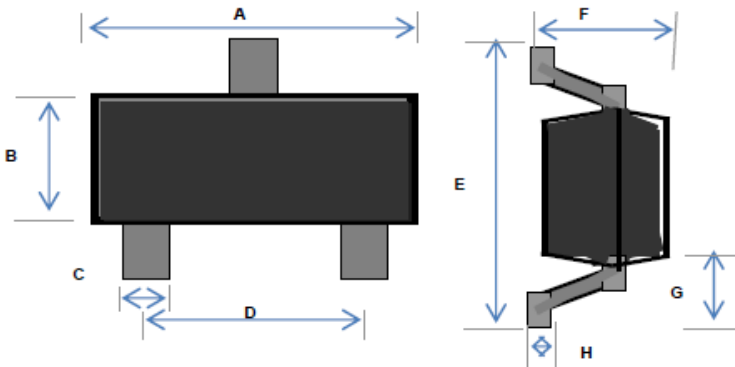
Note 1 : "xx" is Device Code from "6A" thru "8C".

\*: optional available

<b>Example</b>				
<b>Preferred Part No.</b>	<b>Part No.</b>	<b>Packing code</b>	<b>Packing code suffix</b>	<b>Description</b>
BC856A RFG	BC856A	RF	G	Green compound

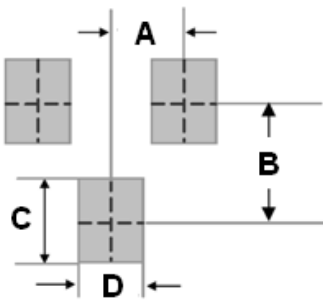
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Dimensions



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	2.20	2.60	0.087	0.102
F	0.90	1.30	0.035	0.051
G	0.550 REF		0.022 REF	
H	0.1 REF		0.004 REF	

Suggested PAD Layout



DIM.	Unit(mm)	Unit(inch)
	Typ.	Typ.
A	0.95	0.037
B	2.0	0.079
C	0.9	0.035
D	0.8	0.031

Marking

Part No.	Marking
BC856A	3A
BC856B	3B
BC857A	3E
BC857B	3F
BC857C	3G
BC858A	3J
BC858B	3K
BC858C	3L

## Small Signal Product

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