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Small Signal Product

200mW, PNP Small Signal Transistor

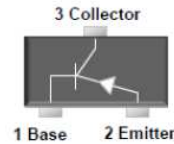
FEATURES

- 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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P_D	200	mW
Collector-Base Voltage	V_{CBO}	BC856	-80
		BC857	-50
		BC858	-30
Collector-Emitter Voltage	V_{CEO}	BC856	-65
		BC857	-45
		BC858	-30
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-0.1	A
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	°C

PARAMETER	SYMBOL	MIN	MAX	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	BC856	-80	-
		BC857 $I_C = -10\mu A$ $I_E = 0$	-50	-
		BC858	-30	-
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	BC856	-65	-
		BC857 $I_C = -10mA$ $I_B = 0$	-45	-
		BC858	-30	-
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	V
Collector Cut-off Current	I_{CBO}	BC856 $V_{CB} = -70V$	-	-100
		BC857 $V_{CB} = -45V$ $I_E = 0$	-	-100
		BC858 $V_{CB} = -25V$	-	-100
Emitter Cut-off Current	I_{EBO}	-	-0.1	μA
DC Current Gain	h_{FE}	BC856A, BC857A, BC858A	125	250
		BC856B, BC857B, BC858B	220	475
		BC857C, BC858C	420	800
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-0.65	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-	-1.1	V
Transition Frequency	f_T	100	-	MHz

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RATINGS AND CHARACTERISTIC CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Static Characteristic

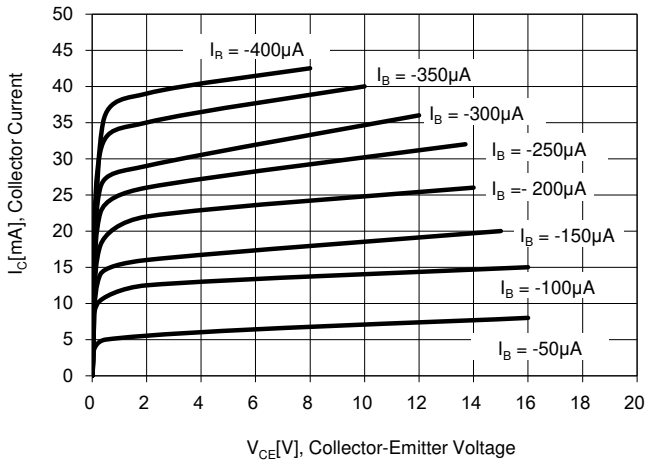


Fig. 2 DC Current Gain

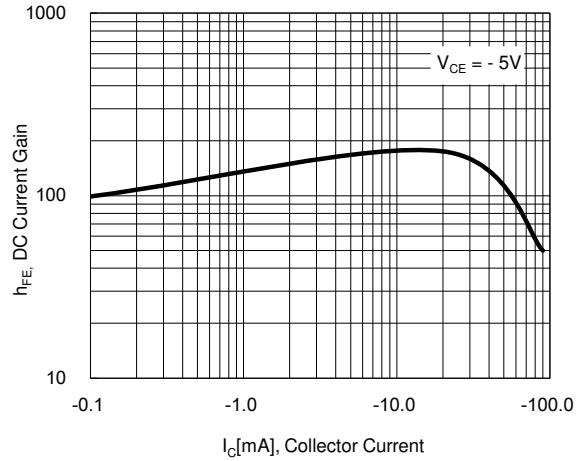


Fig.3 Base-Emitter Saturation Voltage VS. Collector-Emitter Saturation

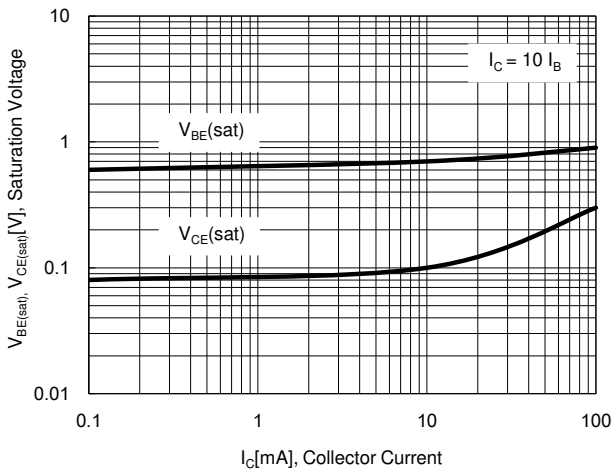


Fig. 4 Base-Emitter On Voltage

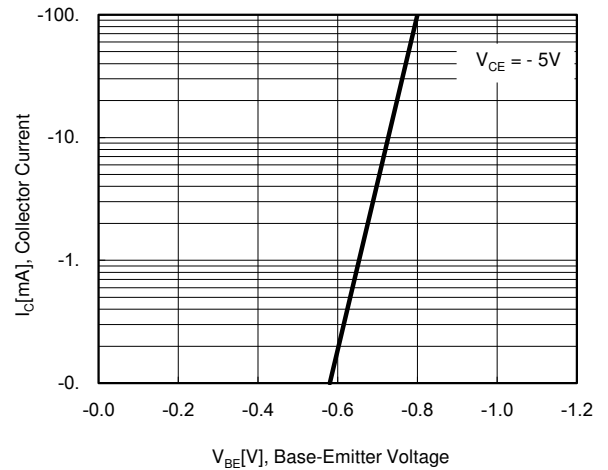


Fig.5 Collector Output Capacitance

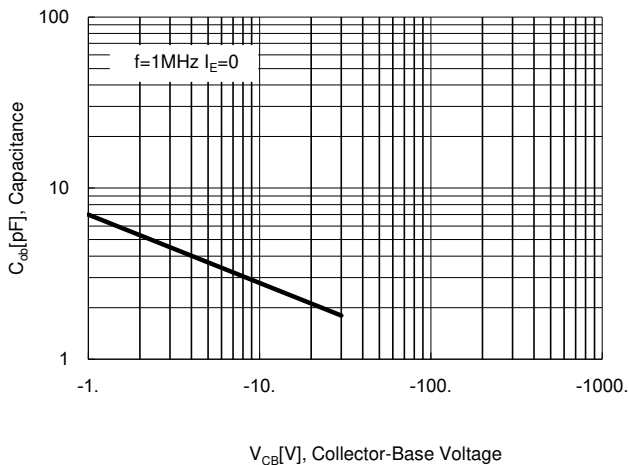
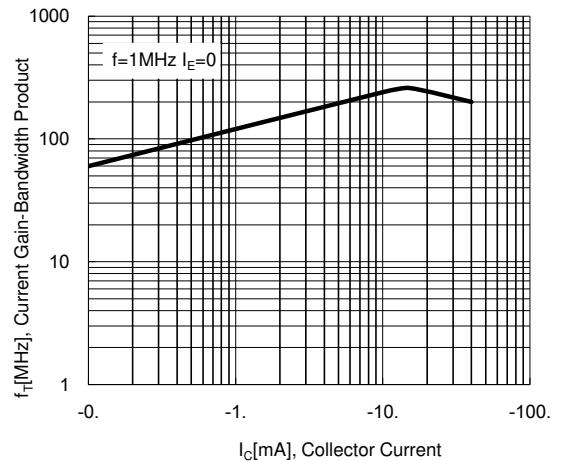


Fig. 6 Current Gain Bandwidth Product



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RATINGS AND CHARACTERISTIC CURVES

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

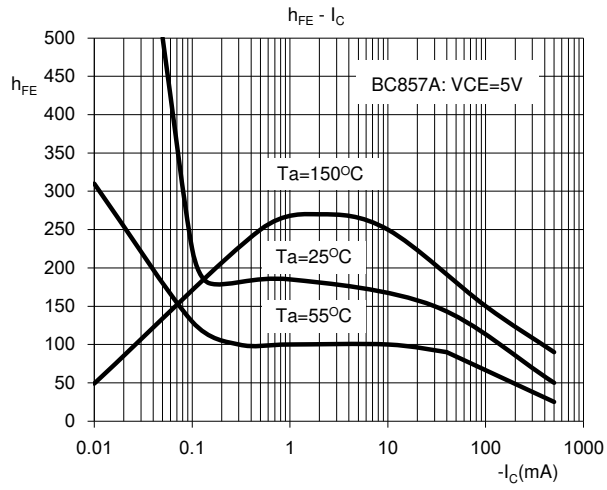
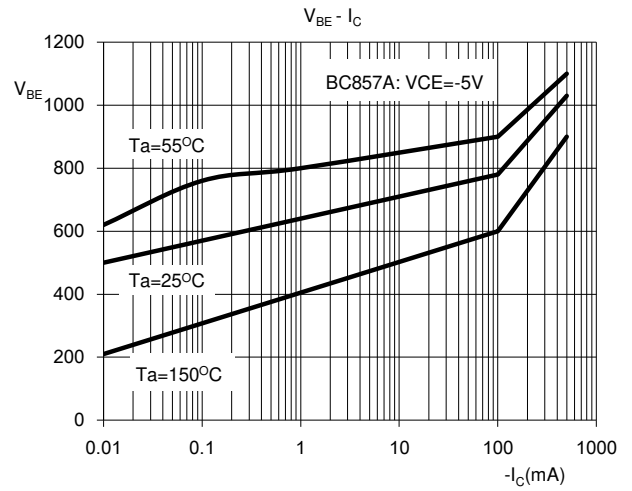


Fig. 8 Base-Emitter Voltage as a Function of Collector Current; Typical Values



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

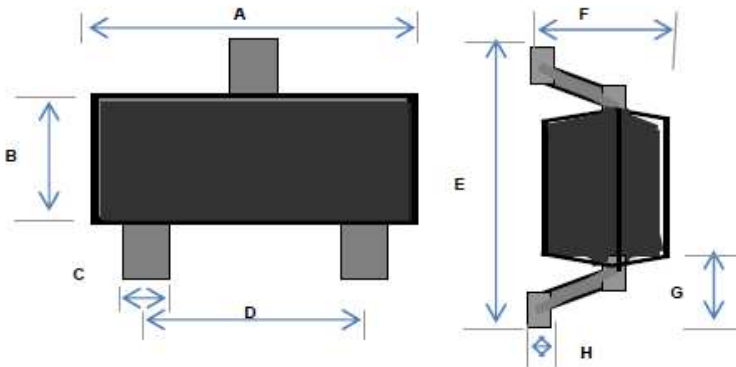
Note 1 : "xx" is Device Code from "6A" thru "8C".

*: optional available

Example				
Preferred Part No.	Part No.	Packing code	Packing code suffix	Description
BC856A RFG	BC856A	RF	G	Green compound

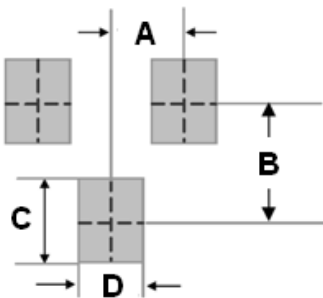
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Dimensions



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

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