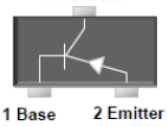
Small Signal Product

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



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 : 0.008 grams (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

PARAMETER		SYMBOL	VALUE	UNIT
Power Dissipation		P_D	200	mW
Collector-Base Voltage	BC856	V_{CBO}	-80	V
	BC857		-50	
	BC858		-30	
Collector-Emitter Voltage	BC856	V_{CEO}	-65	V
	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	BC856	I_C= -10μA	I_E= 0	$V_{(BR)CBO}$	-80	-	V
	BC857				-50	-	
	BC858				-30	-	
Collector-Emitter Breakdown Voltage	BC856	I_C= -10mA	I_B= 0	$V_{(BR)CEO}$	-65	-	V
	BC857				-45	-	
	BC858				-30	-	
Emitter-Base Breakdown Voltage		I_E= -1μA	I_C= 0	$V_{(BR)EBO}$	-5	-	V
Collector Cut-off Current	BC856	V_{CB}= -70V		I_{CBO}	-	-100	nA
	BC857	V_{CB}= -45V	I_E= 0		-	-100	
	BC858	V_{CB}= -25V			-	-100	
Emitter Cut-off Current		V_{EB}= -5V	I_C=0	I_{EBO}	-	-0.1	μA
DC Current Gain	BC856A, BC857A, BC858A	V_{CE}= -5V	I_C= -2mA	h_{FE}	125	250	
	BC856B, BC857B, BC858B				220	475	
	BC857C, BC858C				420	800	
Collector-Emitter Saturation Voltage		I_C= -100mA	I_B= -5mA	$V_{CE(sat)}$	-	-0.65	V
Base-Emitter Saturation Voltage		I_C= -100mA	I_B= -5mA	$V_{BE(sat)}$	-	-1.1	V
Transition Frequency	V_{CE}= -5V	I_C= -10mA	f= 100MHz	f_T	100	-	MHz

Small Signal Product

RATINGS AND CHARACTERISTIC CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Static Characteristic

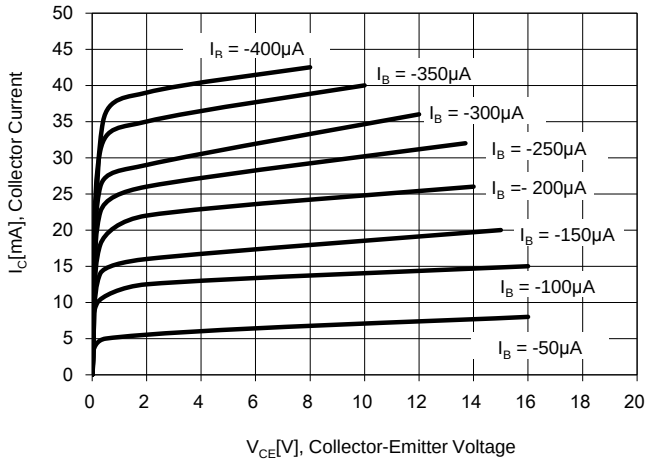


Fig. 2 DC Current Gain

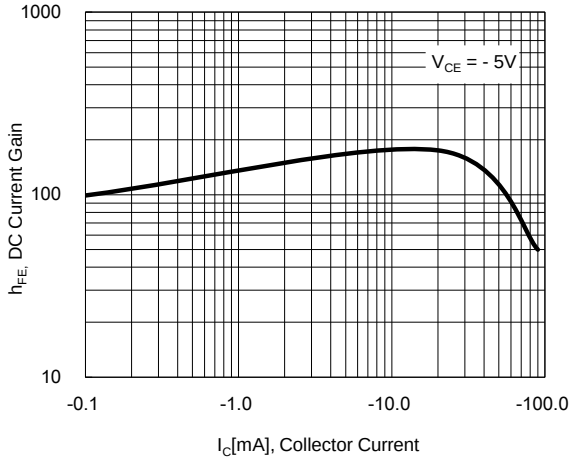


Fig.3 Base-Emitter Saturation Voltage
VS.Collector-Emitter Saturation

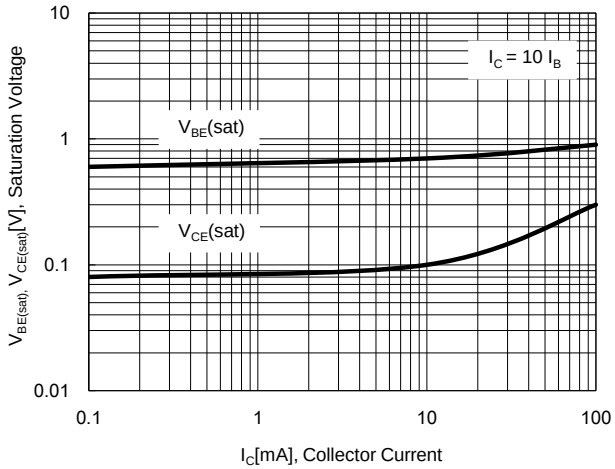


Fig. 4 Base-Emitter On Voltage

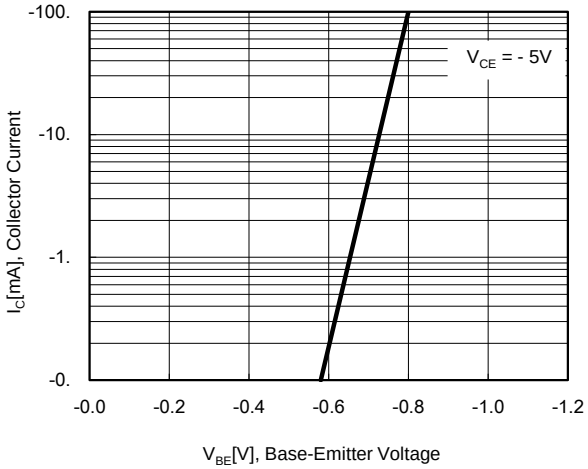


Fig.5 Collector Output Capacitance

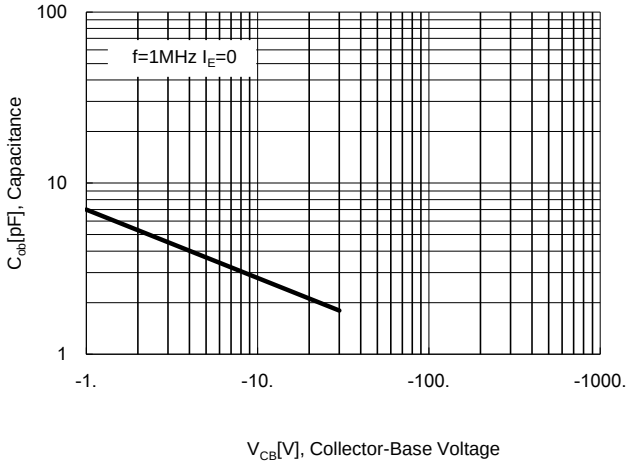
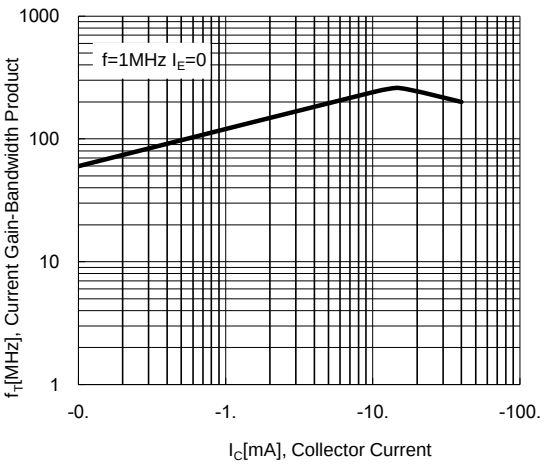


Fig. 6 Current Gain Bandwidth Product



Small Signal Product

RATINGS AND CHARACTERISTIC CURVES

(TA=25°C unless otherwise noted)

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

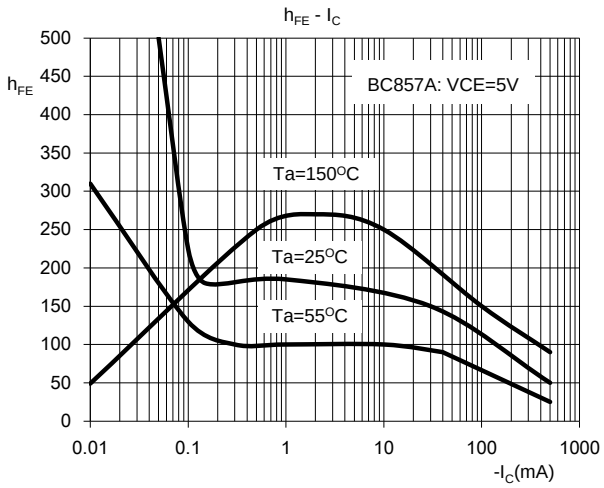
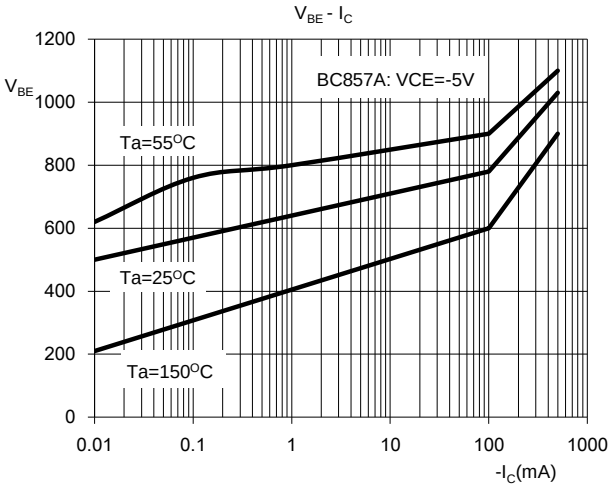


Fig. 8 Base-Emitter Voltage as a Function of Collector Current; Typical Values



Small Signal Product

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

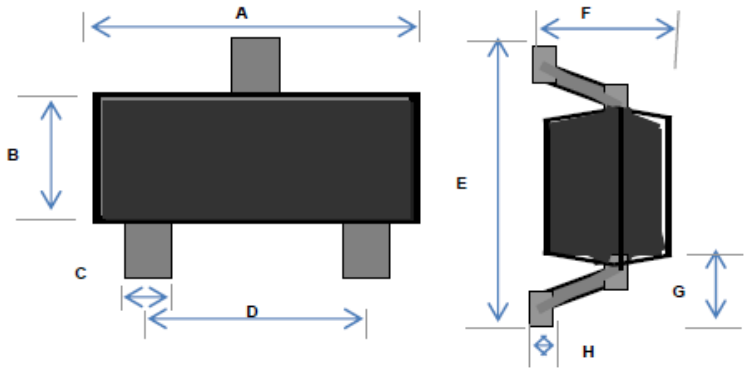
Note 1 : "xx" is Device Code from "6A" thru "8C".

*: optional available

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

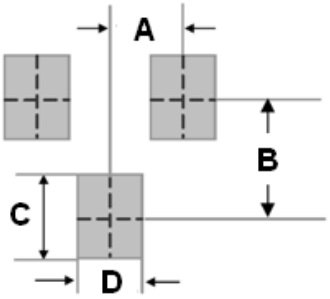
Small Signal Product

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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied,to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or seling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.