



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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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BC856A THRU BC858C

PNP Small Signal Transistor 310mW

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Ideally Suited for Automatic Insertion
- 150°C Junction Temperature
- For Switching and AF Amplifier Applications
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

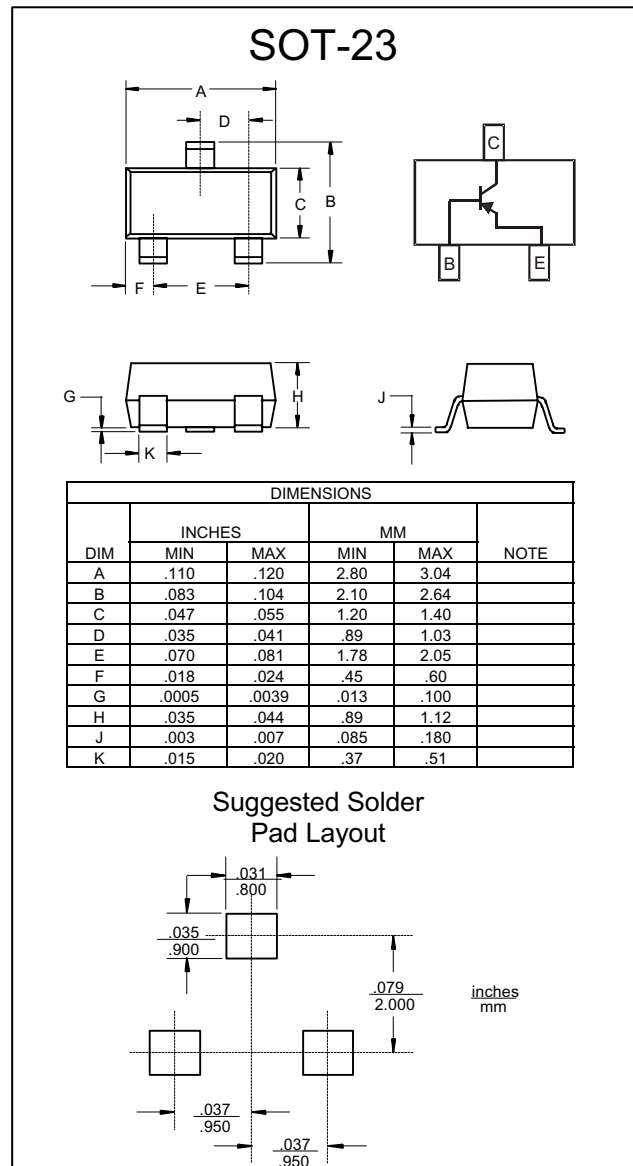
- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approx.)

Marking Code (Note 2)			
Type	Marking	Type	Marking
BC856A	3A	BC857C	3G
BC856B	3B	BC858A	3J
BC857A	3E	BC858B	3K
BC857B	3F	BC858C	3L

Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Base Voltage	BC856	-80	V
	BC857	-50	
	BC858	-30	
Collector-Emitter Voltage	BC856	-65	V
	BC857	-45	
	BC858	-30	
Emitter-Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-100	mA
Peak Collector Current	I_{CM}	-200	mA
Peak Emitter Current	I_{EM}	-200	mA
Power Dissipation@ $T_s=50^\circ\text{C}$ (Note1)	P_d	200	mW
Operating & Storage Temperature	T_j, T_{STG}	-55~150	°C

- Note:**
1. Package mounted on ceramic substrate 0.7mm X 2.5cm² area.
 2. Current gain subgroup " C" is not available for BC856



BC856A thru BC858C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
Collector-Base Breakdown Voltage (Note 3)	BC856 BC857 BC858 V _{(BR)CBO}	-80 -50 -30	— — —	— — —	V	I _C = 10μA, I _B = 0	
Collector-Emitter Breakdown Voltage (Note 3)	BC856 BC857 BC858 V _{(BR)CEO}	-65 -45 -30	— — —	— — —	V	I _C = 10mA, I _B = 0	
Emitter-Base Breakdown Voltage (Note 3)	V _{(BR)EBO}	-5	—	—	V	I _E = 1μA, I _C = 0	
H-Parameters							
Small Signal Current Gain	Current Gain Group A B C	h _{fe} h _{fe} h _{fe}	— — —	200 330 600	— — —	V _{CE} = -5.0V, I _C = -2.0mA, f = 1.0kHz	
Input Impedance	Current Gain Group A B C	h _{ie} h _{ie} h _{ie}	— — —	2.7 4.5 8.7	kΩ kΩ kΩ		
Output Admittance	Current Gain Group A B C	h _{oe} h _{oe} h _{oe}	— — —	18 30 60	μS μS μS		
Reverse Voltage Transfer Ratio	Current Gain Group A B C	h _{re} h _{re} h _{re}	— — —	1.5x10 ⁻⁴ 2x10 ⁻⁴ 3x10 ⁻⁴	— — —		
DC Current Gain (Note 3)	Current Gain Group A B C	h _{FE}	125 220 420	180 290 520	250 475 800		V _{CE} = -5.0V, I _C = -2.0mA
Thermal Resistance, Junction to Substrate Backside	R _{θJSB}	—	—	320	°C/W		Note 1
Thermal Resistance, Junction to Ambient	R _{θJA}	—	—	625	°C/W		Note 1
Collector-Emitter Saturation Voltage (Note 3)	V _{CE(SAT)}	—	-75 -250	-300 -650	mV		I _C = -10mA, I _B = -0.5mA I _C = -100mA, I _B = -5.0mA
Base-Emitter Saturation Voltage (Note 3)	V _{BE(SAT)}	—	-700 -850	—	mV		I _C = -10mA, I _B = -0.5mA I _C = -100mA, I _B = -5.0mA
Base-Emitter Voltage (Note 3)	V _{BE(ON)}	-600 —	-650 —	-750 -820	mV		V _{CE} = -5.0V, I _C = -2.0mA V _{CE} = -5.0V, I _C = -10mA
Collector-Cutoff Current (Note 3)	BC856 BC857 BC858 I _{CES} I _{CES} I _{CES} I _{CBO} I _{CBO}	— — — — —	— — — — —	-15 -15 -15 -15 -4.0	nA nA nA nA μA	V _{CE} = -80V V _{CE} = -50V V _{CE} = -30V V _{CB} = -30V V _{CB} = -30V, T _A = 150°C	
Gain Bandwidth Product	f _T	100	200	—	MHz	V _{CE} = -5.0V, I _C = -10mA, f = 100MHz	
Collector-Base Capacitance	C _{CB0}	—	3	—	pF	V _{CB} = -10V, f = 1.0MHz	
Noise Figure	NF	—	2	10	dB	V _{CE} = -5.0V, I _C = 200μA, R _S = 2kΩ, f = 1kHz, Δf = 200Hz	

- Notes:
1. Package mounted on ceramic substrate 0.7mm x 2.5cm² area.
 2. Current gain subgroup "C" is not available for BC856.
 3. Short duration pulse test to minimize self-heating effect.



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Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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