

**BC856 SERIES
BC857 SERIES
BC858 SERIES**

**SURFACE MOUNT SILICON
PNP TRANSISTOR**



SOT-23 CASE



www.centra-semi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BC856, BC857 and BC858 Series devices are silicon PNP transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose switching and amplifier applications.

MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE

Note: Reverse Lead Codes Available, Add "R" to the end of the Part # and Marking Code.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Peak Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	BC858	BC857	BC856	UNITS
V_{CBO}	30	50	80	V
V_{CEO}	30	45	65	V
V_{EBO}		5.0		V
I_C		100		mA
I_{CM}		200		mA
I_{BM}		200		mA
P_D		330		mW
T_J, T_{stg}		-55 to +150		$^\circ\text{C}$
θ_{JA}		375		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$			15	nA
I_{CBO}	$V_{CB}=30\text{V}, T_A=150^\circ\text{C}$			4.0	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			100	nA
BV_{CBO}	$I_C=10\mu\text{A}$ (BC856)	80			V
BV_{CBO}	$I_C=10\mu\text{A}$ (BC857)	50			V
BV_{CBO}	$I_C=10\mu\text{A}$ (BC858)	30			V
BV_{CEO}	$I_C=10\text{mA}$ (BC856)	65			V
BV_{CEO}	$I_C=10\text{mA}$ (BC857)	45			V
BV_{CEO}	$I_C=10\text{mA}$ (BC858)	30			V
BV_{EBO}	$I_E=1.0\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			0.30	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$			0.65	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		0.7		V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.9		V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	0.6		0.75	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$			0.82	V
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	200		MHz
C_{cb}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			4.5	pF

		<u>BC856A</u>		<u>BC856B</u>		<u>BC857C</u>	
		<u>BC857A</u>		<u>BC857B</u>		<u>BC858C</u>	
		<u>BC858A</u>		<u>BC858B</u>		<u>BC858C</u>	
		MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	110	220	220	475	420	800

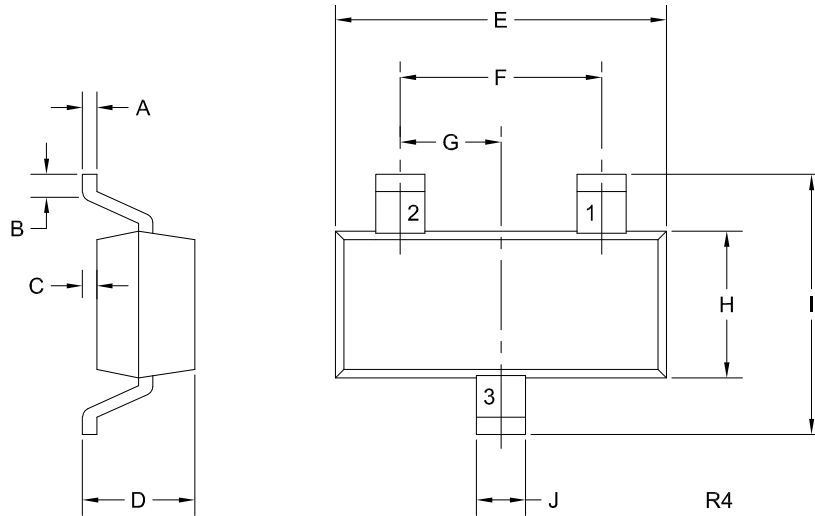
R3 (22-December 2020)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

STANDARD

- 1) Base
- 2) Emitter
- 3) Collector

*REVERSE

- 1) Emitter
- 2) Base
- 3) Collector

DEVICE	MARKING CODE
BC856A	3A
BC856B	3B
BC857A	3E
BC857B	3F
BC857C	3G
BC858A	3J
BC858B	3K
BC858C	3L

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.044	0.89	1.12
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.104	2.10	2.64
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R4)

* Reverse Lead Codes Available, Add "R" to the end of the Part # and Marking Code.

R3 (22-December 2020)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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