

**BC856W SERIES
BC857W SERIES**

**SURFACE MOUNT
PNP SILICON TRANSISTOR**

SUPERmini™



SOT-323 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BC856W and BC857W Series types are PNP Silicon Transistors manufactured by the epitaxial planar process, epoxy molded in a SUPERmini™ 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	BC857W	BC856W	UNITS
V_{CB0}	50	80	V
V_{CEO}	45	65	V
V_{EBO}		5.0	V
I_C		100	mA
I_{CM}		200	mA
I_{BM}		200	mA
P_D		275	mW
T_J, T_{stg}		-65 to +150	$^\circ\text{C}$
θ_{JA}		455	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	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}	$I_C=10\mu\text{A}$ (BC857W)	50		V
BV_{CBO}	$I_C=10\mu\text{A}$ (BC856W)	80		V
BV_{CEO}	$I_C=10\text{mA}$ (BC857W)	45		V
BV_{CEO}	$I_C=10\text{mA}$ (BC856W)	65		V
BV_{EBO}	$I_E=10\mu\text{A}$	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
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=5\text{mA}$		0.95	V
$V_{BE(ON)}$	$I_C=2.0\text{mA}, V_{CE}=5.0\text{V}$	0.60	0.75	V
$V_{BE(ON)}$	$I_C=10\text{mA}, V_{CE}=5.0\text{V}$		0.82	V
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		12	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		5.0	pF
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		MHz
NF	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=2.0\text{K}\Omega, f=1.0\text{KHz}, BW=200\text{Hz}$		10	dB

	TEST CONDITIONS	BC856AW		BC856BW		BC857CW	
		MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	125	250	220	475	420	800

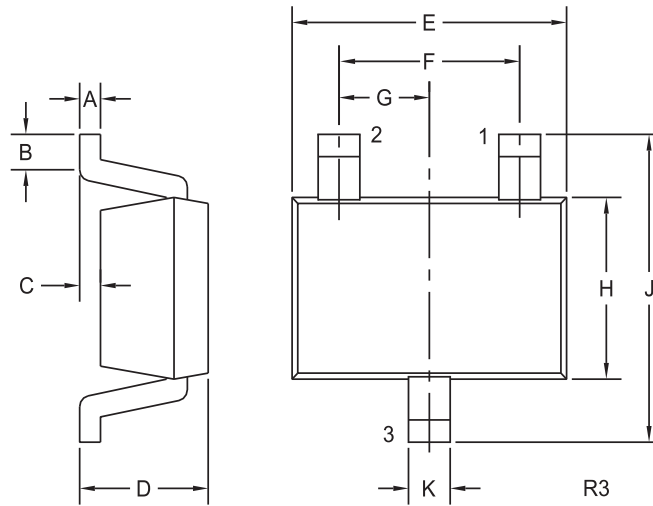
R1 (20-November 2009)

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SOT-323 CASE - MECHANICAL OUTLINE



LEAD CODE:

STANDARD	*REVERSE
1) BASE	1) EMITTER
2) EMITTER	2) BASE
3) COLLECTOR	3) COLLECTOR

DEVICE	MARKING CODE
BC856AW	3AT
BC856BW	3BT
BC857AW	3ET
BC857BW	3FT
BC857CW	3GT

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.008	0.05	0.20
B	0.004	-	0.10	-
C	-	0.004	-	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.045	0.053	1.15	1.35
J	0.079	0.087	2.00	2.20
K	0.008	0.016	0.20	0.40

SOT-323 (REV: R3)

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

R1 (20-November 2009)

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

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