

**BC846W SERIES
BC847W SERIES**

**SURFACE MOUNT SILICON
NPN TRANSISTORS**



SOT-323 CASE



www.centra-semi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BC846W and BC847W series devices are silicon NPN 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	BC847W	BC846W	UNITS
V_{CBO}	50	80	V
V_{CEO}	45	65	V
V_{EBO}		6.0	V
I_C		100	mA
I_{CM}		200	mA
I_{BM}		200	mA
P_D		250	mW
T_J, T_{stg}		-55 to +150	$^{\circ}\text{C}$
θ_{JA}		500	$^{\circ}\text{C/W}$

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}	$V_{CB}=30\text{V}, T_A=150^{\circ}\text{C}$			5.0	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			100	nA
BV_{CBO}	$I_C=10\mu\text{A}$ (BC846W)	80			V
BV_{CBO}	$I_C=10\mu\text{A}$ (BC847W)	50			V
BV_{CEO}	$I_C=10\text{mA}$ (BC846W)	65			V
BV_{CEO}	$I_C=10\text{mA}$ (BC847W)	45			V
BV_{EBO}	$I_E=1.0\mu\text{A}$	6.0			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			0.25	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$			0.60	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
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	0.58		0.70	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$			0.77	V
C_{cb}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			4.5	pF

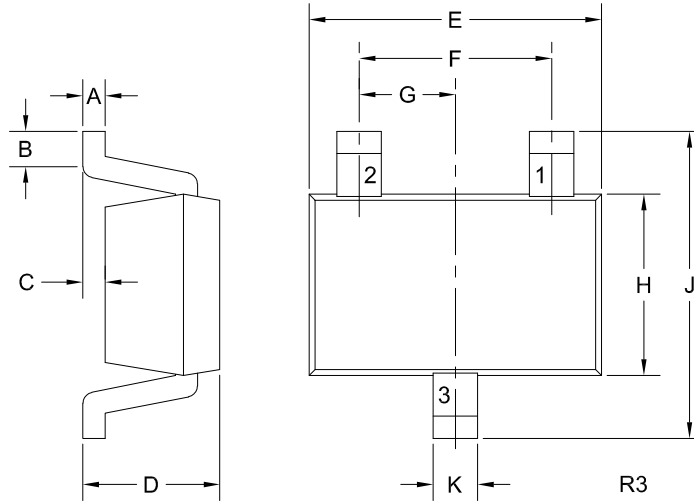
		<u>BC846AW</u> <u>BC847AW</u>		<u>BC846BW</u> <u>BC847BW</u>		<u>BC847CW</u>	
		MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	110	220	200	450	420	800

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SOT-323 CASE - MECHANICAL OUTLINE



LEAD CODE:

STANDARD

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

***REVERSE**

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

DEVICE	MARKING CODE
BC846AW	1AT
BC846BW	1BT
BC847AW	1ET
BC847BW	1FT
BC847CW	1GT

SYMBOL	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.

R2 (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

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

Worldwide Distributors:
www.centalsemi.com/wwdistributors

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