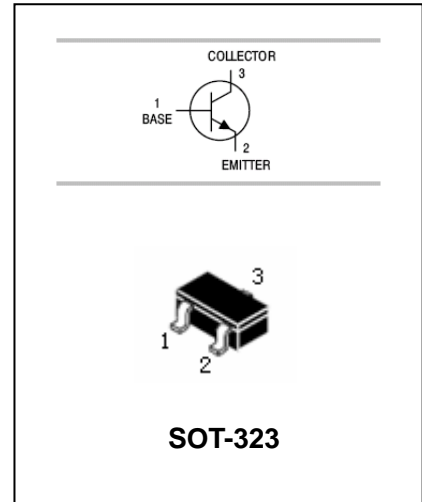


## NPN Silicon Epitaxial Planar Transistor

### BC846W/BC847W/BC848W

#### FEATURES

- Low Current.
- Low voltage.
- Power dissipation.( $P_C=200mW$ )



#### APPLICATIONS

- General purpose switching and amplification application.

#### ORDERING INFORMATION

| Type No. | Marking     | Package Code |
|----------|-------------|--------------|
| BC846W   | 1A/1B       | SOT-323      |
| BC847W   | 1E/1F/1G    | SOT-323      |
| BC848W   | 1Js/1Ks/1Ls | SOT-323      |

#### MAXIMUM RATING @ $T_a=25^{\circ}C$ unless otherwise specified

| Symbol         | Parameter                        | Value         | Units       |
|----------------|----------------------------------|---------------|-------------|
| $V_{CBO}$      | Collector-Base Voltage           | BC846W        | 80          |
|                |                                  | BC847W        | 50          |
|                |                                  | BC848W        | 30          |
| $V_{CEO}$      | Collector-Emitter Voltage        | BC846W        | 65          |
|                |                                  | BC847W        | 45          |
|                |                                  | BC848W        | 30          |
| $V_{EBO}$      | Emitter-Base Voltage             | BC846W,BC847W | 6           |
|                |                                  | BC848W        | 5           |
| $I_C$          | Collector Current -Continuous    | 100           | mA          |
| $P_C$          | Collector Dissipation            | 200           | mW          |
| $T_j, T_{stg}$ | Junction and Storage Temperature | -65~150       | $^{\circ}C$ |

**NPN Silicon Epitaxial Planar Transistor****BC846W/BC847W/BC848W****ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

| Parameter                            | Symbol        | Test conditions                                     | MIN            | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|----------------|-----|-----|------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$<br>BC846W<br>BC847W<br>BC848W | 80<br>50<br>30 |     |     | V    |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1mA, I_B=0$<br>BC846W<br>BC847W<br>BC848W      | 65<br>45<br>30 |     |     | V    |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$<br>BC846W<br>BC847W<br>BC848W | 6<br>6<br>5    |     |     | V    |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=30V, I_E=0$                                 |                |     | 15  | nA   |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5V, I_C=0$                                  |                |     | 100 | nA   |
| DC current gain                      | $h_{FE}$      | $V_{CE}=5V, I_C=10\mu A$<br>BC846AW,BC847AW         | 90             |     |     |      |
|                                      |               | BC846BW,BC847BW,BC848BW                             | 150            |     |     |      |
|                                      |               | BC847CW,BC848CW                                     | 270            |     |     |      |
|                                      |               | $V_{CE}=2V, I_C=100mA$<br>BC846AW,BC847AW           | 110            | 180 | 220 |      |
| BC846BW,BC847BW,BC848BW              | 200           | 290   | 450            |     |     |      |
| BC847CW,BC848CW                      | 420           | 520   | 800            |     |     |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10mA, I_B=0.5mA$                               |                | 90  | 250 | mV   |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=10mA, I_B=0.5mA$                               |                | 700 |     | V    |
| Transition frequency                 | $f_T$         | $V_{CE}=5V, I_C=10mA, f=100MHz$                     | 100            |     |     | MHz  |
| Collector capacitance                | $C_C$         | $V_{CB}=10V, I_E=0, f=1MHz$                         |                |     | 3   | pF   |

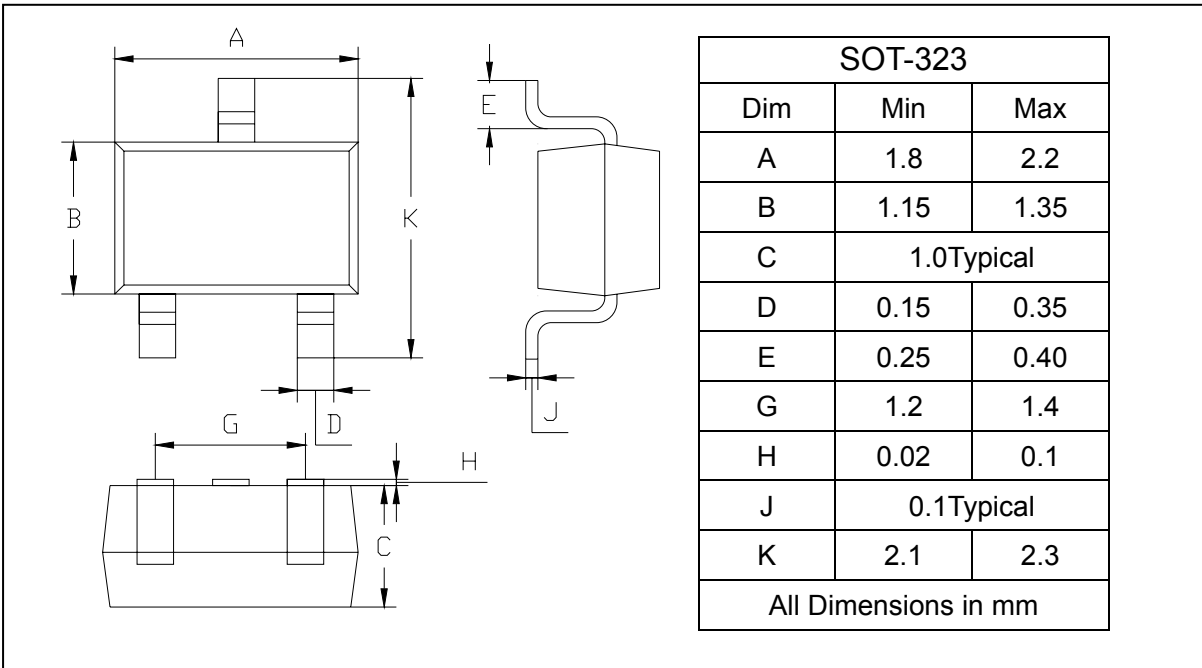
## NPN Silicon Epitaxial Planar Transistor

### BC846W/BC847W/BC848W

#### PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



#### PACKAGE INFORMATION

| Device               | Package | Shipping       |
|----------------------|---------|----------------|
| BC846W/BC847W/BC848W | SOT-323 | 3000/Tape&Reel |