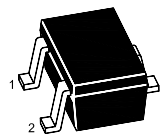


# BC817W / BC818W

## NPN Silicon Epitaxial Planar Transistors

for general purpose and switching applications

These transistors are subdivided into three groups  
-16, -25, -40 according to their current gain.



1.Base 2.Emitter 3.Collector  
SOT-323 Plastic Package

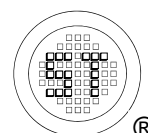
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                       | Symbol                        | Value       | Unit             |
|---------------------------------|-------------------------------|-------------|------------------|
| Collector Base Voltage          | BC817W<br>BC818W<br>$V_{CBO}$ | 50<br>30    | V                |
| Collector Emitter Voltage       | BC817W<br>BC818W<br>$V_{CEO}$ | 45<br>25    | V                |
| Emitter Base Voltage            | $V_{EBO}$                     | 5           | V                |
| Collector Current               | $I_C$                         | 500         | mA               |
| Power Dissipation <sup>1)</sup> | $P_{tot}$                     | 200         | mW               |
| Junction Temperature            | $T_J$                         | 150         | $^\circ\text{C}$ |
| Storage Temperature Range       | $T_{stg}$                     | -65 to +150 | $^\circ\text{C}$ |

<sup>1)</sup> Transistor mounted on an FR4 printed-circuit board.

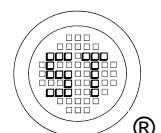
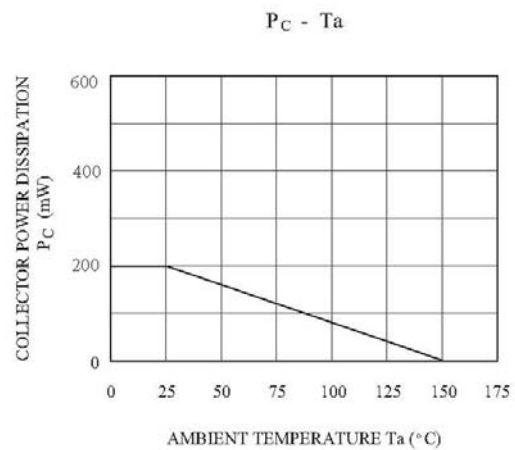
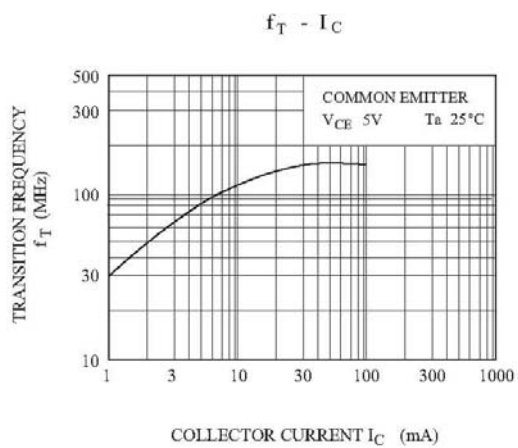
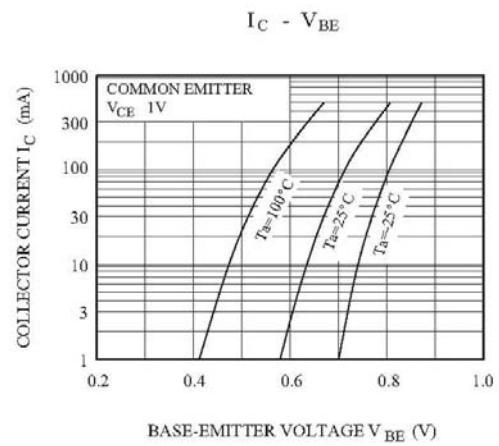
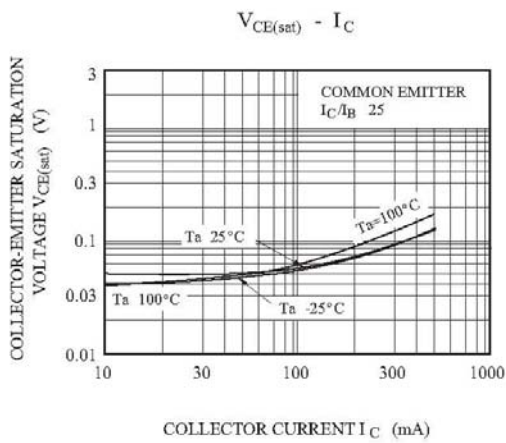
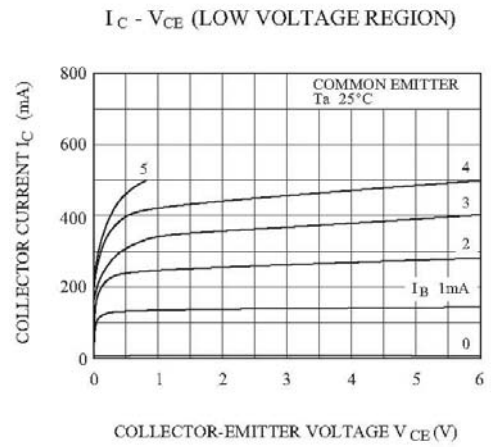
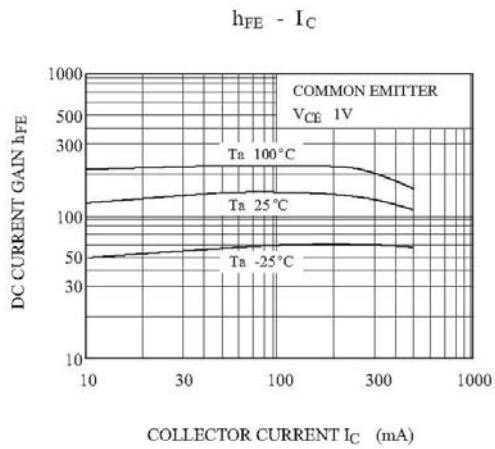
### Characteristics at $T_{amb} = 25^\circ\text{C}$

| Parameter  | Symbol                            | Min.     | Max.   | Unit |
|--|-----------------------------------|----------|--------|------|
| DC Current Gain<br>at $V_{CE} = 1\text{ V}$ , $I_C = 100\text{ mA}$                            |                                   |          |        |      |
| -16W   | $h_{FE}$                          | 100      | 250    | -    |
| -25W   | $h_{FE}$                          | 160      | 400    | -    |
| -40W   | $h_{FE}$                          | 250      | 600    | -    |
| at $V_{CE} = 1\text{ V}$ , $I_C = 500\text{ mA}$   | $h_{FE}$                          | 40       | -      | -    |
| Collector Cutoff Current<br>at $V_{CB} = 20\text{ V}$  | $I_{CBO}$                         | -        | 100    | nA   |
| Emitter Cutoff Current<br>at $V_{EB} = 5\text{ V}$   | $I_{EBO}$                         | -        | 100    | nA   |
| Collector Base Breakdown Voltage<br>at $I_C = 10\text{ }\mu\text{A}$                           | BC817W<br>BC818W<br>$V_{(BR)CBO}$ | 50<br>30 | -<br>- | V    |
| Collector Emitter Breakdown Voltage<br>at $I_C = 10\text{ mA}$                                 | BC817W<br>BC818W<br>$V_{(BR)CEO}$ | 45<br>25 | -<br>- | V    |
| Emitter Base Breakdown Voltage<br>at $I_E = 10\text{ }\mu\text{A}$                             | $V_{(BR)EBO}$                     | 5        | -      | V    |
| Collector Emitter Saturation Voltage<br>at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$        | $V_{CEsat}$                       | -        | 0.7    | V    |
| Base Emitter Voltage<br>at $I_C = 500\text{ mA}$ , $V_{CE} = 1\text{ V}$                       | $V_{BE}$                          | -        | 1.2    | V    |
| Transition Frequency<br>at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$ | $f_T$                             | 100      | -      | MHz  |
| Collector Capacitance<br>at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$                        | $C_c$                             | -        | 5      | pF   |



# BC817W / BC818W

## Electrical characteristic curves

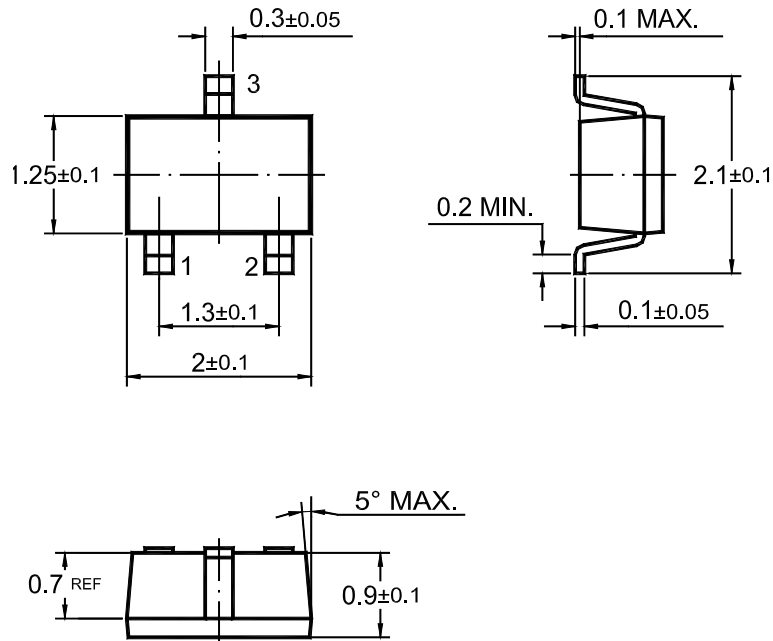


# BC817W / BC818W

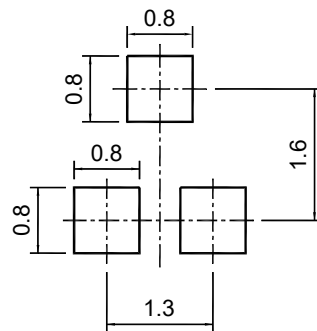
## PACKAGE OUTLINE

Plastic surface mounted package (Dimensions in mm)

SOT-323



## Recommended Soldering Footprint



## Packing information

| Package | Tape Width (mm) | Pitch       |                   | Reel Size |      | Per Reel Packing Quantity |
|---------|-----------------|-------------|-------------------|-----------|------|---------------------------|
|         |                 | mm          | inch              | mm        | inch |                           |
| SOT-323 | 8               | $4 \pm 0.1$ | $0.157 \pm 0.004$ | 178       | 7    | 3,000                     |

## Marking information

" \*\*\* " = Part No.

| Product Model       | Marking Code |
|---------------------|--------------|
| BC817-16W/BC818-16W | 6CR          |
| BC817-25W/BC818-25W | 6CS          |
| BC817-40W/BC818-40W | 6CT          |

"YM" = Date Code Marking

"Y" = Year

"M" = Month

Font type: Arial

