

# BC807W

## SOT-323 Plastic-Encapsulate Transistors

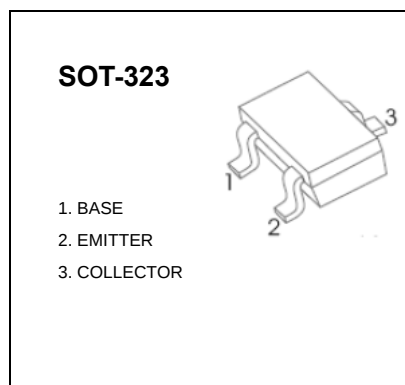
TRANSISTOR (PNP)

### FEATURES

- Ideally suited for automatic insertion
- Epitaxial planar die construction
- Complementary to BC817W

### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                   | Value    | Unit                 |
|-----------------|---------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | -50      | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                   | -45      | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                        | -5       | V                    |
| $I_C$           | Collector Current                           | -500     | mA                   |
| $P_C$           | Collector Power Dissipation                 | 200      | mW                   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 417      | $^{\circ}\text{C/W}$ |
| $T_j$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$   |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$   |



### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                            | Min | Max  | Unit          |
|--------------------------------------|---------------|------------------------------------------------------------|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{CBO}$     | $I_C=-10\mu\text{A}, I_E=0$                                | -50 |      | V             |
| Collector-emitter breakdown voltage  | $V_{CEO}$     | $I_C=-10\text{mA}, I_B=0$                                  | -45 |      | V             |
| Emitter-base breakdown voltage       | $V_{EBO}$     | $I_E=-1\mu\text{A}, I_C=0$                                 | -5  |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=-20\text{V}, I_E=0$                                |     | -0.1 | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE}=-20\text{V}, I_B=0$                                |     | -0.2 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$                                 |     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=-1\text{V}, I_C=-100\text{mA}$                     | 100 | 600  |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=-1\text{V}, I_C=-500\text{mA}$                     | 40  |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-500\text{mA}, I_B=-50\text{mA}$                      |     | -0.7 | V             |
| Base-emitter voltage                 | $V_{BE(on)}$  | $V_{CE}=-1\text{V}, I_C=-500\text{mA}$                     |     | -1.2 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=-5\text{V}, I_C=-10\text{mA}$<br>$f=100\text{MHz}$ | 80  |      | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=-10\text{V}, f=1\text{MHz}$                        |     | 10   | pF            |

### CLASSIFICATION of $h_{FE(1)}$

| Rank    | BC807-16W | BC807-25W | BC807-40W |
|---------|-----------|-----------|-----------|
| Range   | 100-250   | 160-400   | 250-600   |
| Marking | 5A        | 5B        | 5C        |

# BC807W

## Typical Characteristics

