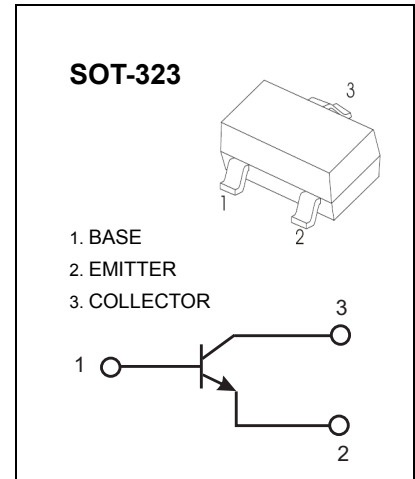


### Features

- Epitaxial planar die construction
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Compliant to Halogen-free

### Mechanical Data

- **Package:** SOT-323  
Molding compound meets UL 94 V-0 flammability rating
- **Terminals:** Tin plated leads, solderable per  
J-STD-002 , Method 208



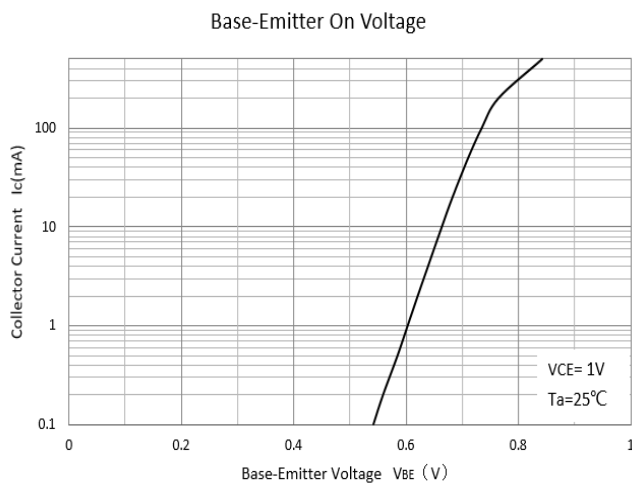
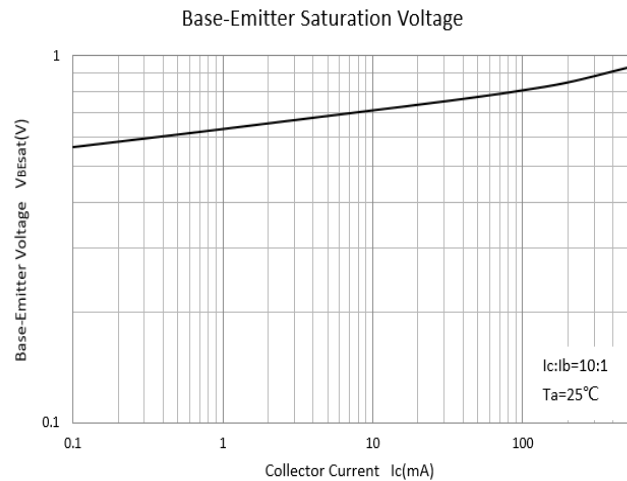
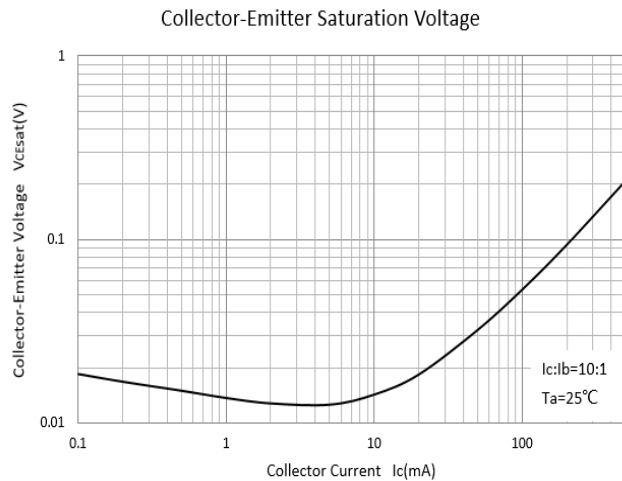
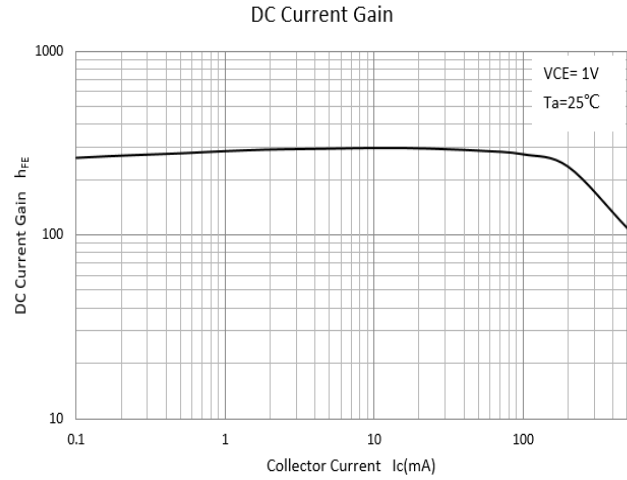
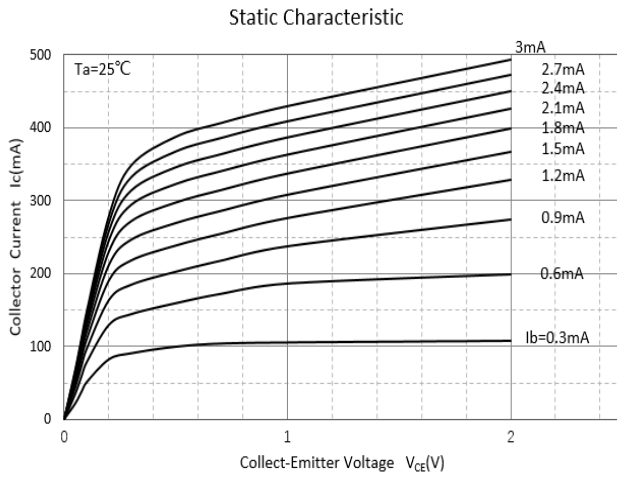
### Maximum Ratings (Ta=25°C unless otherwise noted)

| Parameter                           | Symbol    | Value      | Unit |
|-------------------------------------|-----------|------------|------|
| Collector-Base Breakdown Voltage    | $V_{CBO}$ | 50         | V    |
| Collector-Emitter Breakdown Voltage | $V_{CEO}$ | 45         | V    |
| Emitter-Base Breakdown Voltage      | $V_{EBO}$ | 5          | V    |
| Continuous Collector Current        | $I_C$     | 0.5        | A    |
| Operating junction Temperature      | $T_J$     | -55 ~ +150 | °C   |
| Storage Temperature Range           | $T_{STG}$ | -55 ~ +150 | °C   |

### Electrical Characteristics (Ta=25°C unless otherwise specified)

| Parameter                            |           | Symbol        | Test Condition                      | Min. | Typ. | Max. | Unit |
|--------------------------------------|-----------|---------------|-------------------------------------|------|------|------|------|
| Collector-Base Breakdown Voltage     |           | $V_{(BR)CBO}$ | $I_C = 10\mu A, I_E = 0$            | 50   | -    | -    | V    |
| Collector-Emitter Breakdown Voltage  |           | $V_{(BR)CEO}$ | $I_C = 10mA, I_B = 0$               | 45   | -    | -    | V    |
| Emitter-Base Breakdown Voltage       |           | $V_{(BR)EBO}$ | $I_E = 10\mu A, I_C = 0$            | 5    | -    | -    | V    |
| Collector Cut-off Current            |           | $I_{CBO}$     | $V_{CB} = 25V, I_E = 0$             | -    | -    | 100  | nA   |
| Emitter Cut-off Current              |           | $I_{EBO}$     | $V_{EB} = 4V, I_C = 0$              | -    | -    | 100  | nA   |
| DC Current Gain                      | BC817-16W | $h_{FE}$      | $V_{CE} = 1V, I_C = 100mA$          | 100  | -    | 250  | -    |
|                                      | BC817-25W |               |                                     | 160  | -    | 400  | -    |
|                                      | BC817-40W |               |                                     | 250  | -    | 600  | -    |
|                                      | BC817-16W |               | $V_{CE} = 1V, I_C = 300mA$          | 40   | -    | -    | -    |
|                                      | BC817-25W |               |                                     |      |      |      |      |
|                                      | BC817-40W |               |                                     |      |      |      |      |
| Collector-emitter Saturation Voltage |           | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$           | -    | -    | 0.7  | V    |
| Base-emitter Saturation Voltage      |           | $V_{BE(sat)}$ | $I_C = 500mA, I_B = 50mA$           | -    | -    | 1.2  | V    |
| Transition Frequency                 |           | $f_T$         | $I_C = 10mA, V_{CE} = 5V, f=100MHZ$ | -    | 170  | -    | MHz  |

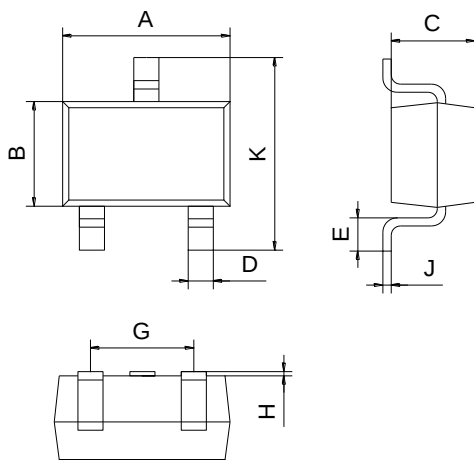
### Characteristics (Typical)



### Marking

| Type number | Marking code |
|-------------|--------------|
| BC817-16W   | 6A           |
| BC817-25W   | 6B           |
| BC817-40W   | 6C           |

### SOT-323 Package Outline Dimensions



| SOT-323   |      |      |
|-----------|------|------|
| Dimension | Min. | Max. |
| A         | 2.00 | 2.20 |
| B         | 1.15 | 1.35 |
| C         | 0.90 | 1.10 |
| D         | 0.15 | 0.35 |
| E         | 0.25 | 0.40 |
| G         | 1.20 | 1.40 |
| H         | 0.02 | 0.10 |
| J         | 0.05 | 0.15 |
| K         | 2.20 | 2.40 |

### SOT-323 Soldering Footprint (mm)

