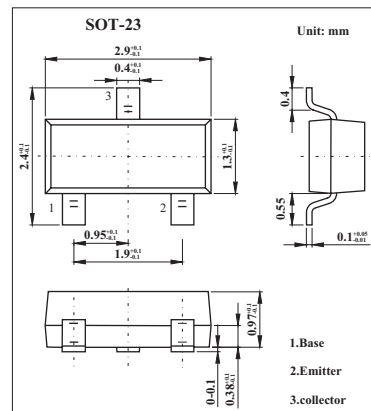


## NPN Silicon AF Transistors

### KC818A(BC818A)

#### ■ Features

- For general AF applications.
- High collector current.
- High current gain.
- Low collector-emitter saturation voltage.



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

| Parameter                 | Symbol    | Rating      | Unit             |
|---------------------------|-----------|-------------|------------------|
| Collector-base voltage    | $V_{CB0}$ | 30          | V                |
| Collector-emitter voltage | $V_{CEO}$ | 25          | V                |
| Emitter-base voltage      | $V_{EBO}$ | 5           | V                |
| Collector current (DC)    | $I_C$     | 500         | mA               |
| Peak collector current    | $I_{CM}$  | 1           | A                |
| Base current              | $I_B$     | 100         | mA               |
| power dissipation         | $P_D$     | 310         | mW               |
| Storage temperature       | $T_{stg}$ | -65 to +150 | $^\circ\text{C}$ |
| Junction temperature      | $T_j$     | 150         | $^\circ\text{C}$ |

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter                              | Symbol        | Testconditons                                                          | Min | Typ | Max | Unit          |
|----------------------------------------|---------------|------------------------------------------------------------------------|-----|-----|-----|---------------|
| Collector-to-base breakdown voltage    | $V_{CB0}$     | $I_C = 10\ \mu\text{A}$ , $I_E = 0$                                    | 30  |     |     | V             |
| Collector-to-emitter breakdown voltage | $V_{CEO}$     | $I_C = 10\ \text{mA}$ , $I_B = 0$                                      | 25  |     |     | V             |
| Emitter-to-base breakdown voltage      | $V_{EBO}$     | $I_E = 10\ \mu\text{A}$ , $I_C = 0$                                    | 5   |     |     | V             |
| Collector cutoff current               | $I_{CBO}$     | $V_{CB} = 25\ \text{V}$ , $I_E = 0$                                    |     |     | 100 | nA            |
|                                        |               | $V_{CB} = 25\ \text{V}$ , $I_E = 0$ , $T_A = 150^\circ\text{C}$        |     |     | 50  | $\mu\text{A}$ |
| Emitter cutoff current                 | $I_{EBO}$     | $V_{EB} = 4\ \text{V}$ , $I_C = 0$                                     |     |     | 100 | nA            |
| DC current gain *                      | KC818A-16     | $h_{FE}$<br>$I_C = 100\ \text{mA}$ , $V_{CE} = -1\ \text{V}$           | 100 | 160 | 250 |               |
|                                        | KC818A-25     |                                                                        | 160 | 250 | 400 |               |
|                                        | KC818A-40     |                                                                        | 250 | 350 | 630 |               |
| Collector saturation voltage *         | $V_{CE(sat)}$ | $I_C = 500\ \text{mA}$ , $I_B = 50\ \text{mA}$                         |     |     | 0.7 | V             |
| Base to emitter voltage *              | $V_{BE(sat)}$ | $I_C = 500\ \text{mA}$ , $I_B = 50\ \text{mA}$                         |     |     | 1.2 | V             |
| Collector-base capacitance             | $C_{Cb}$      | $V_{CB} = 10\ \text{V}$ , $f = 1\ \text{MHz}$                          |     | 6   |     | pF            |
| Emitter-base capacitance               | $C_{eb}$      | $V_{EB} = 0.5\ \text{V}$ , $f = 1\ \text{MHz}$                         |     | 60  |     | pF            |
| Transition frequency                   | $f_T$         | $I_C = 50\ \text{mA}$ , $V_{CE} = 5\ \text{V}$ , $f = 100\ \text{MHz}$ |     | 170 |     | MHz           |

\* Pulsed:  $PW \leq 350\ \mu\text{s}$ , duty cycle  $\leq 2\%$

#### ■ Marking

| NO.     | KC818A-16 | KC818A-25 | KC818A-40 |
|---------|-----------|-----------|-----------|
| Marking | 6E        | 6F        | 6G        |