

Descriptions

- General small signal application
- Switching application

Features

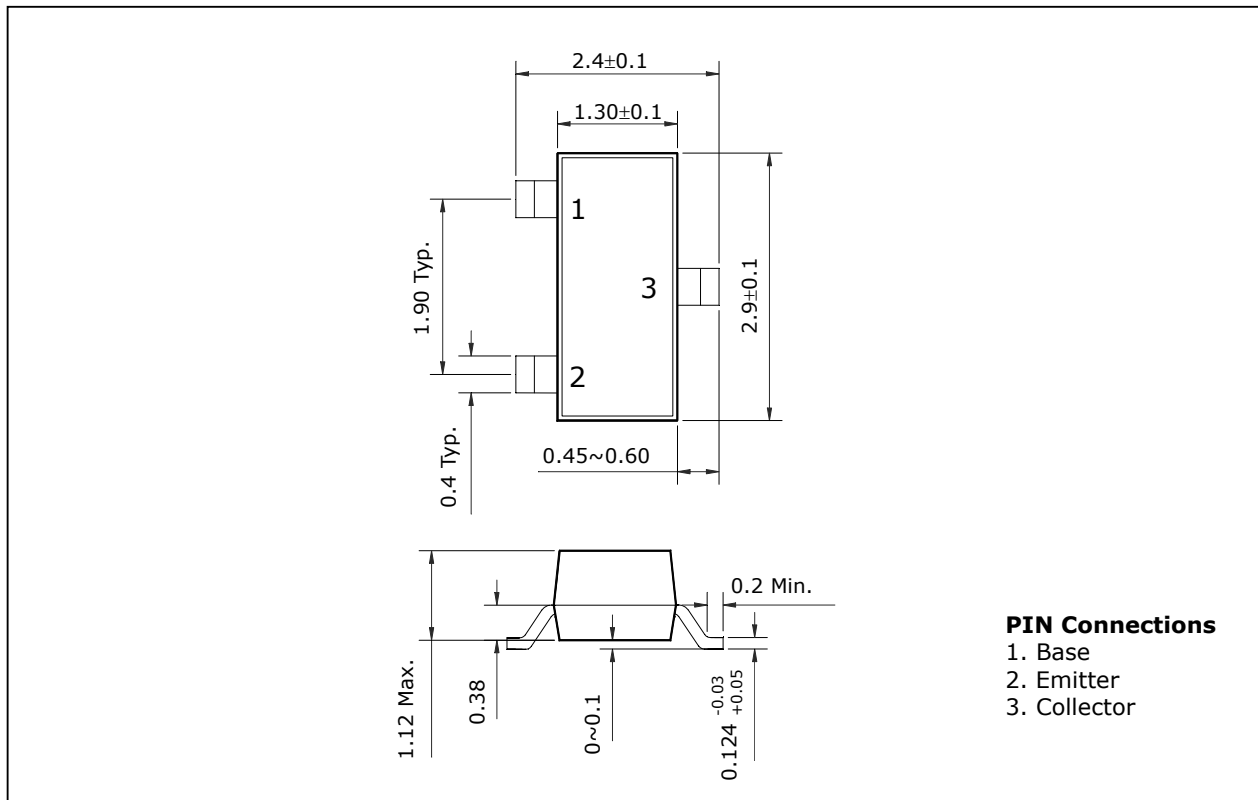
- Low collector saturation voltage
- Collector output capacitance
- Complementary pair with SBT3904

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| SBT3906 | 2A | SOT-23 |

Outline Dimensions

unit : mm



Absolute maximum ratings

Ta=25°C

| Characteristic | Symbol | Ratings | Unit |
|---------------------------|-----------|---------|------|
| Collector-Base voltage | V_{CBO} | -40 | V |
| Collector-Emitter voltage | V_{CEO} | -40 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -200 | mA |
| Collector dissipation | P_C^* | 350 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature range | T_{stg} | -55~150 | °C |

* : Package mounted on 99.5% alumina 10×8×0.6mm

Electrical Characteristics

Ta=25°C

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|--------------------------------------|---------------|---|------|------|------|------|
| Collector-Base breakdown voltage | BV_{CBO} | $I_C = -10\mu A, I_E = 0$ | -40 | - | - | V |
| Collector-Emitter breakdown voltage | BV_{CEO} | $I_C = -1mA, I_B = 0$ | -40 | - | - | V |
| Emitter-Base breakdown voltage | BV_{EBO} | $I_E = -10\mu A, I_C = 0$ | -5 | - | - | V |
| Collector cut-off current | I_{CEX} | $V_{CE} = -30V, V_{EB} = -3V$ | - | - | -50 | nA |
| DC current gain | h_{FE} | $V_{CE} = -1V, I_C = -10mA$ | 100 | - | 300 | - |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -50mA, I_B = -5mA$ | - | - | -0.4 | V |
| Transition frequency | f_T | $V_{CE} = -20V, I_C = -10mA, f = 100MHz$ | 250 | - | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -5V, I_E = 0, f = 1MHz$ | - | - | 4.5 | pF |
| Delay time | t_d | $V_{CC} = -3V_{dc}, V_{BE(off)} = -0.5V_{dc}, I_C = -10mA_{dc}, I_{B1} = -1mA_{dc}$ | - | - | 35 | ns |
| Rise time | t_r | | - | - | 35 | ns |
| Storage time | t_s | $V_{CC} = -3V_{dc}, I_C = -10mA_{dc}, I_{B1} = I_{B2} = -1mA_{dc}$ | - | - | 225 | ns |
| Fall Time | t_f | | - | - | 75 | ns |

Electrical Characteristic Curves

Fig. 1 P_C - T_a

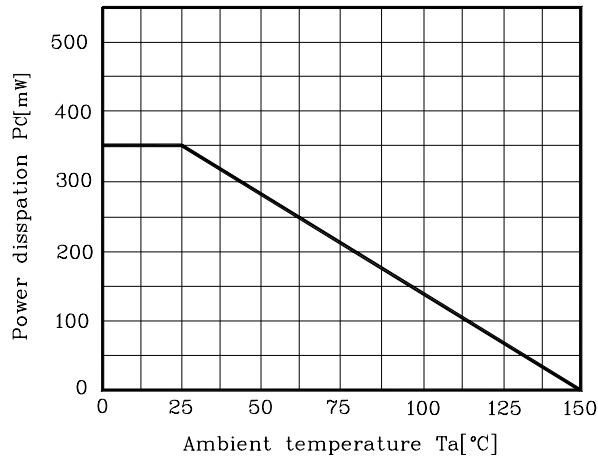


Fig. 2 h_{FE} - I_C

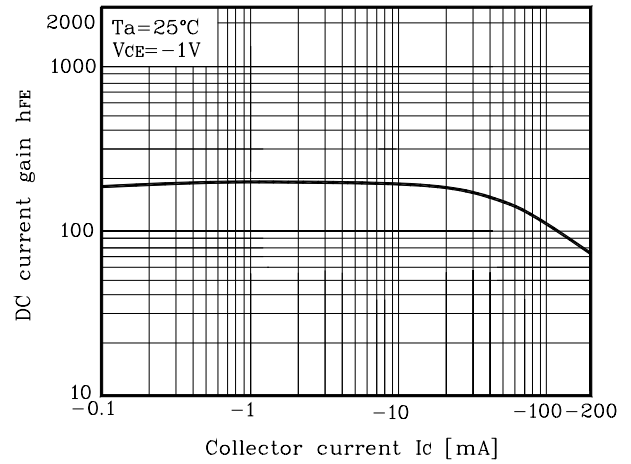
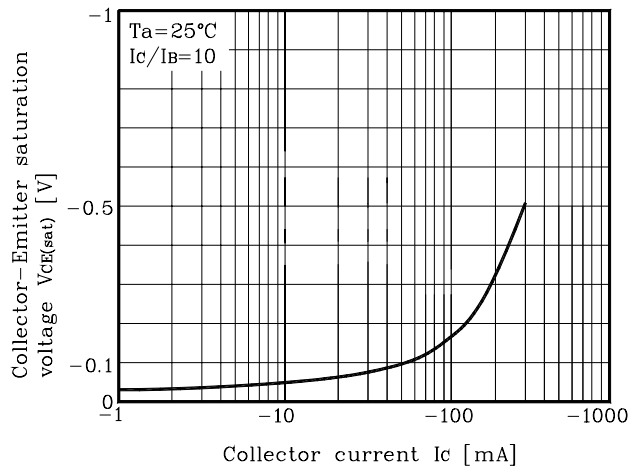


Fig. 3 $V_{CE(sat)}$ - I_C



These AUK products are intended for usage in general electronic equipments(Office and communication equipment, measuring equipment, domestic electrification, etc.).

Please make sure that you consult with us before you use these AUK products in equipments which require high quality and/or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, traffic signal, combustion central, all types of safety device, etc.).

AUK cannot accept liability to any damage which may occur in case these AUK products were used in the mentioned equipments without prior consultation with AUK.