

Descriptions

- High voltage application
- Telephone application

Features

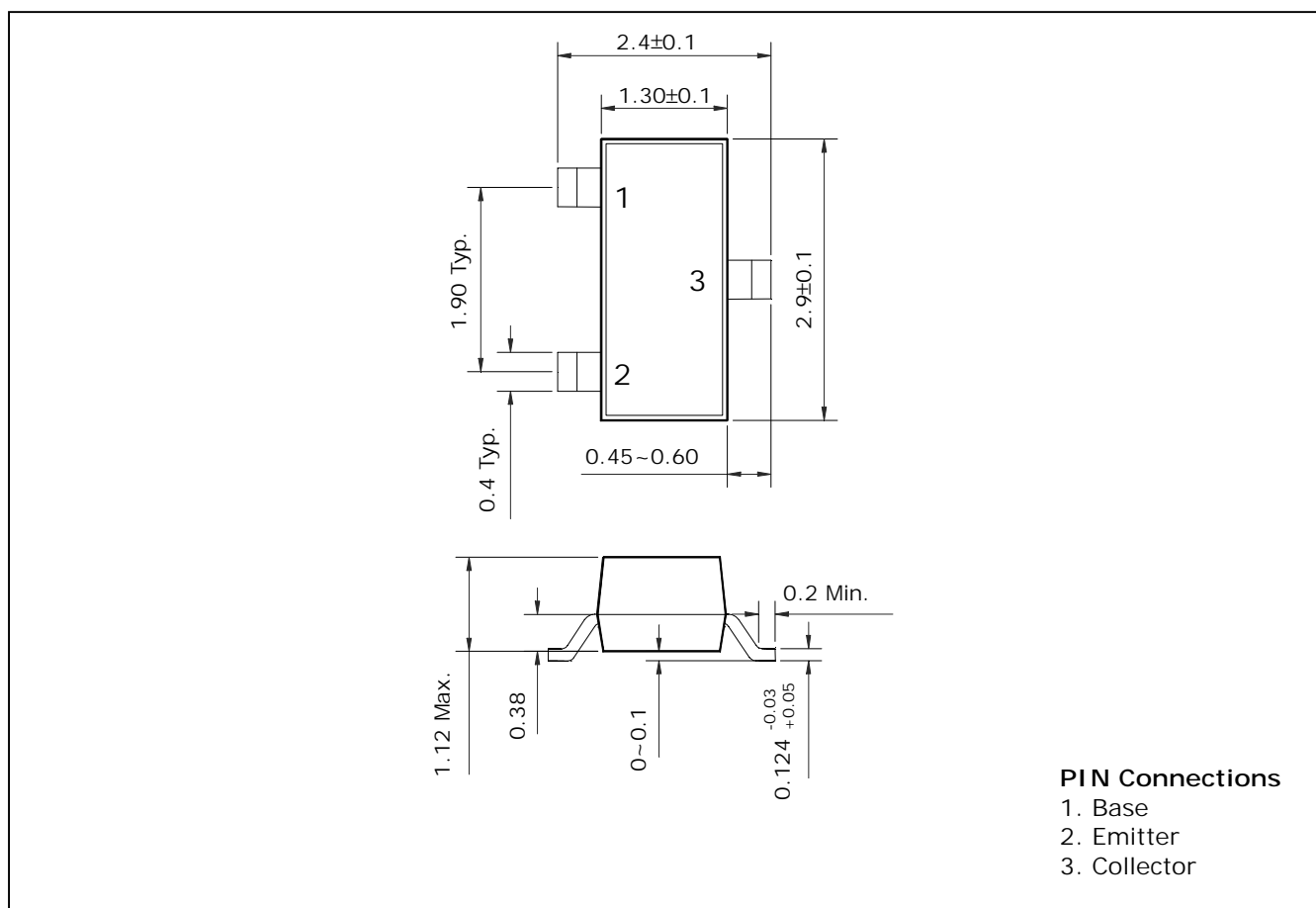
- Collector-Emitter voltage :
 $V_{CE0} = \text{SBT92} : -300\text{V}$
- Complementary pair with SBT42

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| SBT92 | M2A | SOT-23 |

Outline Dimensions

unit : mm



Absolute maximum ratings

(Ta=25°C)

| Characteristic | Symbol | Ratings | Unit |
|---------------------------|-----------|-----------|------|
| Collector-Base voltage | V_{CBO} | -300 | V |
| Collector-Emitter voltage | V_{CEO} | -300 | V |
| Emitter-Base voltage | V_{EBO} | -6 | V |
| Collector current | I_C | -500 | mA |
| Emitter current | I_E | 500 | mA |
| Collector dissipation | P_C^* | 350 | mW |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | 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} | $I_C = -100\mu A, I_E = 0$ | -300 | - | - | V |
| Collector-Emitter breakdown voltage | BV_{CEO} | $I_C = -1mA, I_B = 0$ | -300 | - | - | V |
| Emitter-Base breakdown voltage | BV_{EBO} | $I_E = -100\mu A, I_C = 0$ | -6 | - | - | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -200V, I_E = 0$ | - | - | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -3V, I_C = 0$ | - | - | -0.1 | μA |
| DC current gain | h_{FE}^* | $V_{CE} = -10V, I_C = -30mA$ | 40 | - | - | - |
| Collector-Emitter saturation voltage | $V_{CE(sat)}^*$ | $I_C = -20mA, I_B = -2mA$ | - | - | -0.5 | V |
| Base-Emitter saturation voltage | $V_{BE(sat)}^*$ | $I_C = -20mA, I_B = -2mA$ | - | - | -0.9 | V |
| Transition frequency | f_T | $V_{CE} = -20V, I_C = -10mA$ | 50 | - | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -20V, I_E = 0, f = 1MHz$ | - | - | 6 | pF |

* : Pulse Tester : Pulse Width 300 μs , Duty Cycle 2.0%

Electrical Characteristic Curves

Fig. 1 $h_{FE} - I_C$

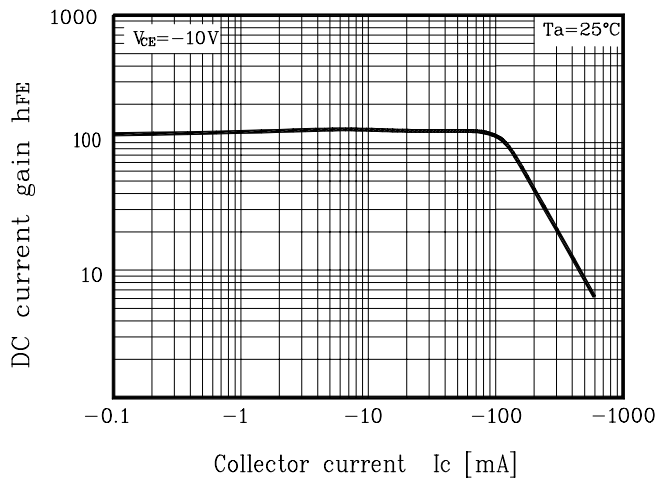


Fig. 2 $V_{CE(sat)}, V_{BE(sat)} - I_C$

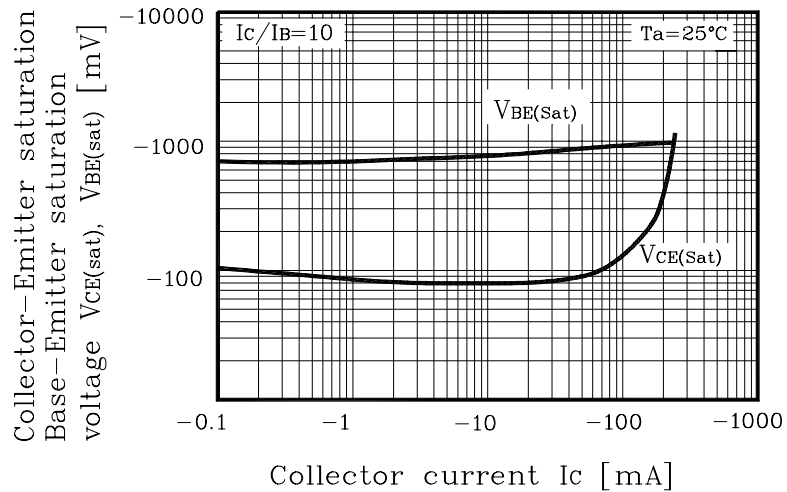


Fig. 3 $f_T - I_C$

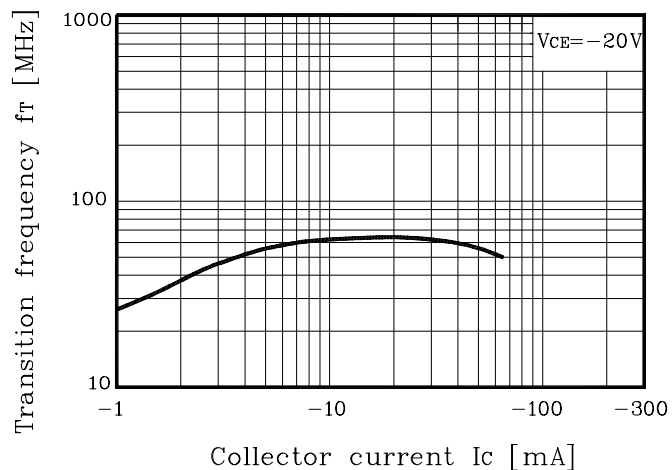


Fig. 4 $C_{ob} - V_R$

