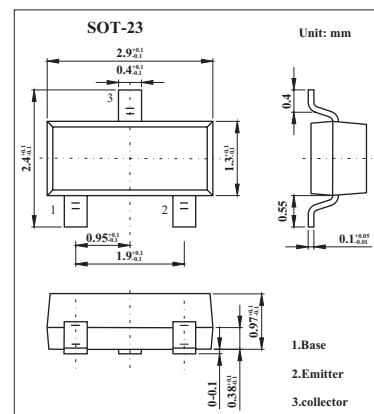


## Silicon NPN Epitaxial Planar type

## 2SC3707

## ■ Features

- Possible with the small current and low voltage
- High transition frequency  $f_T$
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

| Parameter                   | Symbol    | Rating      | Unit             |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage      | $V_{CB0}$ | 10          | V                |
| Collector-emitter voltage   | $V_{CEO}$ | 7           | V                |
| Emitter-base voltage        | $V_{EB0}$ | 2           | V                |
| Collector current           | $I_C$     | 10          | mA               |
| Collector power dissipation | $P_C$     | 50          | mW               |
| Junction temperature        | $T_J$     | 150         | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter                      | Symbol        | Testconditons                                                | Min | Typ | Max | Unit          |
|--------------------------------|---------------|--------------------------------------------------------------|-----|-----|-----|---------------|
| Collector cutoff current       | $I_{CBO}$     | $V_{CB} = 10\text{ V}, I_E = 0$                              |     |     | 1   | $\mu\text{A}$ |
| Emitter cutoff current         | $I_{EBO}$     | $V_{EB} = 1.5\text{ V}, I_C = 0$                             |     |     | 1   | $\mu\text{A}$ |
| Forward current transfer ratio | $h_{FE}$      | $V_{CE} = 1\text{ V}, I_C = 1\text{ mA}$                     | 50  |     | 150 |               |
| Transition frequency           | $f_T$         | $V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$ |     | 4   |     | GHz           |
| Collector output capacitance   | $C_{ob}$      | $V_{CB} = 1\text{ V}, I_E = 0, f = 1\text{ MHz}$             |     | 0.4 |     | pF            |
| Forward transfer gain          | $ S_{21e} ^2$ | $V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$ |     | 6.0 |     | dB            |
| Maximum unilateral power gain  | GUM           | $V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$ |     | 15  |     | dB            |
| Noise figure                   | NF            | $V_{CE} = 1\text{ V}, I_C = 1\text{ mA}, f = 0.8\text{ GHz}$ |     | 3.5 |     | dB            |

## ■ Marking

|         |    |
|---------|----|
| Marking | 2X |
|---------|----|