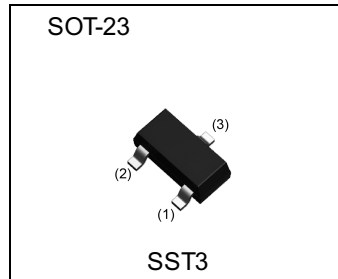


| Parameter | Value |
|-----------|--------|
| V_{CEO} | -40V |
| I_C | -200mA |

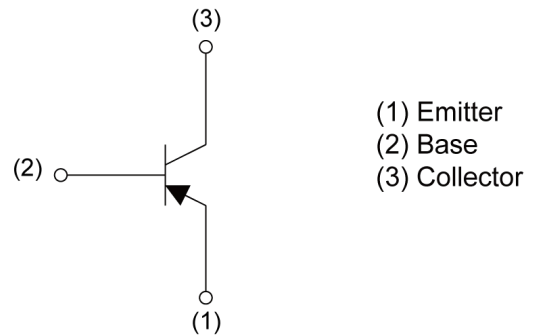
●Outline



●Features

- 1) $BV_{CEO} > -40V (I_C = -1mA)$
- 2) Complements the SST3904
- 3) Low capacitance.

●Inner circuit



●Application

AUDIO FREQUENCY SMALL SIGNAL AMPLIFIER

●Packaging specifications

| Part No. | Package | Package size | Taping code | Reel size (mm) | Tape width (mm) | Basic ordering unit.(pcs) | Marking |
|----------|---------------|--------------|-------------|----------------|-----------------|---------------------------|---------|
| SST3906 | SOT-23 (SST3) | 2924 | T116 | 180 | 8 | 3000 | R2A |

●Absolute maximum ratings ($T_a = 25^\circ C$)

| Parameter | Symbol | Values | 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 |
| Power dissipation | P_D^{*1} | 200 | mW |
| | P_D^{*2} | 350 | mW |
| Junction temperature | T_j | 150 | $^\circ C$ |
| Range of storage temperature | T_{stg} | -55 to +150 | $^\circ C$ |

●Electrical characteristics ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Conditions | Values | | | Unit |
|--------------------------------------|----------------|--|--------|------|------|------|
| | | | Min. | Typ. | Max. | |
| Collector-base breakdown voltage | BV_{CBO} | $I_C = -10\mu\text{A}$ | -40 | - | - | V |
| Collector-emitter breakdown voltage | BV_{CEO} | $I_C = -1\text{mA}$ | -40 | - | - | V |
| Emitter-base breakdown voltage | BV_{EBO} | $I_E = -10\mu\text{A}$ | -5 | - | - | V |
| Collector cut-off current | I_{CES} | $V_{CE} = -30\text{V}$ | - | - | -50 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -3\text{V}$ | - | - | -50 | nA |
| Collector-emitter saturation voltage | $V_{CE(sat)1}$ | $I_C = -10\text{mA}, I_B = -1\text{mA}$ | - | - | -250 | mV |
| | $V_{CE(sat)2}$ | $I_C = -50\text{mA}, I_B = -5\text{mA}$ | - | - | -400 | mV |
| Base-emitter saturation voltage | $V_{BE(sat)1}$ | $I_C = -10\text{mA}, I_B = -1\text{mA}$ | -650 | - | -850 | mV |
| | $V_{BE(sat)2}$ | $I_C = -50\text{mA}, I_B = -5\text{mA}$ | - | - | -950 | mV |
| DC current gain | h_{FE1} | $V_{CE} = -1\text{V}, I_C = -100\mu\text{A}$ | 60 | - | - | - |
| | h_{FE2} | $V_{CE} = -1\text{V}, I_C = -1\text{mA}$ | 80 | - | - | - |
| | h_{FE3} | $V_{CE} = -1\text{V}, I_C = -10\text{mA}$ | 100 | - | 300 | - |
| | h_{FE4} | $V_{CE} = -1\text{V}, I_C = -50\text{mA}$ | 60 | - | - | - |
| | h_{FE5} | $V_{CE} = -1\text{V}, I_C = -100\text{mA}$ | 30 | - | - | - |
| Output capacitance | C_{ob} | $V_{CB} = -10\text{V}, I_E = 0\text{A}$ $f = 100\text{kHz}$ | - | - | 4.5 | pF |
| Input capacitance | C_{ib} | $V_{BE} = -0.5\text{V}, I_C = 0\text{A}$ $f = 100\text{kHz}$ | - | - | 10 | pF |
| Transition frequency | f_T | $V_{CE} = -20\text{V}, I_E = 10\text{mA}$ $f = 100\text{MHz}$ | 250 | - | - | MHz |
| Delay time | t_d | $V_{CC} \approx -3\text{V}, I_C = -10\text{mA}$ $I_{B1} = -1\text{mA}, R_L = 300\Omega$ | - | - | 35 | ns |
| Rise time | t_r | $V_{BE(off)} = 500\text{mV}$ See test circuit | - | - | 35 | ns |
| Storage time | t_{stg} | $V_{CC} \approx -3\text{V}$ $I_C = -10\text{mA}$ | - | - | 225 | ns |
| Fall time | t_f | $I_{B1} = -1\text{mA}$ $I_{B2} = 1\text{mA}, R_L = 300\Omega$ See test circuit | - | - | 75 | ns |

*1 Each terminal mounted on a reference land.

*2 Mounted on a ceramic board(7.0×5.0×0.6mm).

SWITCHING TIME TEST CIRCUIT



●Dimensions

SOT-23
(SST3)



Pattern of terminal position areas
[Not a pattern of soldering pads]

| DIM | MILIMETERS | | INCHES | |
|-----|------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.90 | 1.20 | 0.035 | 0.047 |
| A1 | 0.00 | 0.10 | 0.000 | 0.004 |
| A2 | 0.85 | 1.15 | 0.033 | 0.045 |
| A3 | 0.25 | | 0.010 | |
| b | 0.35 | 0.50 | 0.014 | 0.020 |
| c | 0.09 | 0.25 | 0.004 | 0.010 |
| D | 2.70 | 3.10 | 0.106 | 0.122 |
| E | 1.20 | 1.50 | 0.047 | 0.059 |
| e | 0.95 | | 0.037 | |
| HE | 2.20 | 2.60 | 0.087 | 0.102 |
| L1 | 0.20 | - | 0.008 | - |
| Lp | 0.30 | - | 0.012 | - |
| Q | 0.40 | 0.60 | 0.016 | 0.024 |
| x | - | 0.10 | - | 0.004 |

| DIM | MILIMETERS | | INCHES | |
|-----|------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| b2 | - | 0.60 | - | 0.024 |
| e1 | 1.70 | | 0.067 | |
| l1 | - | 0.90 | - | 0.035 |

Dimension in mm/inches

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(Note1) Medical Equipment Classification of the Specific Applications

| JAPAN | USA | EU | CHINA |
|-----------|-----------|------------|-----------|
| CLASS III | CLASS III | CLASS II b | CLASS III |
| CLASS IV | | CLASS III | |

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 - Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
 - Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
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 - Use of our Products without cleaning residue of flux (even if you use no-clean type fluxes, cleaning residue of flux is recommended); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
 - Use of the Products in places subject to dew condensation
- The Products are not subject to radiation-proof design.
- Please verify and confirm characteristics of the final or mounted products in using the Products.
- In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse. is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
- De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.
- Confirm that operation temperature is within the specified range described in the product specification.
- ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

Precaution for Mounting / Circuit board design

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For details, please refer to ROHM Mounting specification

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This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding the Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of Ionizer, friction prevention and temperature / humidity control).

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 - [b] the temperature or humidity exceeds those recommended by ROHM
 - [c] the Products are exposed to direct sunshine or condensation
 - [d] the Products are exposed to high Electrostatic
2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.
3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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