

Descriptions

- Switching application
- Interface circuit and driver circuit application

Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| SRA2204E | 4R | SOT-523 |

Outline Dimensions

unit : mm

The image shows the mechanical dimensions and electrical equivalent circuit for the SRA2204E transistor. The dimensions are provided in millimeters. The top diagram shows the top view with dimensions: 1.60±0.1 mm for the total width, 0.80±0.1 mm for the distance from the right edge to the center of the base terminal, and 1.00 mm for the distance between the base and emitter terminals. The bottom diagram shows the side view with dimensions: 0.70±0.1 mm for the height, 0.15 Min. for the base terminal width, and 0.1 Min. for the emitter terminal height. The equivalent circuit diagram shows a PNP transistor with a base terminal (B(IN)) connected to a resistor R₁, an emitter terminal (E(COMMON)) connected to a resistor R₂, and a collector terminal (C(OUT)).

• Equivalent Circuit

PIN Connections

1. Base
2. Emitter
3. Collector

| R ₁ | R ₂ |
|----------------|----------------|
| 47KΩ | 47KΩ |

Absolute maximum ratings

(Ta=25°C)

| Characteristic | Symbol | Ratings | Unit |
|----------------------|-----------|-----------|------|
| Out Voltage | V_O | -50 | V |
| Input Voltage | V_I | -40 | V |
| Out Current | I_O | -100 | mA |
| Power Dissipation | P_D | 150 | mW |
| Junction Temperature | T_J | 150 | °C |
| Storage Temperature | T_{STG} | -55 ~ 150 | °C |

Electrical Characteristics

(Ta=25°C)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|------------------------|--------------|-----------------------------|------|------|-------|------|
| Output Cut-off Current | $I_{O(OFF)}$ | $V_O = -50V, V_I = 0$ | - | - | -500 | nA |
| DC Current Gain | G_I | $V_O = -5V, I_O = -10mA$ | 80 | 200 | - | - |
| Output Voltage | $V_{O(ON)}$ | $I_O = -10mA, I_I = -0.5mA$ | - | -0.1 | -0.3 | V |
| Input Voltage (ON) | $V_{I(ON)}$ | $V_O = -0.2V, I_O = -5mA$ | - | -2.8 | -5.0 | V |
| Input Voltage (OFF) | $V_{I(OFF)}$ | $V_O = -5V, I_O = -0.1mA$ | -1.0 | -1.2 | - | V |
| Transition Frequency | f_T^* | $V_O = -10V, I_O = -5mA$ | - | 200 | - | MHz |
| Input Current | I_I | $V_I = -5V$ | - | - | -0.18 | mA |

* : Characteristic of Transistor Only

Electrical Characteristic Curves

Fig. 1 $I_o - V_{I(ON)}$

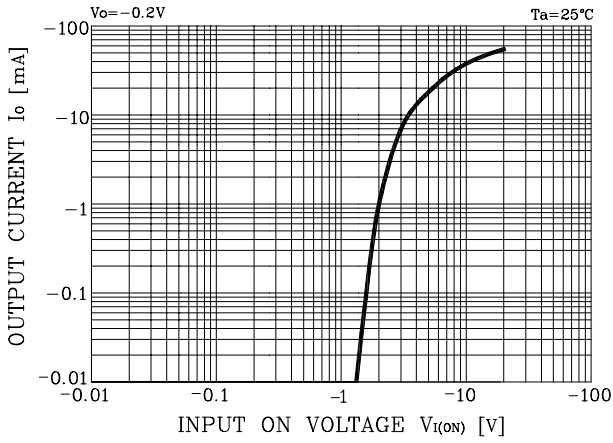


Fig. 2 $I_o - V_{I(OFF)}$

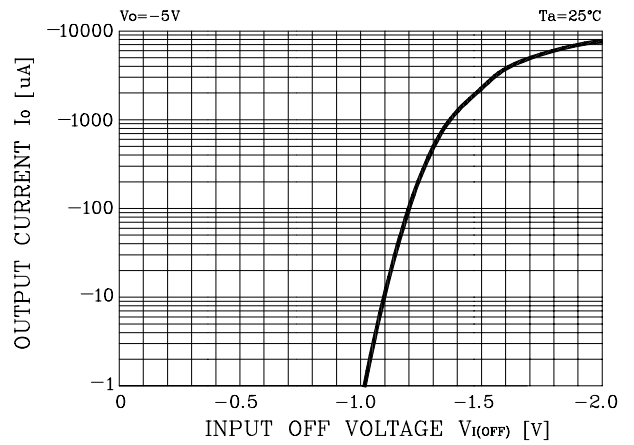


Fig. 3 $G_I - I_o$

