

Descriptions

- Switching application
- Interface circuit and driver circuit application

Features

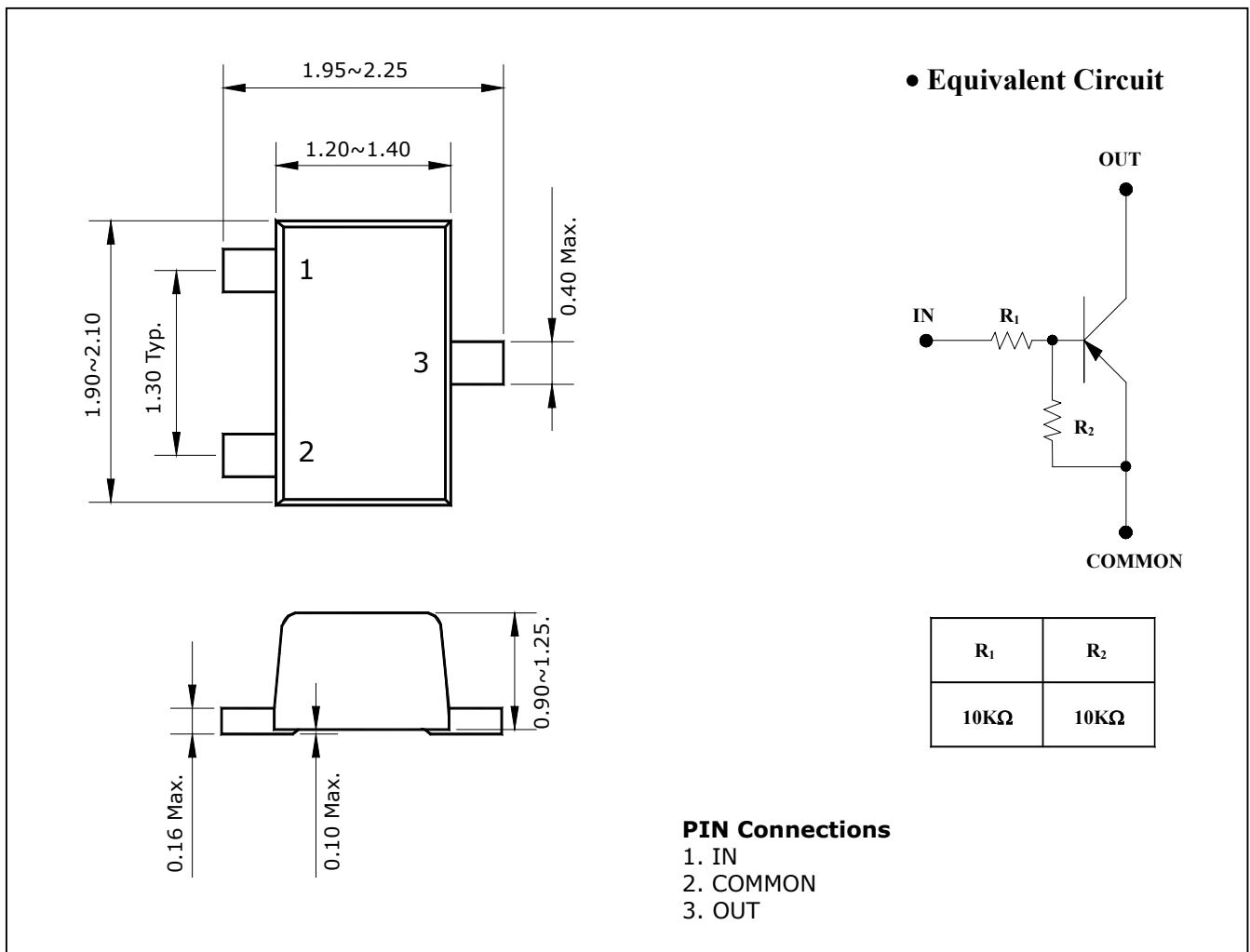
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

Ordering Information

| Type NO. | Marking | Package Code |
|-----------|---------|--------------|
| SRA2202UF | 2R | SOT-323F |

Outline Dimensions

unit : mm



The figure shows the mechanical dimensions and electrical equivalent circuit of the SRA2202UF transistor. The mechanical drawing includes a top view and a side view. The top view shows a rectangular package with three pins labeled 1, 2, and 3. Dimensions are given in millimeters: overall width 1.95~2.25, overall height 1.90~2.10, pin 1 width 1.20~1.40, pin 2 width 1.30 Typ., pin 3 width 0.40 Max., and a distance of 1.30 Typ. between pins 1 and 2. The side view shows a height of 0.90~1.25, a base thickness of 0.10 Max., and a lead thickness of 0.16 Max.

The equivalent circuit diagram shows a PNP transistor with an input terminal IN connected to the base through a resistor R₁. The emitter is connected to a COMMON terminal. The collector is connected to an output terminal OUT and also has a resistor R₂ connected to the COMMON terminal.

| R ₁ | R ₂ |
|----------------|----------------|
| 10KΩ | 10KΩ |

PIN Connections
 1. IN
 2. COMMON
 3. OUT

Absolute Maximum Ratings

(Ta=25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|-----------|------|
| Output voltage | V_O | -50 | V |
| Input voltage | V_I | -30, 10 | V |
| Output current | I_O | -100 | mA |
| Power dissipation | P_D | 200 | mW |
| Junction temperature | T_J | 150 | °C |
| Storage temperature range | 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 | $V_O=-5V, I_O=-10mA$ | 50 | 80 | - | - |
| Output voltage | $V_{O(ON)}$ | $I_O=-10mA, I_I=-0.5mA$ | - | -0.1 | -0.3 | V |
| Input voltage (ON) | $V_{I(ON)}$ | $V_O=-0.2V, I_O=-5mA$ | - | -1.8 | -2.4 | V |
| Input voltage (OFF) | $V_{I(OFF)}$ | $V_O=-5V, I_O=-0.1mA$ | -1.0 | -1.2 | - | V |
| Transition frequency | f_T^* | $V_O=-10V, I_O=-5mA, f=1MHz$ | - | 200 | - | MHz |
| Input current | I_I | $V_I=-5V, I_O=0$ | - | - | -0.88 | mA |
| Input resistor (Input to base) | R_1 | - | 7 | 10 | 13 | K Ω |
| Input resistor (Base to common) | R_2 | - | 7 | 10 | 13 | K Ω |

* : Characteristic of transistor only

Electrical Characteristic Curves

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

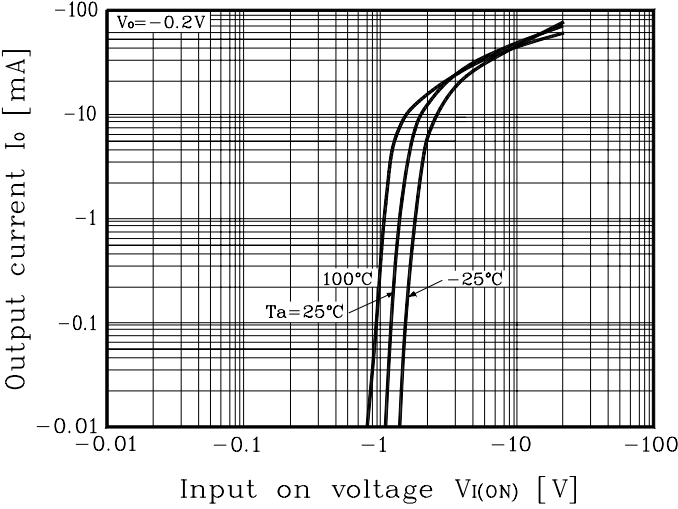


Fig. 2 $I_o - V_{I(OFF)}$

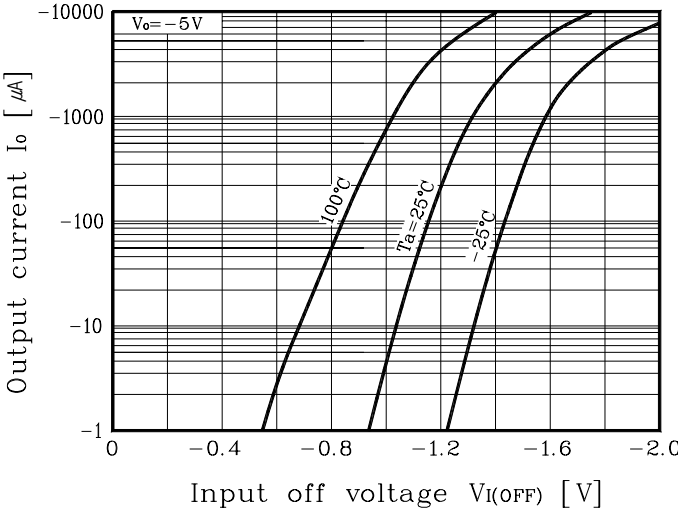
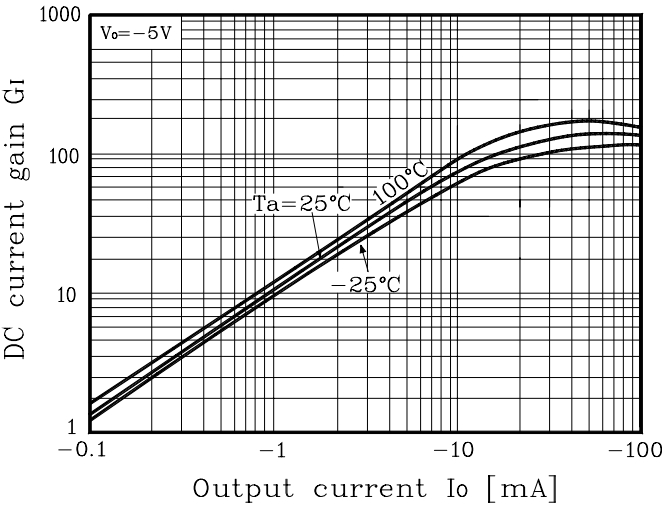


Fig. 3 $G_I - I_o$



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