AUK Semiconductor

# SRC1202SF

**NPN Silicon Transistor**

## Descriptions

- Switching application
- Interface circuit and driver circuit application

## Features

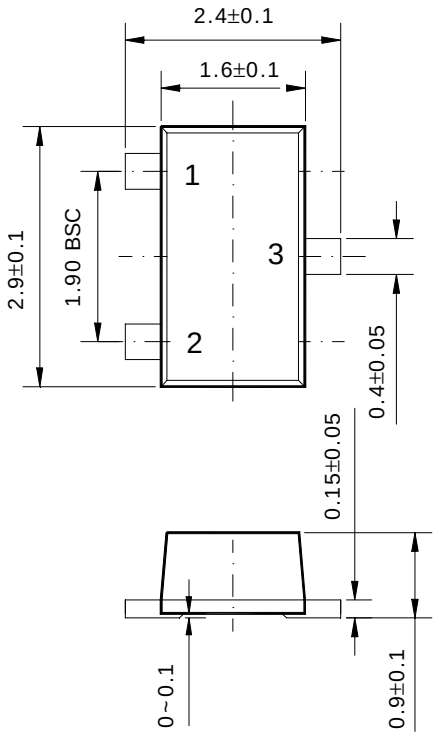
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

## Ordering Information

| Type NO. | Marking | Package Code |
|---|---|---|
| SRC1202SF | RC2 | SOT-23F |

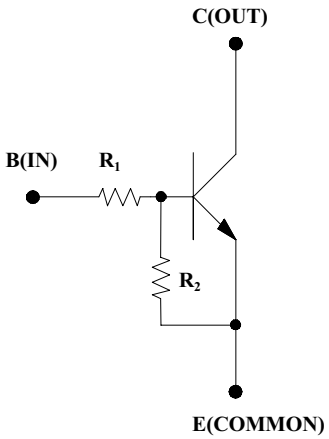
## Outline Dimensions

**unit : mm**




**PIN Connections**
1. Base
2. Emitter
3. Collector

**• Equivalent Circuit**




| $R_1$ | $R_2$ |
|---|---|
| 10KΩ | 10KΩ |

## Absolute maximum ratings (Ta=25°C)

| Characteristic | Symbol | Ratings | Unit |
|---|---|---|---|
| Out Voltage | $V_O$ | 50 | V |
| Input Voltage | $V_I$ | 30 | V |
| Out Current | $I_O$ | 100 | mA |
| Power Dissipation | $P_D$ | 200 | 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 | 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 | - | 200 | - | MHz |
| Input Current | $I_I$ | $V_I$=5V | - | - | 0.88 | mA |

* : Characteristic of Transistor Only

## Electrical Characteristic Curves

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

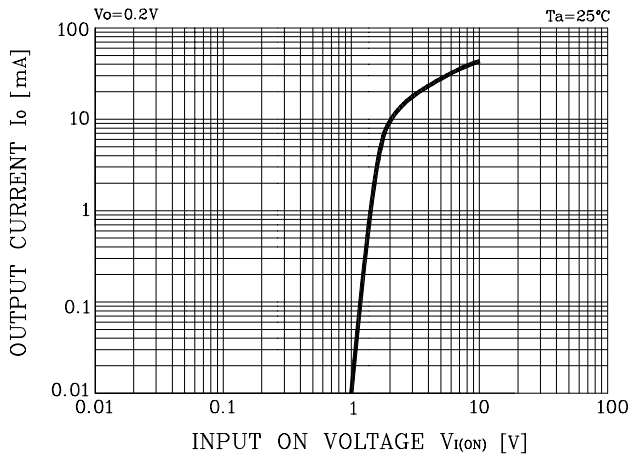



**Fig. 2 $I_O$ - $V_{I(OFF)}$**

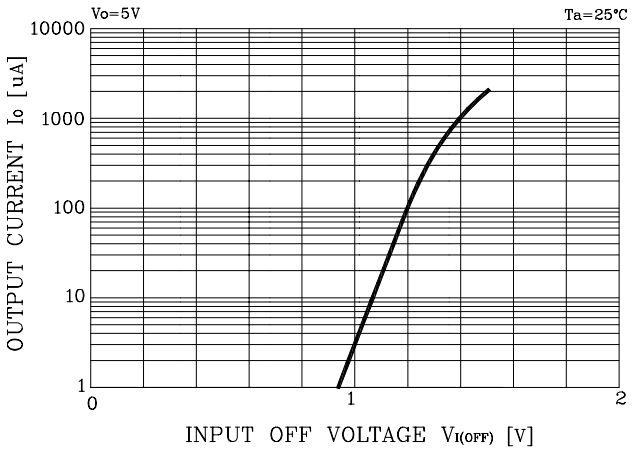



**Fig. 3 $G_I$ - $I_O$**