

**Description**

- Digital transistor

**Features**

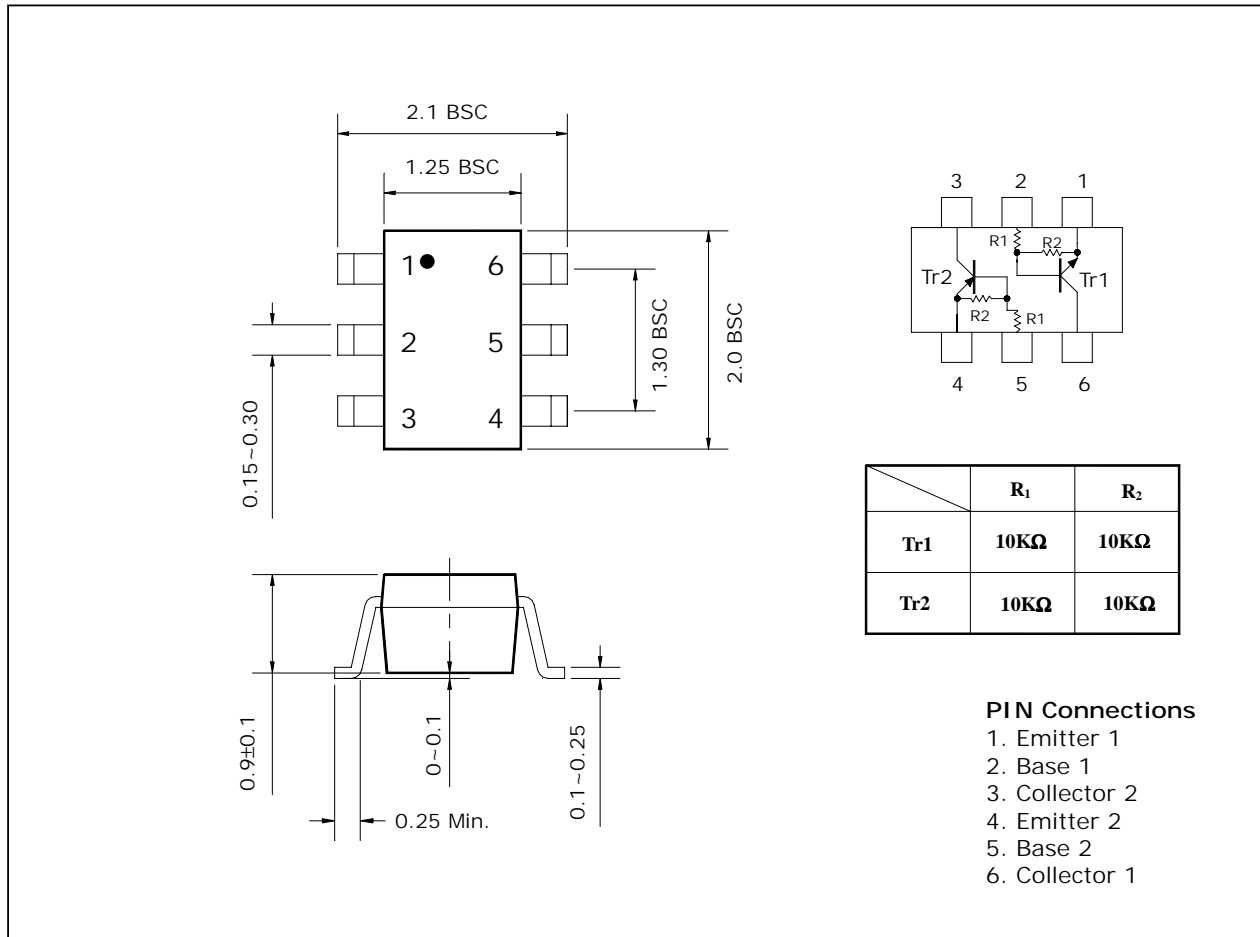
- Both SRC1202 chip and SRA2202 chip in SOT-363 package
- With built-in bias resistors

**Ordering Information**

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| SUR491J  | BX      | SOT-363      |

**Outline Dimensions**

unit : mm



## Absolute maximum ratings (Tr1, Tr2)

Ta=25°C

| Characteristic       | Symbol    | Ratings   |      | Unit |
|----------------------|-----------|-----------|------|------|
|                      |           | Tr1       | Tr2  |      |
| Out Voltage          | $V_O$     | 50        | -50  | V    |
| Input Voltage        | $V_I$     | 30        | -30  | V    |
| Out Current          | $I_O$     | 100       | -100 | mA   |
| Power Dissipation    | $P_D$     | 150       |      | mW   |
| Junction Temperature | $T_J$     | 150       |      | °C   |
| Storage Temperature  | $T_{STG}$ | -55 ~ 150 |      | °C   |

## Electrical Characteristics(Tr1 : NPN)

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 Characteristics(Tr2 : PNP)

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

Tr1 : NPN

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

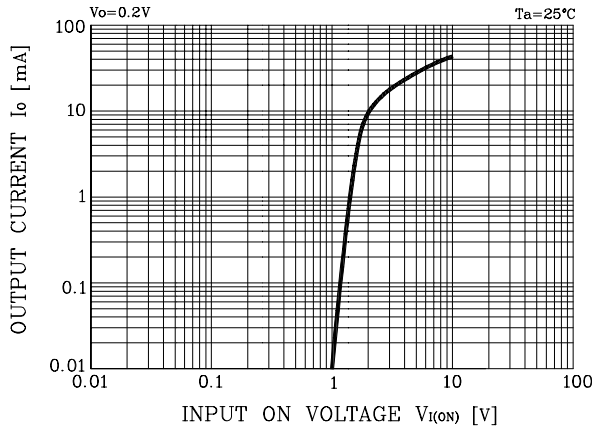


Fig. 2  $I_O - V_{I(OFF)}$

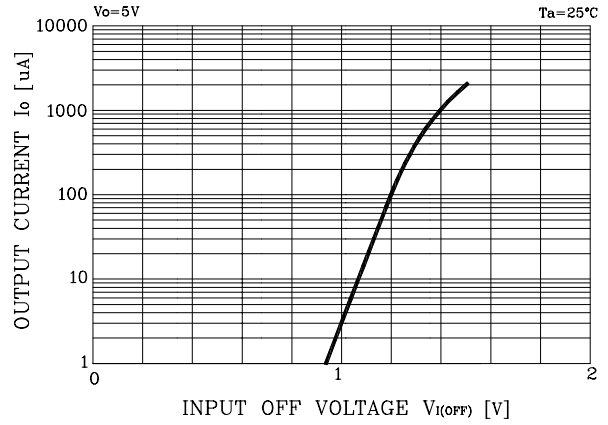
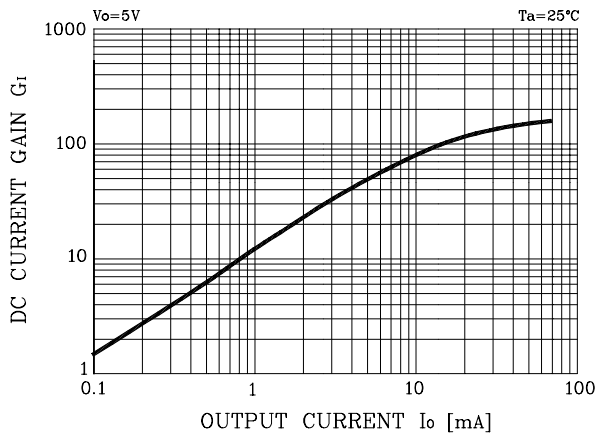


Fig. 3  $G_I - I_O$



Tr2 : PNP

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

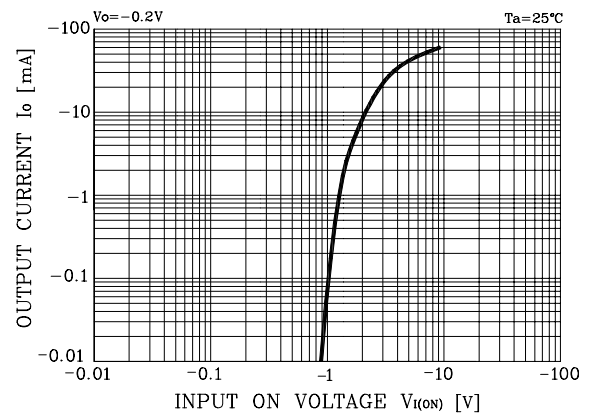


Fig. 2  $I_O - V_{I(OFF)}$

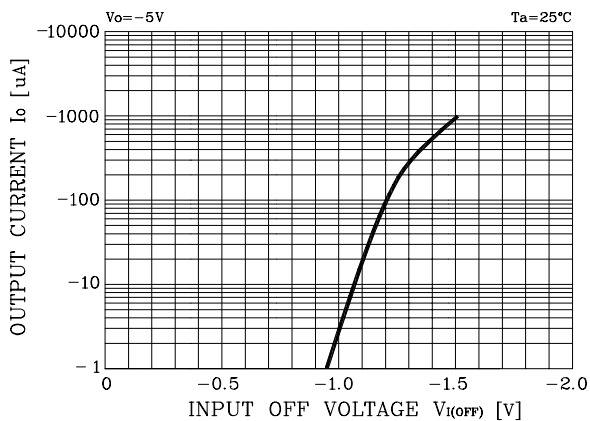


Fig. 3  $G_I - I_O$

