

**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 |
|----------|---------|--------------|
| SRC1207K | R7      | SOT-623F     |

**Outline Dimensions**

unit : mm

**• Equivalent Circuit**

**PIN Connections**

1. IN
2. COMMON
3. OUT

| R <sub>1</sub> | R <sub>2</sub> |
|----------------|----------------|
| 10KΩ           | 47KΩ           |

## Absolute Maximum Ratings

(Ta=25°C)

| Characteristic            | Symbol    | Rating    | Unit |
|---------------------------|-----------|-----------|------|
| Output voltage            | $V_O$     | 50        | V    |
| Input voltage             | $V_I$     | 30,-6     | V    |
| Output current            | $I_O$     | 100       | mA   |
| Power dissipation         | $P_D$     | 100       | mW   |
| Junction temperature      | $T_J$     | 150       | °C   |
| Storage temperature range | $T_{stg}$ | -55 ~ 150 | °C   |

## Electrical Characteristics

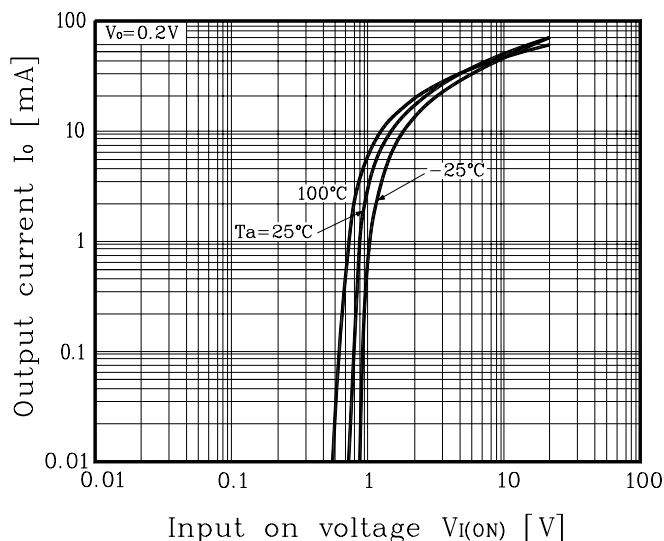
(Ta=25°C)

| 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                 | $G_I$        | $V_O=5V, I_O=10mA$         | 80   | 150  | -    | -          |
| 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  | V          |
| Input voltage (OFF)             | $V_{I(OFF)}$ | $V_O=5V, I_O=0.1mA$        | 0.5  | -    | -    | 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 $\Omega$ |
| Input resistor (Base to common) | $R_2$        | -                          | 33   | 47   | 61   | K $\Omega$ |

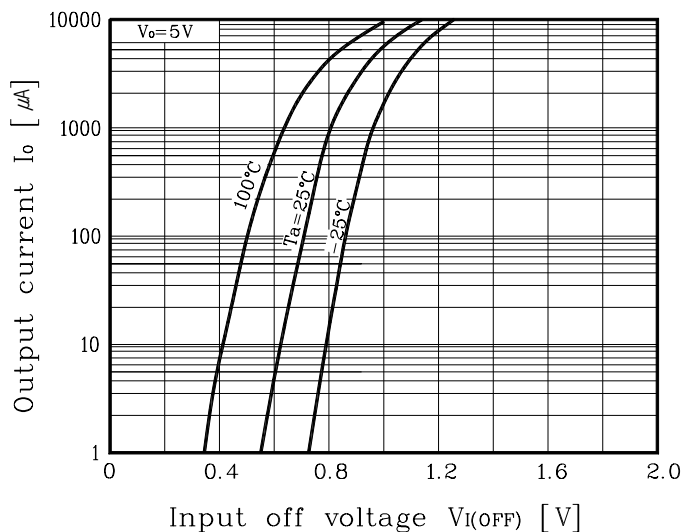
\* : Characteristic of transistor only

## Electrical Characteristic Curves

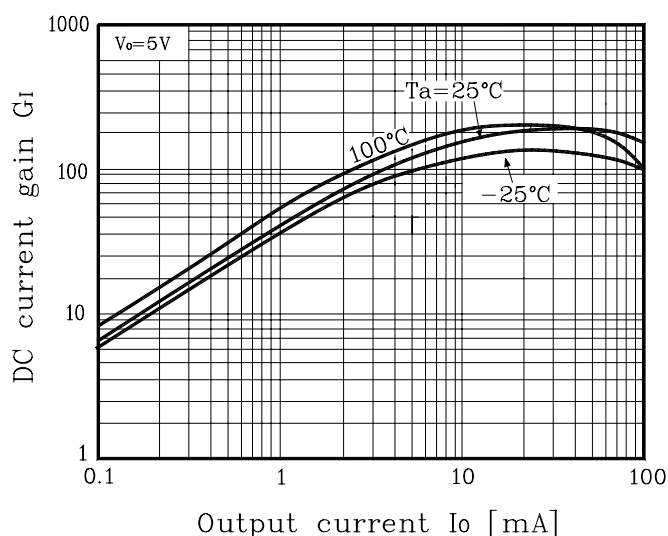
**Fig. 1**  $I_o - V_{I(ON)}$



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



**Fig. 3**  $G_1 - I_o$



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