

# **SRC1219E**

**NPN Silicon Transistor** 

#### **Descriptions**

- Switching application
- Interface circuit and driver circuit application

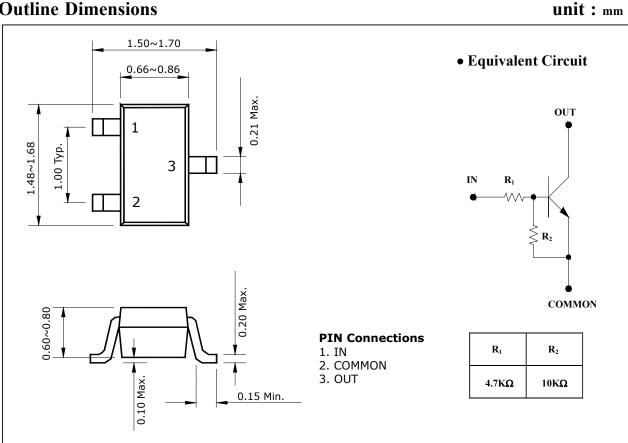
#### **Features**

- 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 |  |
|----------|---------|--------------|--|
| SRC1219E | RC      | SOT-523      |  |

## **Outline Dimensions**



KSR-4024-001

**Absolute Maximum Ratings** 

(Ta=25°C)

|                           | (                |           |      |
|---------------------------|------------------|-----------|------|
| Characteristic            | Symbol           | Rating    | Unit |
| Output voltage            | Vo               | 50        | V    |
| Input voltage             | V <sub>I</sub>   | 20,-7     | V    |
| Output current            | $I_{O}$          | 100       | mA   |
| Power dissipation         | $P_{D}$          | 150       | mW   |
| Junction temperature      | T <sub>J</sub>   | 150       | °C   |
| Storage temperature range | T <sub>stg</sub> | -55 ~ 150 | °C   |

### **Electrical Characteristics**

(Ta=25°C)

| Characteristic                  | Symbol             | <b>Test Condition</b>                     | Min. | Тур. | Max. | Unit       |
|---------------------------------|--------------------|---|------|------|------|------------|
| Output cut-off current          | $I_{O(OFF)}$       | V <sub>O</sub> =50V, V <sub>I</sub> =0    | -    | -    | 500  | nA         |
| DC current Gain                 | $G_{\mathrm{I}}$   | V <sub>O</sub> =5V, I <sub>O</sub> =10mA  | 30   | -    | -    | -          |
| Output voltage                  | V <sub>O(ON)</sub> | $I_O=10$ mA, $I_I=0.5$ mA                 | -    | 0.1  | 0.3  | V          |
| Input voltage (ON)              | $V_{I(ON)}$        | V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA | -    | 1.2  | 1.6  | V          |
| Input voltage (OFF)             | $V_{I(OFF)}$       | V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA | 0.5  | 0.82 | -    | V          |
| Transition frequency            | $f_T^*$            | $V_0=10V$ , $I_0=5$ mA, $f=1$ MHz         | -    | 200  | -    | MHz        |
| Input current                   | $I_{I}$            | $V_I=5V$ , $I_O=0$                        | -    | -    | 1.8  | mA         |
| Input resistor (Input to base)  | $R_1$              | -   | 3.3  | 4.7  | 6.1  | <b>K</b> Ω |
| Input resistor (Base to common) | R <sub>2</sub>     | -   | 7    | 10   | 13   | <b>K</b> Ω |

<sup>\* :</sup> Characteristic of transistor only

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#### **Electrical Characteristic Curves**

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

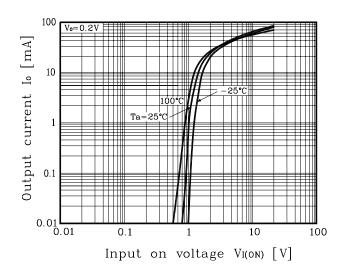


Fig. 2 I<sub>O</sub> - V<sub>I(OFF)</sub>

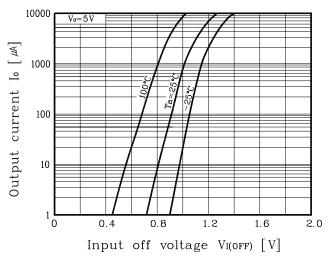
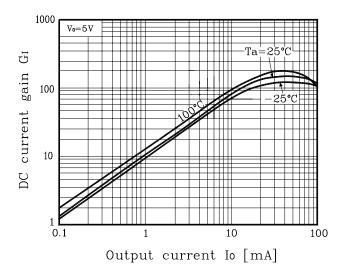


Fig. 3 G<sub>I</sub>-I<sub>O</sub>



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