

**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
SRA2203U	3R	SOT-323

**Outline Dimensions**

unit : mm

The technical drawing shows the physical dimensions of the SRA2203U transistor in millimeters. The top view shows a rectangular package with a total width of  $2.1 \pm 0.1$  mm and a base width of  $1.25 \pm 0.05$  mm. The height is  $2.0 \pm 0.2$  mm. The base (pin 1) is located  $1.30 \pm 0.1$  mm from the left edge. The emitter (pin 2) is  $0.30 \pm 0.1$  mm from the bottom edge, and the collector (pin 3) is  $0.15 \pm 0.05$  mm from the bottom edge. The side view shows a maximum height of  $0.90 \pm 0.1$  mm, a base thickness of  $0 \sim 0.1$  mm, and a minimum lead length of  $0.1$  mm.

**• Equivalent Circuit**

The equivalent circuit diagram shows a PNP transistor with a base terminal (B(IN)) connected to a resistor  $R_1$ . The emitter terminal (E(COMMON)) is connected to a resistor  $R_2$ . The collector terminal (C(OUT)) is the output. The resistors  $R_1$  and  $R_2$  are both specified as  $22K\Omega$ .

**PIN Connections**

1. Base
2. Emitter
3. Collector

$R_1$	$R_2$
$22K\Omega$	$22K\Omega$

## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Out Voltage	$V_o$	-50	V
Input Voltage	$V_i$	-40	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	$G_i$	$V_o = -5V, I_o = -10mA$	70	120	-	-
Output Voltage	$V_{O(ON)}$	$I_o = -10mA, I_i = -0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_o = -0.2V, I_o = -5mA$	-	-2.1	-3.0	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	$I_i$	$V_i = -5V$	-	-	-0.36	mA

\* : Characteristic of Transistor Only

Electrical Characteristic Curves

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

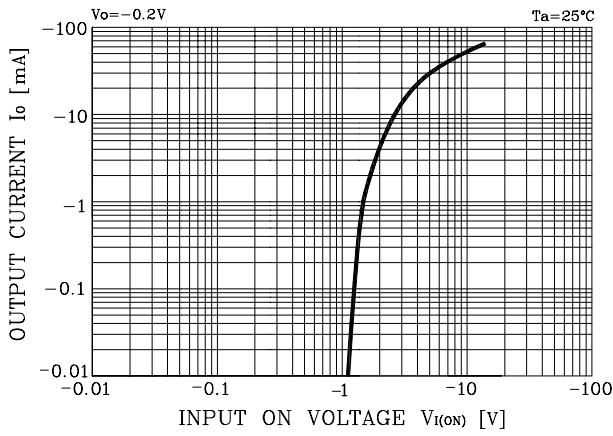


Fig. 2  $I_o - V_{I(OFF)}$

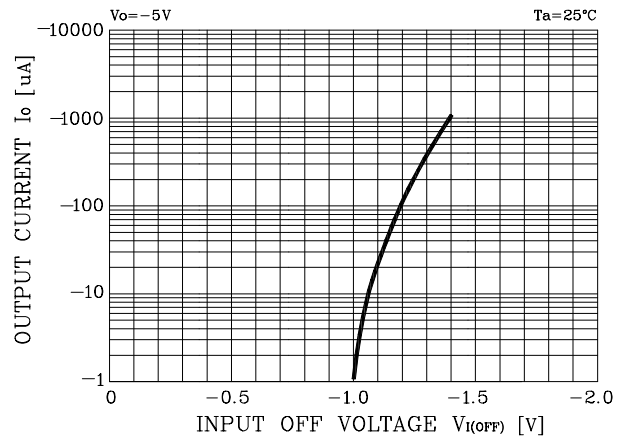


Fig. 3  $G_I - I_o$

