

Descriptions

- Switching application
- Interface circuit and driver circuit application

Features

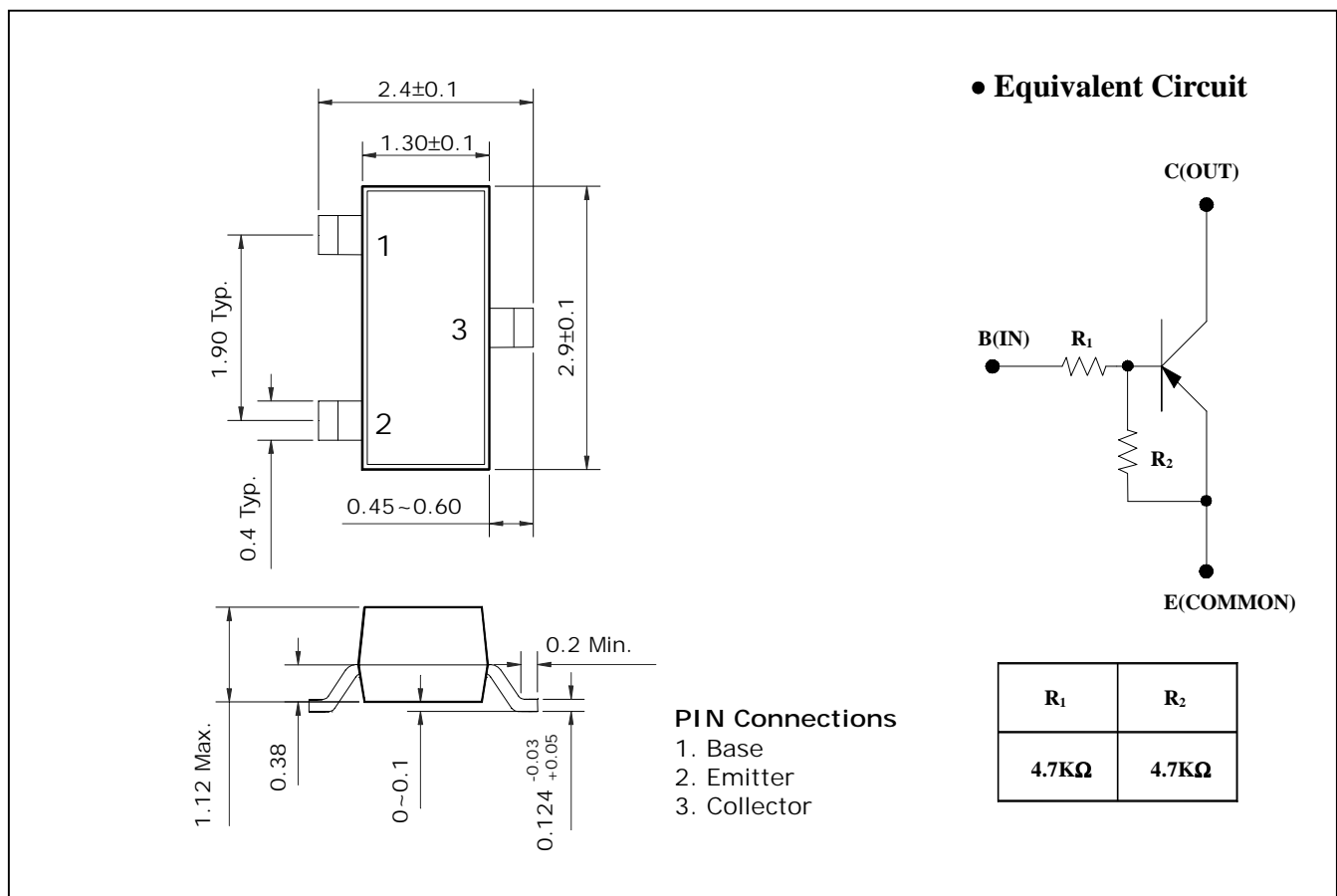
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

Ordering Information

Type NO.	Marking	Package Code
SRA2201S	RA1	SOT-23

Outline Dimensions

unit : mm



The mechanical drawing shows the SOT-23 package with the following dimensions:

- Overall width: 2.4 ± 0.1 mm
- Distance between pins 1 and 2: 1.30 ± 0.1 mm
- Distance between pins 2 and 3: $0.45 - 0.60$ mm
- Overall height: 2.9 ± 0.1 mm
- Pin 1 height: 1.90 Typ.
- Pin 2 height: 0.4 Typ.
- Pin 3 height: 0.2 Min.
- Lead length: 1.12 Max.
- Lead thickness: 0.38
- Lead width: $0 - 0.1$ mm
- Lead tip thickness: $0.124 \begin{smallmatrix} -0.03 \\ +0.05 \end{smallmatrix}$ mm

Equivalent Circuit

The equivalent circuit shows a PNP transistor with a base input (B(IN)) connected through resistor R_1 to the base. The emitter (E(COMMON)) is connected to ground through resistor R_2 . The collector (C(OUT)) is the output terminal.

R_1	R_2
4.7K Ω	4.7K Ω

PIN Connections

1. Base
2. Emitter
3. Collector

Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Out Voltage	V_O	-50	V
Input Voltage	V_I	-20	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	$V_O = -5V, I_O = -10mA$	30	55	-	-
Output Voltage	$V_{O(ON)}$	$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O = -0.2V, I_O = -5mA$	-	-1.5	-2.0	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	$V_I = -5V$	-	-	-1.8	mA

* : Characteristic of Transistor Only

Electrical Characteristic Curves

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

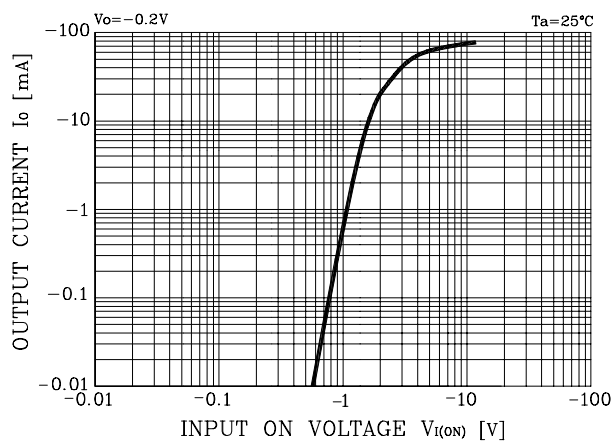


Fig. 2 $I_o - V_{I(OFF)}$

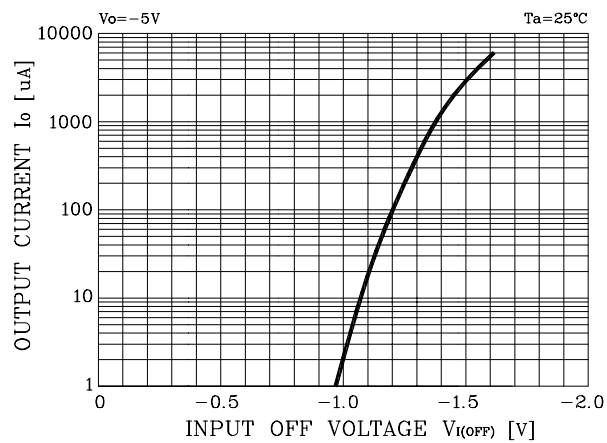


Fig. 3 $G_I - I_o$

