

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
SRA2201SF	RA1	SOT-23F

Outline Dimensions

unit : mm

The mechanical drawing shows the top and side views of the SOT-23F package. Key dimensions include: overall width 2.4±0.1 mm, base pin width 1.6±0.1 mm, emitter pin width 0.4±0.05 mm, collector pin width 0.15±0.05 mm, and overall height 0.9±0.1 mm. The base pin is labeled '1', emitter '2', and collector '3'. A BSC (Basic Symbolic Code) dimension of 1.90 mm is also indicated.

• Equivalent Circuit

The equivalent circuit shows a PNP transistor with the base connected to B(IN) through resistor R1, the emitter connected to E(COMMON) through resistor R2, and the collector connected to C(OUT).

PIN Connections

1. Base
2. Emitter
3. Collector

R ₁	R ₂
4.7KΩ	4.7KΩ

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 $I_o - V_{I(ON)}$

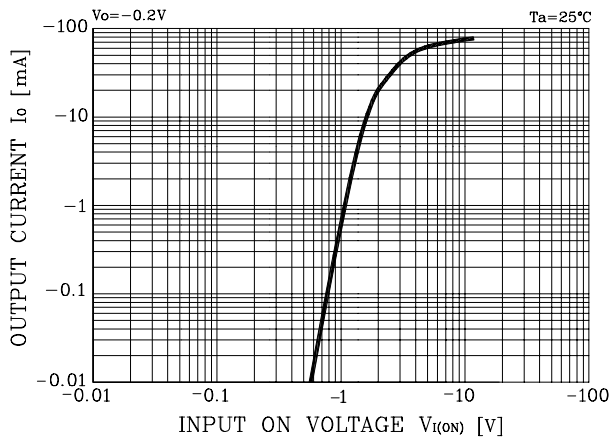


Fig. 2 $I_o - V_{I(OFF)}$

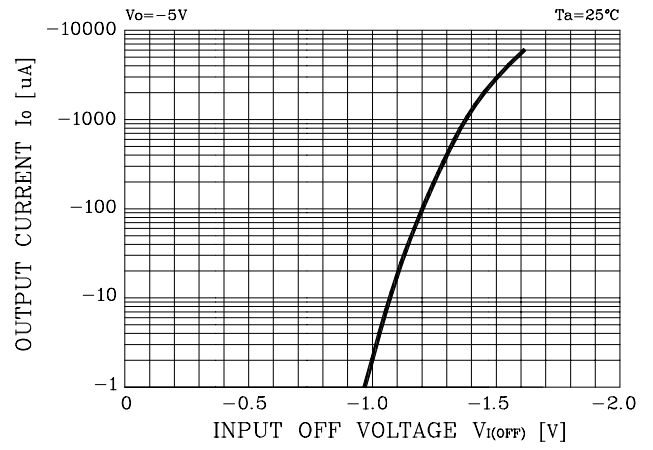


Fig. 3 $G_I - I_o$

