

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
SRC1201SF	RC1	SOT-23F

Outline Dimensions

unit : mm

The mechanical drawing shows the top and side views of the transistor. Key dimensions include: overall width 2.4±0.1 mm, base pin width 1.6±0.1 mm, overall height 2.9±0.1 mm, base pin height 1.90 mm (BSC), emitter pin height 0.4±0.05 mm, and base pin offset 0.15±0.05 mm. The side view shows a base thickness of 0.1±0.1 mm and a total height of 0.9±0.1 mm.

• Equivalent Circuit

The equivalent circuit shows an NPN transistor with an input terminal B(IN) connected to the base through resistor R1. The emitter is connected to a common terminal E(COMMON) through resistor R2. The collector is connected to an output terminal 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 $I_o - V_{I(ON)}$

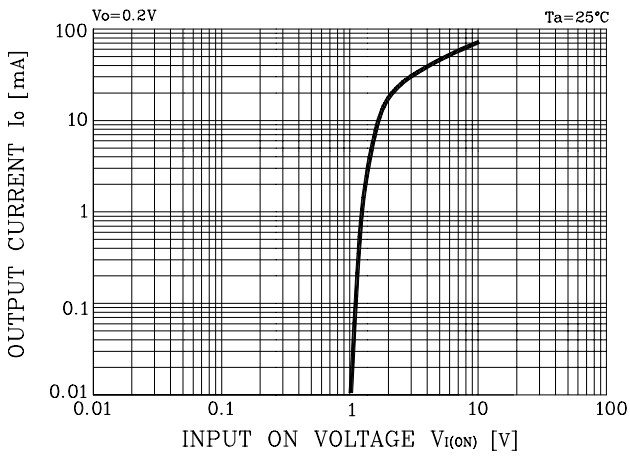


Fig. 2 $I_o - V_{I(OFF)}$

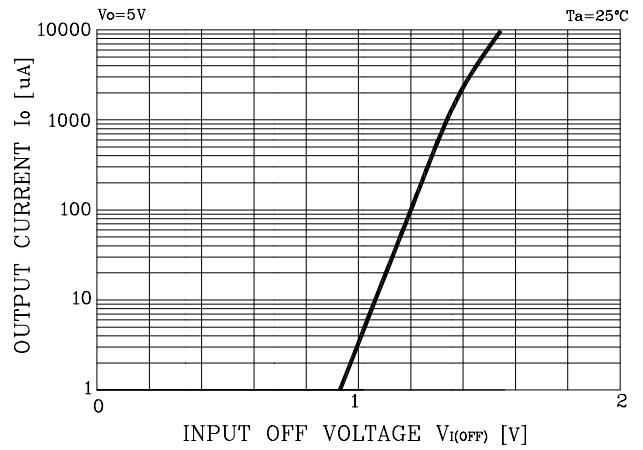


Fig. 3 $G_1 - I_o$

