

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
SRC1202U	R2	SOT-323

Outline Dimensions

unit : mm

The mechanical drawing shows the top and side views of the SOT-323 package. Dimensions include: total width 2.1±0.1 mm, base width 1.25±0.05 mm, total height 2.0±0.2 mm, base height 1.30±0.1 mm, emitter height 0.30±0.1 mm, collector height 0.15±0.05 mm, base thickness 0.90±0.1 mm, and emitter thickness 0~0.1 mm. A minimum lead length of 0.1 mm is also indicated.

• 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). The collector is connected to an output terminal C(OUT). A resistor R2 is connected between the base and emitter.

PIN Connections

1. Base
2. Emitter
3. Collector

R ₁	R ₂
10KΩ	10KΩ

Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Out Voltage	V_O	50	V
Input Voltage	V_I	30	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	$V_O=5V, I_O=10mA$	50	80	-	-
Output Voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O=0.2V, I_O=5mA$	-	1.8	2.4	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	$V_I=5V$	-	-	0.88	mA

* : Characteristic of Transistor Only

Electrical Characteristic Curves

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

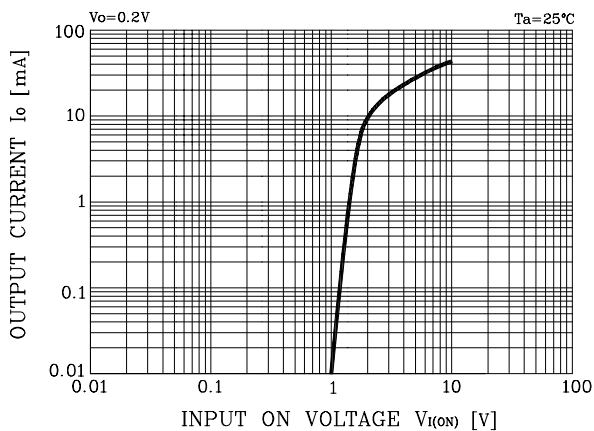


Fig. 2 $I_O - V_{I(OFF)}$

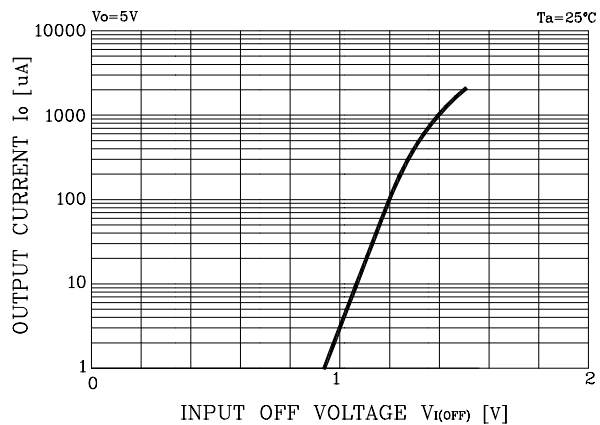


Fig. 3 $G_I - I_O$

