

**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
- Complementary pair with SRA2205N

**Ordering Information**

Type NO.	Marking	Package Code
SRC1205N	SRC1205	TO-92N

**Outline Dimensions**

unit : mm

The mechanical drawing shows the transistor from three perspectives: a top view, a side view, and a bottom view. Dimensions are as follows:

- Top view: width 4.20~4.40 mm, height 4.20~4.40 mm, pin 1 to 2 distance 1.27 Typ., pin 2 to 3 distance 1.27 Typ., total pin width 3.55 Typ., and a circular base diameter of 3.09~3.29 mm.
- Side view: maximum width 2.25 Max., total height 13.50~14.50 mm, and a base thickness of 0.40 Max.
- Bottom view: shows the three pins labeled 1, 2, and 3.

The equivalent circuit diagram shows an NPN transistor with an input terminal (IN) connected to the base through a resistor R<sub>1</sub>. The emitter is connected to a common terminal (COMMON) through a resistor R<sub>2</sub>. The collector is connected to an output terminal (OUT).

R <sub>1</sub>	R <sub>2</sub>
2.2KΩ	47KΩ

**PIN Connections**

1. COMMON
2. OUT
3. IN

## Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Output voltage	$V_O$	50	V
Input voltage	$V_I$	15,-5	V
Output current	$I_O$	100	mA
Power dissipation	$P_D$	400	mW
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{stg}$	-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	$G_I$	$V_O=5V, I_O=10mA$	80	200	-	-
Output voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=0.2V, I_O=5mA$	-	-	1.1	V
Input voltage (OFF)	$V_{I(OFF)}$	$V_O=5V, I_O=0.1mA$	0.5	-	-	V
Transition frequency	$f_T^*$	$V_O=10V, I_O=5mA, f=1MHz$	-	200	-	MHz
Input current	$I_I$	$V_I=5V, I_O=0$	-	-	3.6	mA
Input resistor (Input to base)	$R_1$	-	1.54	2.2	2.86	K $\Omega$
Input resistor (Base to common)	$R_2$	-	33	47	61	K $\Omega$

\* : Characteristic of transistor only

Electrical Characteristic Curves

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

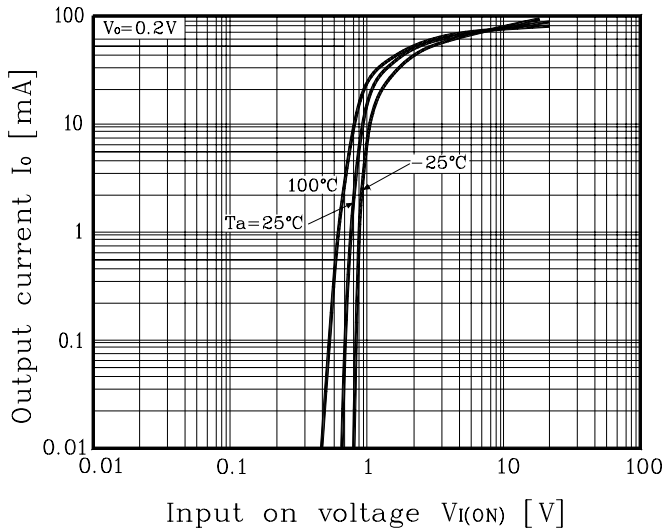


Fig. 2  $I_O - V_{I(OFF)}$

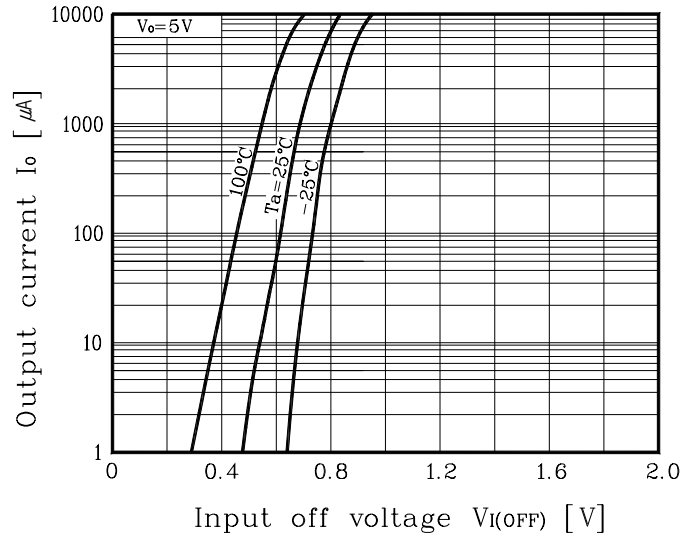
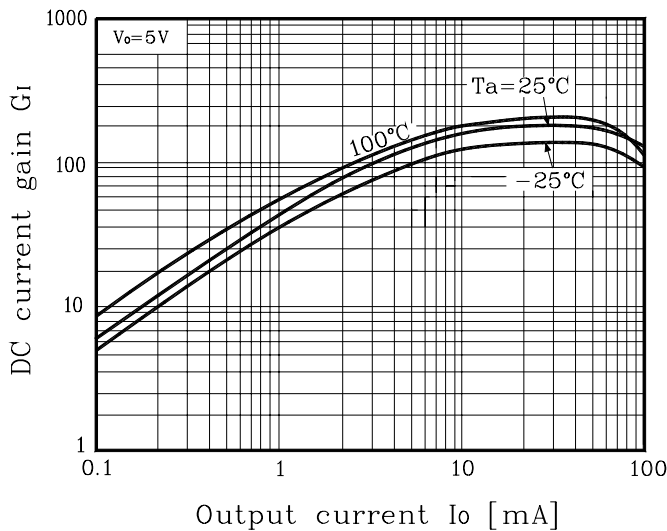


Fig. 3  $G_I - I_O$



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