

## Descriptions

- Switching application
- Interface circuit and driver circuit application

## Features

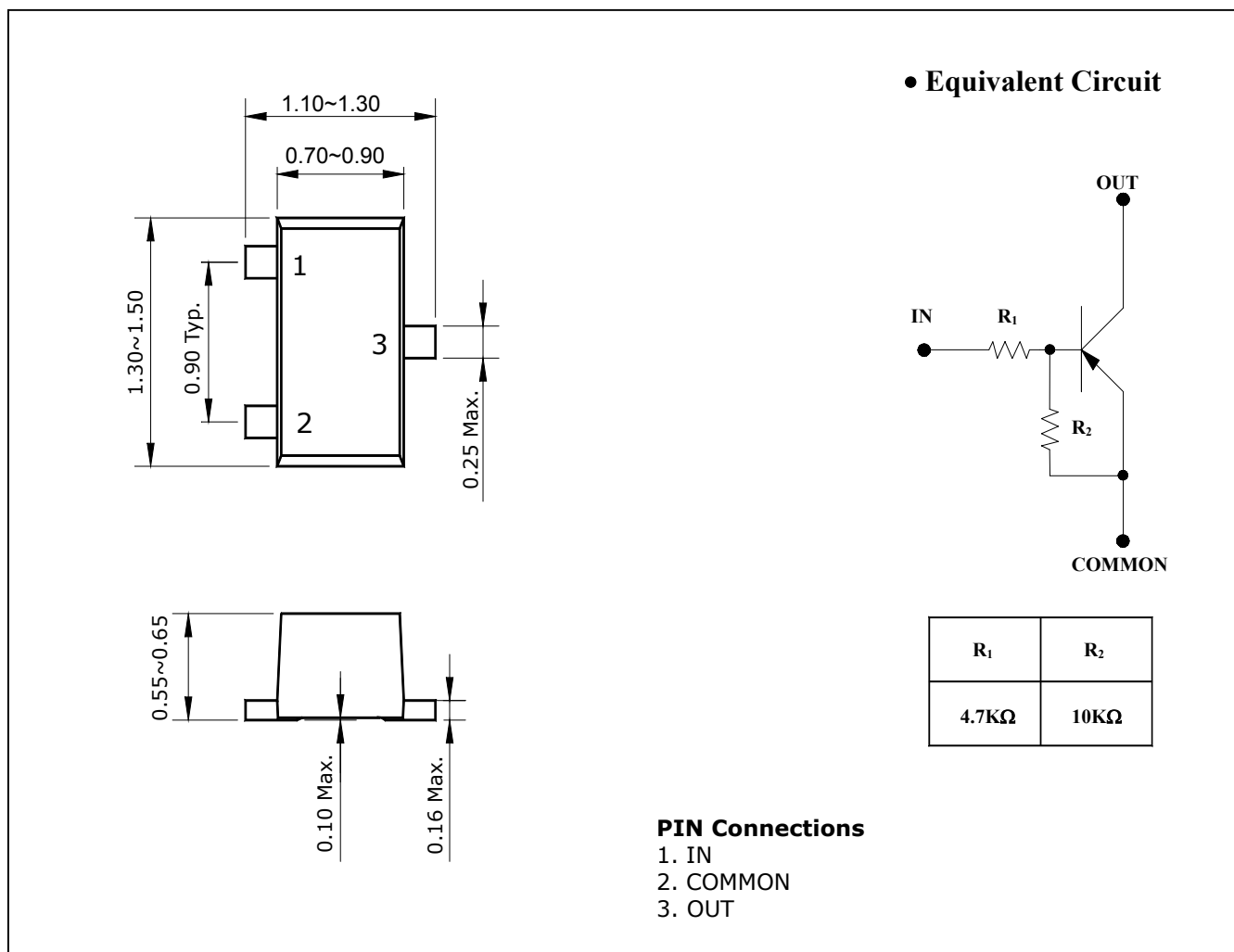
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

## Ordering Information

Type NO.	Marking	Package Code
SRA2219K	CR	SOT-623F

## Outline Dimensions

unit : mm



The image shows the mechanical dimensions and electrical equivalent circuit for the SRA2219K PNP Silicon Transistor. The dimensions are provided in millimeters. The top view shows a rectangular package with a height of 1.30~1.50 mm. The width is 1.10~1.30 mm, and the distance between the two side pins is 0.70~0.90 mm. The distance from the top edge to the top pin is 0.90 Typ. The distance from the bottom edge to the bottom pin is 0.25 Max. The side view shows a height of 0.55~0.65 mm, a base width of 0.10 Max., and a pin width of 0.16 Max. The equivalent circuit diagram shows a PNP transistor with an input terminal (IN) connected to the base through a resistor R<sub>1</sub>, an output terminal (OUT) connected to the emitter, and a common terminal (COMMON) connected to the collector. A resistor R<sub>2</sub> is connected between the base and the common terminal. A table below the diagram specifies the values for R<sub>1</sub> and R<sub>2</sub>.

**• Equivalent Circuit**

R <sub>1</sub>	R <sub>2</sub>
4.7KΩ	10KΩ

**PIN Connections**

1. IN
2. COMMON
3. OUT

## Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Output voltage	$V_O$	-50	V
Input voltage	$V_I$	-20, 7	V
Output current	$I_O$	-100	mA
Power dissipation	$P_D$	100	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	$G_I$	$V_O=-5V, I_O=-10mA$	30	-	-	-
Output voltage	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=-0.2V, I_O=-5mA$	-	-1.2	-1.6	V
Input voltage (OFF)	$V_{I(OFF)}$	$V_O=-5V, I_O=-0.1mA$	-0.5	-0.82	-	V
Transition frequency	$f_T^*$	$V_O=-10V, I_O=-5mA, f=1MHz$	-	200	-	MHz
Input current	$I_I$	$V_I=-5V, I_O=0$	-	-	-1.8	mA
Input resistor (Input to base)	$R_1$	-	3.3	4.7	6.1	K $\Omega$
Input resistor (Base to common)	$R_2$	-	7	10	13	K $\Omega$

\* : Characteristic of transistor only

## Electrical Characteristic Curves

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

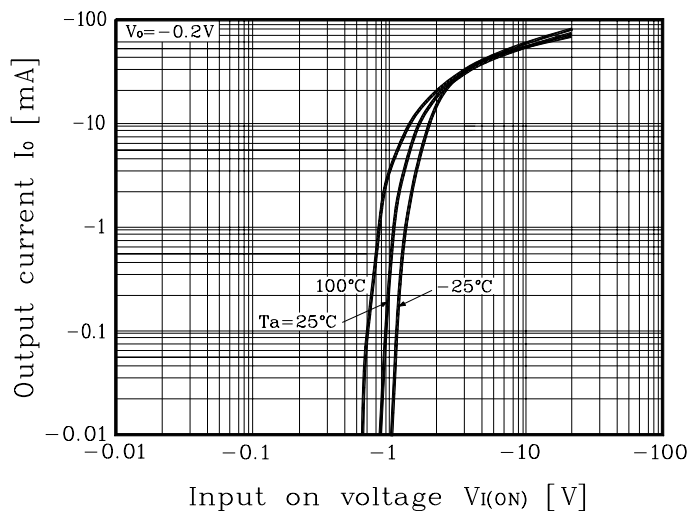


Fig. 2  $I_O - V_{I(OFF)}$

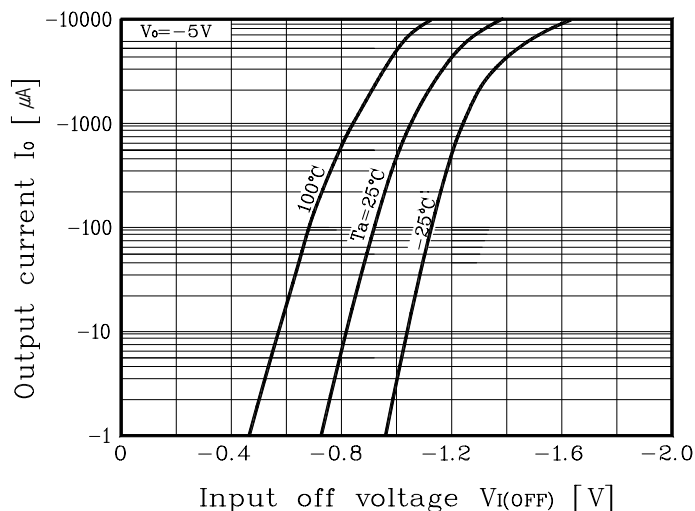
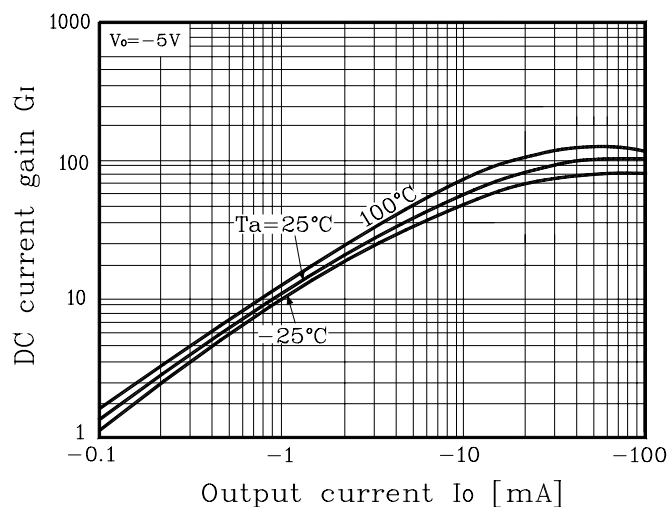


Fig. 3  $G_I - I_O$



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