

### 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
SRA2219E	CR	SOT-523

### Outline Dimensions

unit : mm

The mechanical drawing shows the top and side views of the SOT-523 package. The top view dimensions are: total width 1.60±0.1 mm, distance from left edge to base pin center 1.00 BSC mm, distance from left edge to emitter pin center 1.60±0.1 mm, distance from left edge to collector pin center 0.80±0.1 mm, and distance from emitter pin center to collector pin center 0.2-0.3 mm. The side view dimensions are: maximum height 0-0.1 mm, base width 0.70±0.1 mm, and minimum base thickness 0.15 Min. mm. The base thickness is also noted as 0.1 Min. mm.

**• Equivalent Circuit**

The equivalent circuit shows a PNP transistor with the base terminal (B(IN)) connected to a resistor R1. The emitter terminal (E(COMMON)) is connected to a resistor R2. The collector terminal (C(OUT)) is the output. The emitter is connected to ground.

**PIN Connections**

1. Base
2. Emitter
3. Collector

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

## 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	$P_D$	150	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	-	-	-
Output Voltage	$V_{O(ON)}$	$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O = -0.3V, I_O = -20mA$	-	-1.76	-2.5	V
Input Voltage (OFF)	$V_{I(OFF)}$	$V_O = -5V, I_O = -0.1mA$	-0.3	-0.82	-	V
Transition Frequency	$f_T^*$	$V_O = -10V, I_O = -5mA$	-	250	-	MHz
Input Current	$I_I$	$V_I = -5V$	-	-	-1.8	mA

\* : Characteristic of Transistor Only

Electrical Characteristic Curves

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

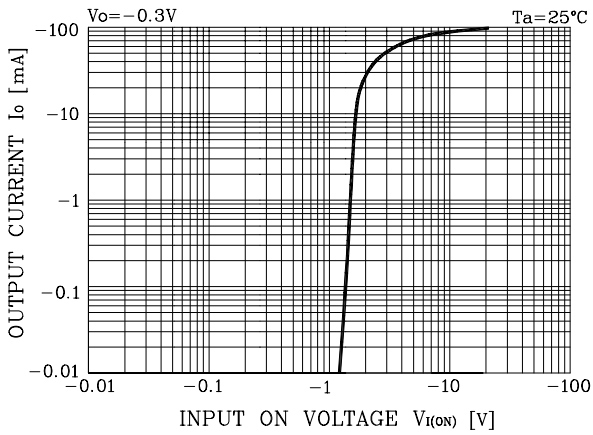


Fig. 2  $I_o - V_{I(OFF)}$

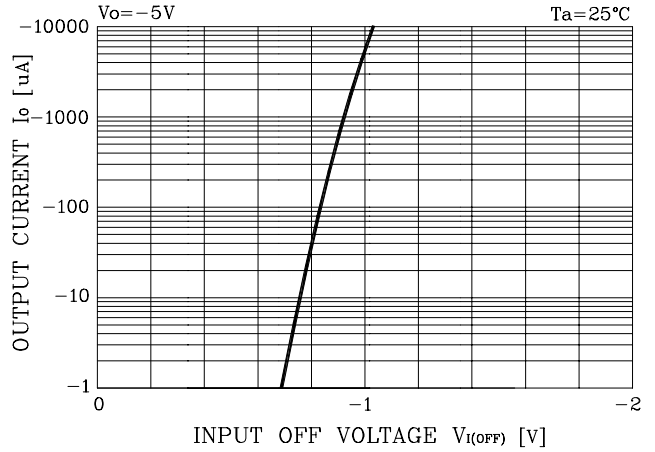


Fig. 3  $G_I - I_o$

