

## Description

- Digital transistor

## Features

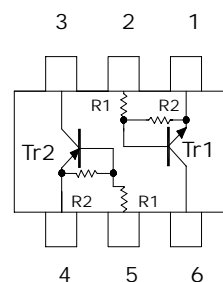
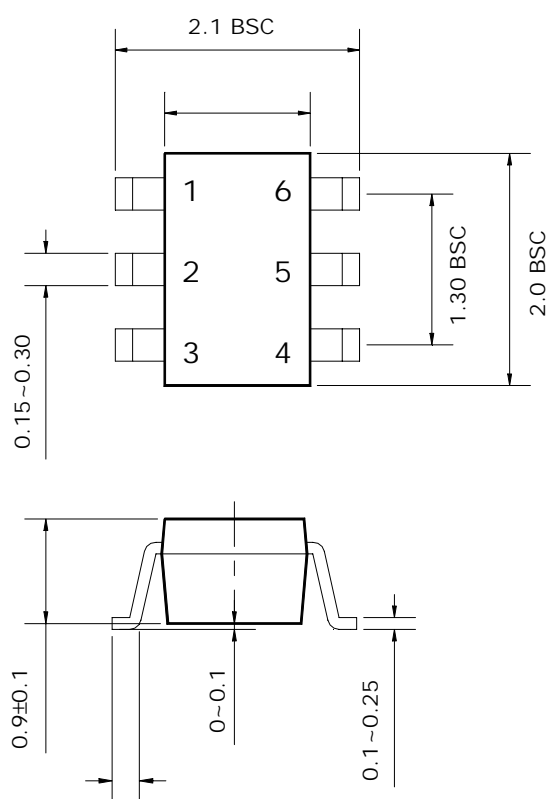
- Both SRC1203 chips and SRA2203 chip in SOT-363 package
- With built-in bias resistors

## Ordering Information

Type NO.	Marking	Package Code
SUR551J	51J	SOT-363

## Outline Dimensions

unit : mm



	R <sub>1</sub>	R <sub>2</sub>
Tr1	22KΩ	22KΩ
Tr2	22KΩ	22KΩ

### PIN Connections

1. Emitter 1
2. Base 1
3. Collector 2
4. Emitter 2
5. Base 2
6. Collector 1

## Absolute maximum ratings [ Tr1:NPN ]

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Out Voltage	$V_O$	50	V
Input Voltage	$V_I$	40	V
Out Current	$I_O$	100	mA
Power Dissipation	$P_D$	625	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55 ~ 150	°C

## Electrical Characteristics [ Tr1:NPN ]

(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	$G_I$	$V_O=5V, I_O=10mA$	70	120	-	-
Output Voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O=0.2V, I_O=5mA$	-	2.1	3.0	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	$I_I$	$V_I=5V$	-	-	0.36	mA

\* : Characteristic of Transistor Only

## Absolute maximum ratings [ Tr2 : PNP ]

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Out Voltage	$V_O$	-50	V
Input Voltage	$V_I$	-40	V
Out Current	$I_O$	-100	mA
Power Dissipation	$P_D$	400	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55 ~ 150	°C

## Electrical Characteristics [ Tr2 : PNP ]

(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	$G_I$	$V_O=-5V, I_O=-10mA$	70	120	-	-
Output Voltage	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O=-0.2V, I_O=-5mA$	-	-2.1	-3.0	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	$I_I$	$V_I=-5V$	-	-	-0.36	mA

\* : Characteristic of Transistor Only

# Electrical Characteristic Curves

[ Tr1 : NPN ]

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

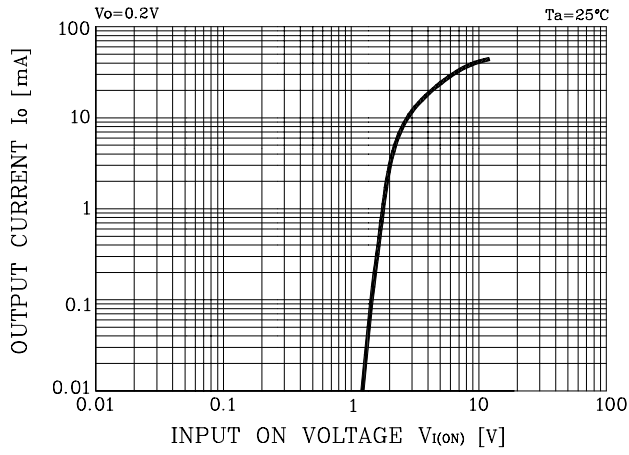


Fig. 2  $I_O - V_{I(OFF)}$

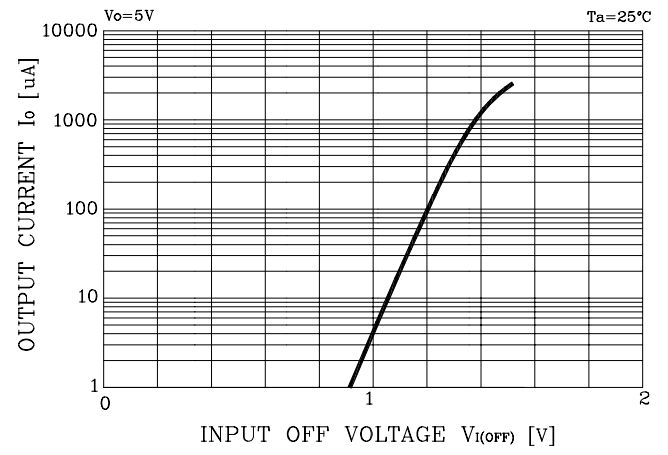
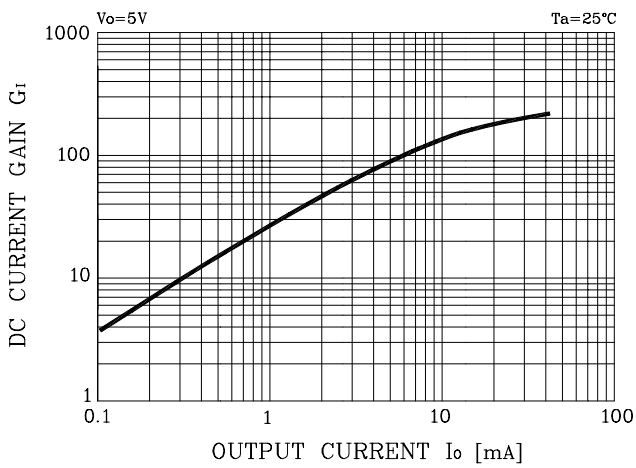


Fig. 3  $G_I - I_O$



# Electrical Characteristic Curves

[ Tr2 : PNP ]

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

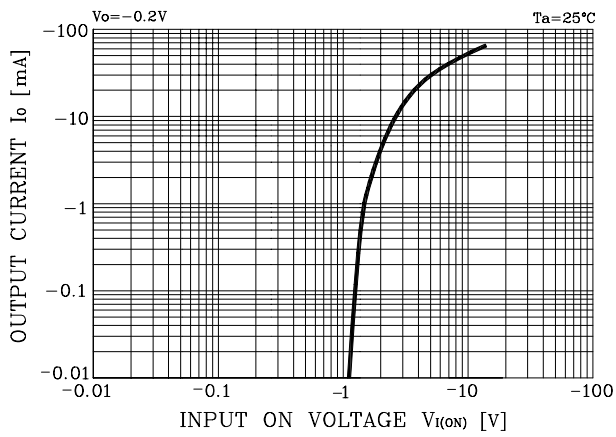


Fig. 2  $I_o - V_{I(OFF)}$

