

## Description

- Digital transistor

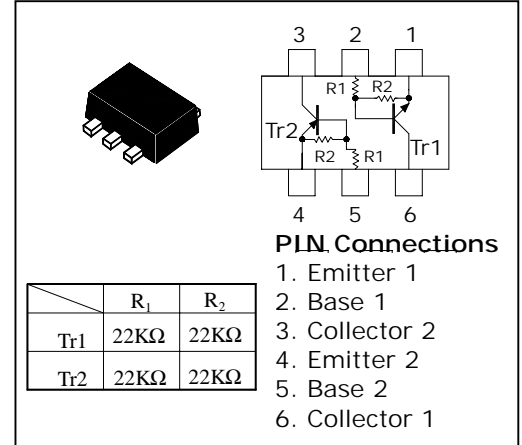
## Features

- Both SRC1203 chip and SRA2203. chip in SOT-563F package
- With built-in bias resistors

## Ordering Information

Type No.	Marking	Package Code
SUR512EF	CX	SOT-563F

## Outline



## Absolute maximum ratings (Tr1, Tr2)

T<sub>a</sub>=25°C

Characteristic	Symbol	Ratings		Unit
		Tr1	Tr2	
Out Voltage	V <sub>O</sub>	50	-50	V
Input Voltage	V <sub>I</sub>	40	-40	V
Out Current	I <sub>O</sub>	100	-100	mA
Power Dissipation	P <sub>D</sub>	100		mW
Junction Temperature	T <sub>J</sub>	150		°C
Storage Temperature	T <sub>STG</sub>	-55 ~ 150		°C

## Electrical Characteristics(Tr1 : NPN)

T<sub>a</sub>=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Cut-off Current	I <sub>O(OFF)</sub>	V <sub>O</sub> =50V, V <sub>I</sub> =0	-	-	500	nA
DC Current Gain	G <sub>I</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =10mA	70	120	-	-
Output Voltage	V <sub>O(ON)</sub>	I <sub>O</sub> =10mA, I <sub>I</sub> =0.5mA	-	0.1	0.3	V
Input Voltage (ON)	V <sub>I(ON)</sub>	V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA	-	2.1	3.0	V
Input Voltage (OFF)	V <sub>I(OFF)</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA	1.0	1.2	-	V
Transition Frequency	f <sub>T</sub> *	V <sub>O</sub> =10V, I <sub>O</sub> =5mA	-	200	-	MHz
Input Current	I <sub>I</sub>	V <sub>I</sub> =5V	-	-	0.36	mA

\* : Characteristic of Transistor Only

**Electrical Characteristics**(Tr2 : PNP)

Ta=25°C

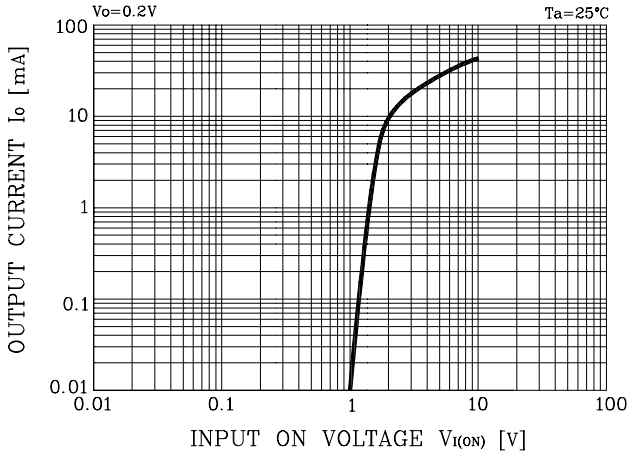
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Cut-off Current	$I_{O(OFF)}$	$V_O = -50V, V_I = 0$	-	-	-500	nA
DC Current Gain	$G_I$	$V_O = -5V, I_O = -10mA$	70	120	-	-
Output Voltage	$V_{O(ON)}$	$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O = -0.2V, I_O = -5mA$	-	-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

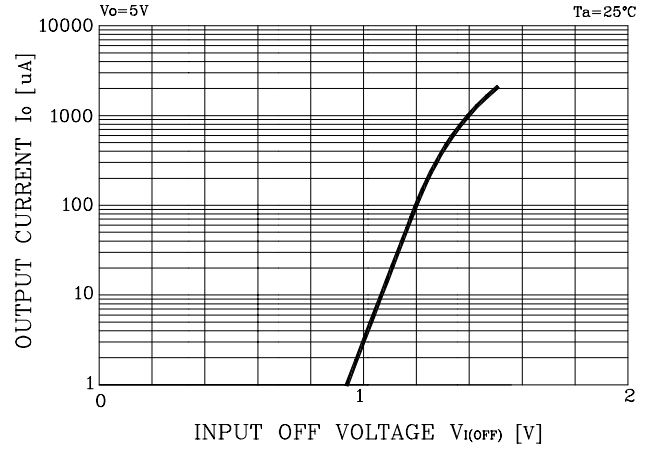
**Electrical Characteristic Curves**

**Tr1 : NPN**

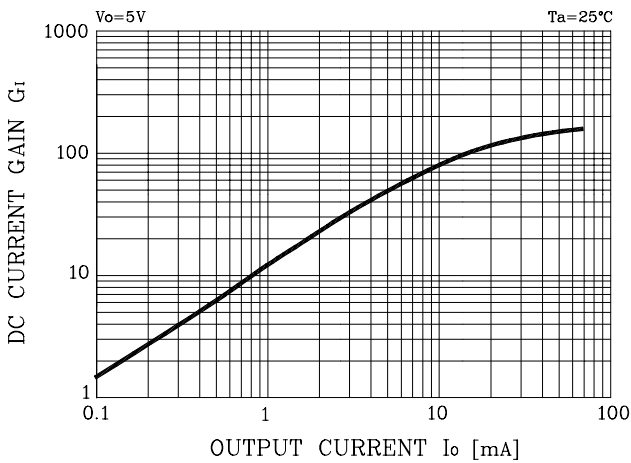
**Fig. 1  $I_o - V_{I(ON)}$**



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

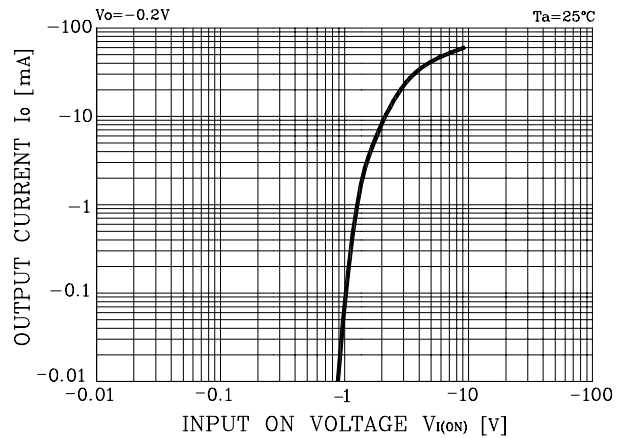


**Fig. 3  $G_I - I_o$**

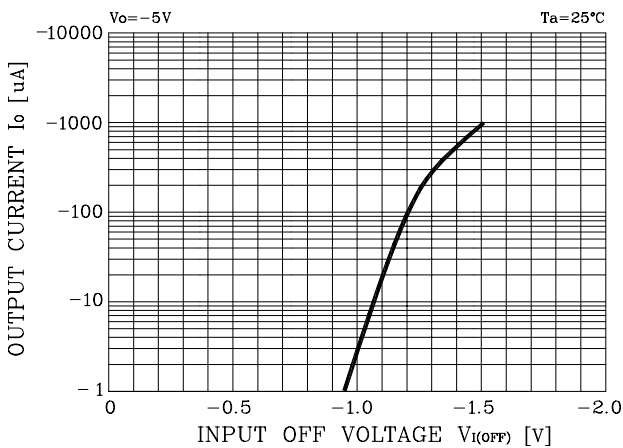


**Tr2 : PNP**

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



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



**Fig. 3  $G_I - I_o$**

