SUR551J

AUK Semiconductor

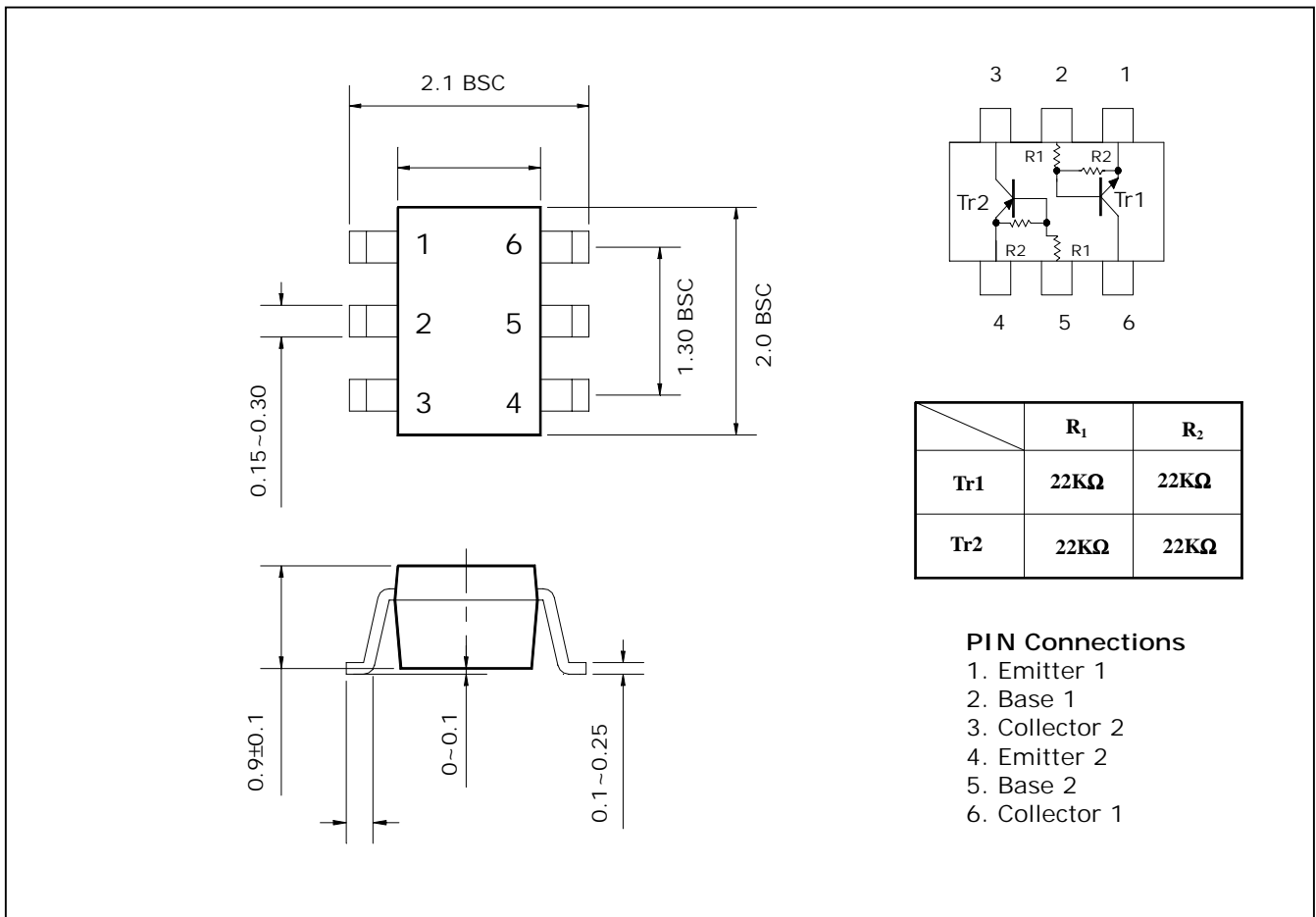Epitaxial Planar Type PNP Silicon Transistor

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_1	R_2
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 - $V_{I(ON)}$
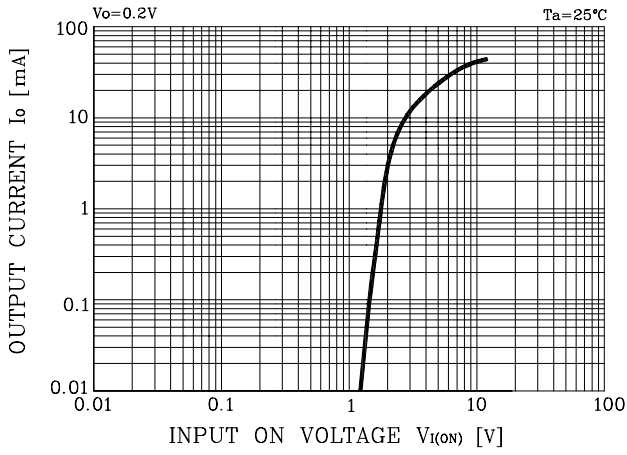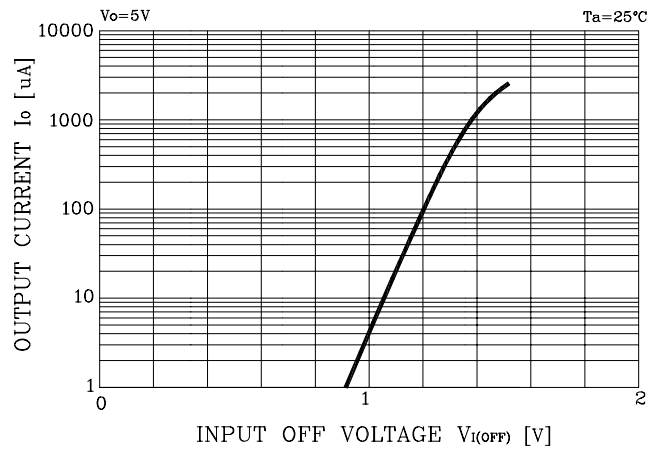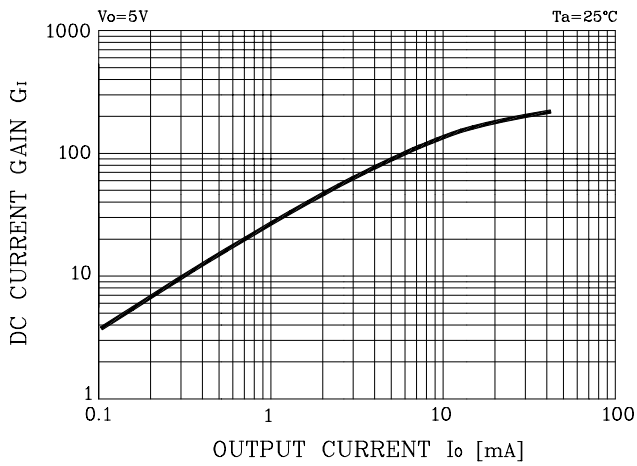

Fig. 2 I_O - $V_{I(OFF)}$

Fig. 3 G_I - I_O

Electrical Characteristic Curves
[Tr2 : PNP]
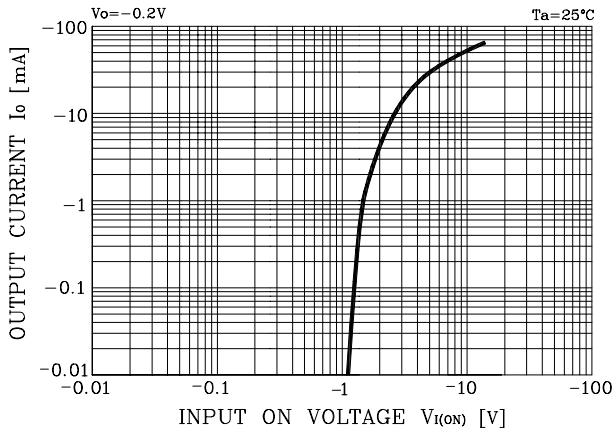
Fig. 1 I_O - $V_{I(ON)}$

Vo=−0.2V   Ta=25°C

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

Vo=−5V   Ta=25°C

Vo=−5V   Ta=25°C