AUK Semiconductor

SUR501J

NPN/PNP Epitaxial Planar type Silicon Transistor

Descriptions

- Digital transistor

Features

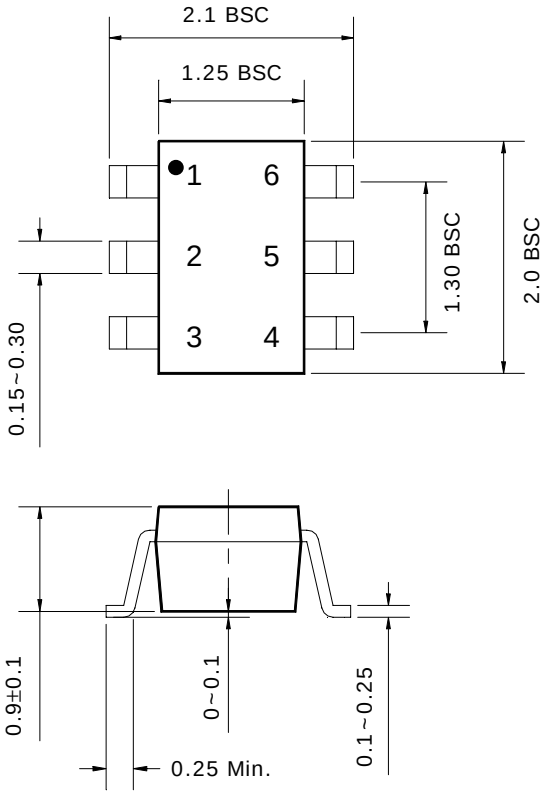
- Both SRC1207 and SRA2207 Chips in SOT-363 package
- With built-in bias resistors

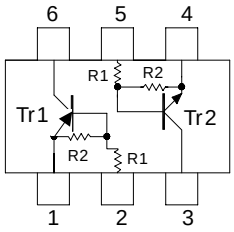
Ordering Information

Type NO.	Marking	Package Code
SUR501J	GX	SOT-363

Outline Dimensions

unit : mm





	R_1	R_2
Tr1	10KΩ	47KΩ
Tr2	10KΩ	47KΩ

PIN Connections

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

Absolute maximum ratings (Tr1, Tr2)

Ta=25°C

Characteristic	Symbol	Ratings		Unit
		Tr1	Tr2	
Out Voltage	V_O	-50	50	V
Input Voltage	V_I	-30	30	V
Out Current	I_O	-100	100	mA
Power Dissipation	P_D	150		mW
Junction Temperature	T_J	150		°C
Storage Temperature	T_{STG}	-55 ~ 150		°C

Electrical Characteristics(Tr1 : 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	80	150	-	-
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	-	-	-1.8	V
Input Voltage (OFF)	$V_{I(OFF)}$	V_O=-5V, I_O=-0.1mA	-0.5	-	-	V
Transition Frequency	f_T*	V_O=-10V, I_O=-5mA	-	200	-	MHz
Input Current	I_I	V_I=-5V	-	-	-0.88	mA

* : Characteristic of Transistor Only

Electrical Characteristics(Tr2 : 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	80	150	-	-
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	-	-	1.8	V
Input Voltage (OFF)	$V_{I(OFF)}$	V_O= 5V, I_O= 0.1mA	0.5	-	-	V
Transition Frequency	f_T*	V_O= 10V, I_O= 5mA	-	200	-	MHz
Input Current	I_I	V_I= 5V	-	-	0.88	mA

* : Characteristic of Transistor Only

Electrical Characteristic Curves

Tr1 : PNP

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

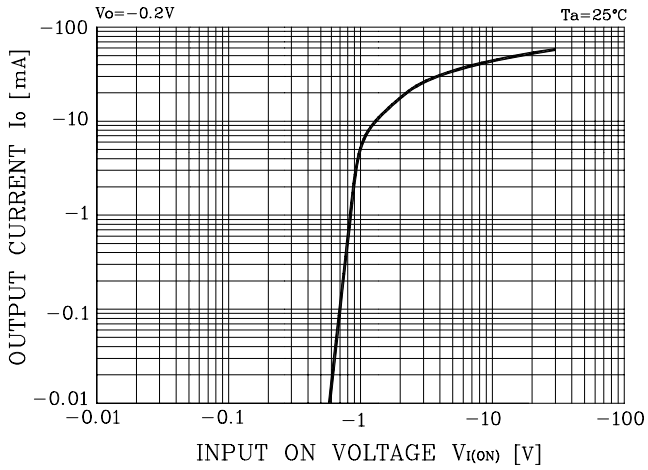
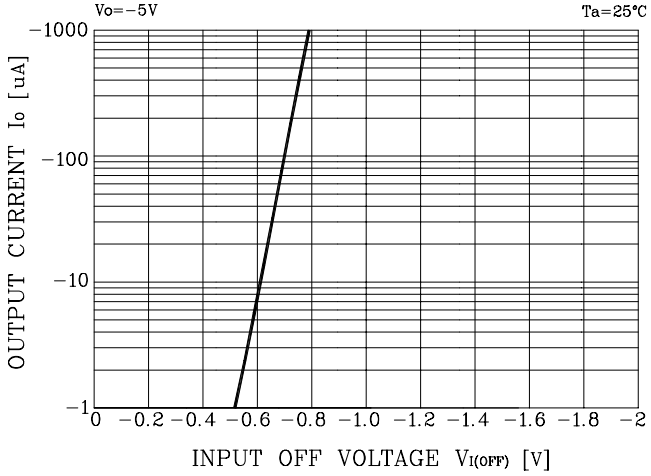


Fig. 2 I_O - $V_{I(OFF)}$



Tr2 : NPN

Fig. 3 G_I - I_O

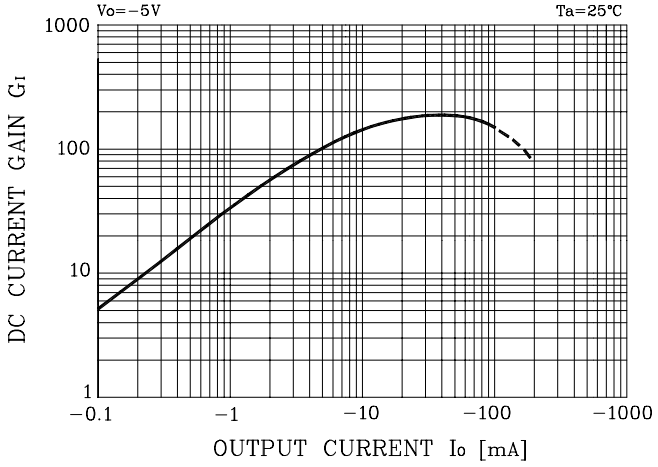


Fig. 1 I_O - $V_{I(ON)}$

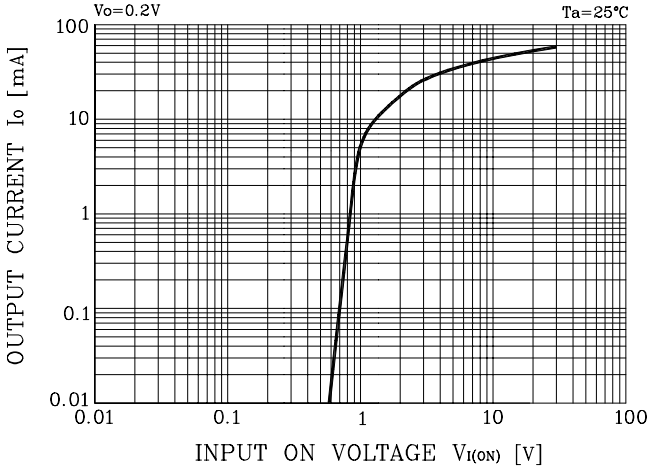


Fig. 2 I_O - $V_{I(OFF)}$

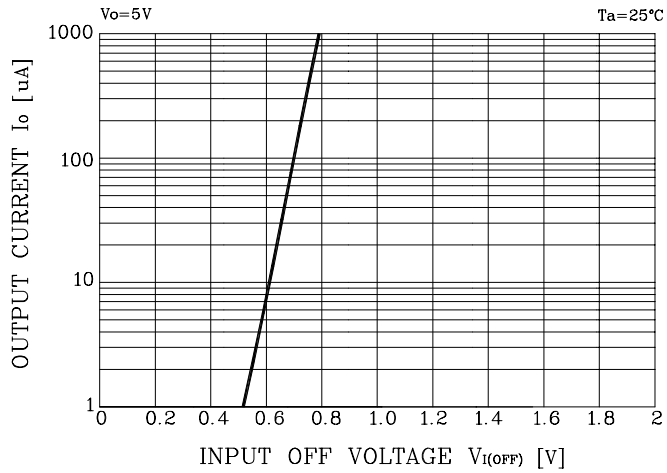


Fig. 3 G_I - I_O