



SUR498H

NPN/PNP epitaxial planar Silicon Transistor

Description

- General purpose transistor

Features

- Both SRC1203 chip and SRA2203 chip in SOT-353 package
- With built-in bias resistors

Ordering Information

Type NO.	Marking	Package Code
SUR498H	X9	SOT-353

Outline Dimensions

unit : mm

Technical drawing showing the outline dimensions of the SUR498H transistor in SOT-353 package. Dimensions are in mm.

Top view dimensions:

- Overall width: 2.1 BSC
- Distance from left edge to pin 1: 1.25 BSC
- Distance from left edge to pin 2: 0.15 ~ 0.30
- Distance from left edge to pin 3: 0.15 ~ 0.30
- Distance from left edge to pin 4: 1.30 BSC
- Distance from left edge to pin 5: 2.0 BSC

Side view dimensions:

- Height: 0.9 ± 0.1
- Base thickness: 0 ~ 0.1
- Lead thickness: 0.1 ~ 0.25
- Lead width: 0.25 Min.

Internal circuit diagram shows two transistors, Tr1 and Tr2, with bias resistors R1 and R2. Pin connections are: 1. Emitter 1, 2. Base 1, 3. Emitter 2, 4. Collector 2, 5. Collector 1 Base 2.

	R ₁	R ₂
Tr1	22KΩ	22KΩ
Tr2	22KΩ	22KΩ

PIN Connections

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



SUR498H

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	40	-40	V
Out Current	I_o	100	-100	V
Power Dissipation	P_D	150		mA
Junction Temperature	T_J	150		mW
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

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 $I_O - V_{I(ON)}$

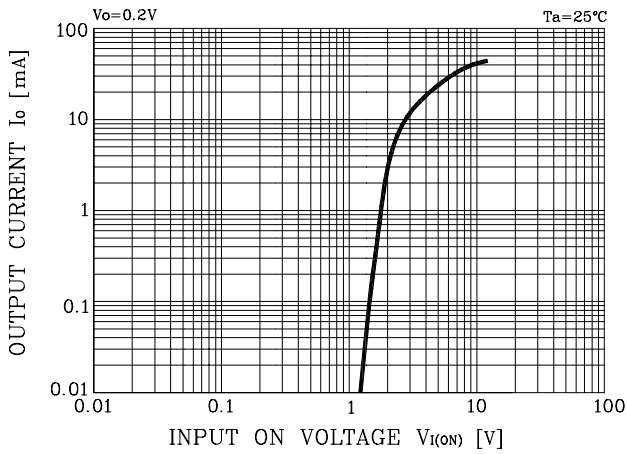


Fig. 2 $I_O - V_{I(OFF)}$

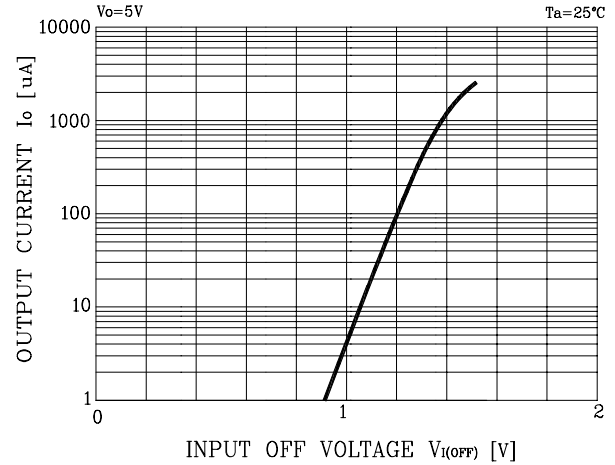
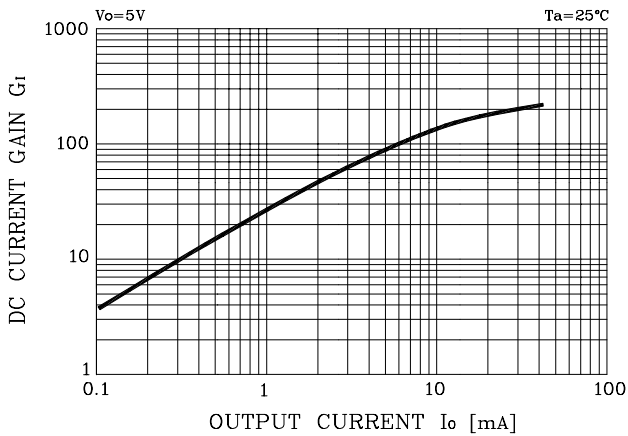


Fig. 3 $G_I - I_O$



Tr2 : PNP

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

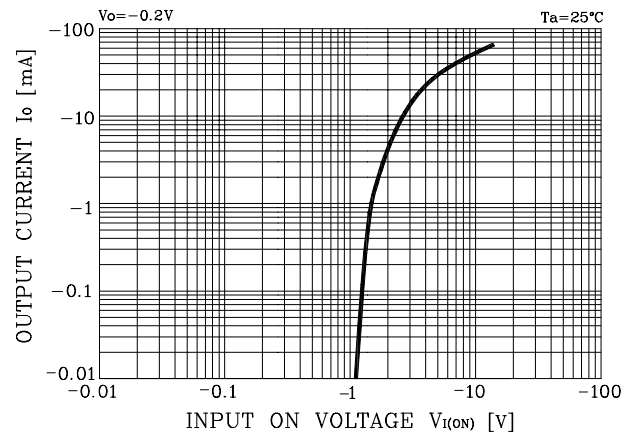


Fig. 2 $I_O - V_{I(OFF)}$

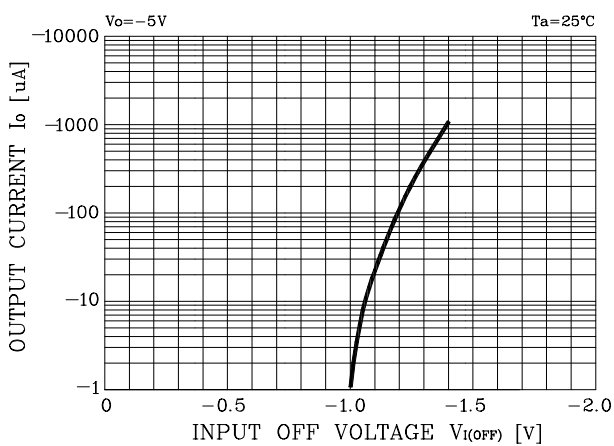


Fig. 3 $G_I - I_O$

