



SUR496H

NPN/PNP Epitaxial Planar Silicon Transistor

Description

- General Purpose Transistor

Features

- Both SRC1204 chip and SRA2207 chip in SOT-353 package
- With Built-in Bias Resistors

Ordering Information

Type NO.	Marking	Package Code
SUR496H	X7	SOT-353

Outline Dimensions

unit : mm

Technical drawing showing the outline dimensions of the SUR496H transistor in the SOT-353 package. The drawing includes a top view, a side view, and an internal circuit diagram. Dimensions are provided in millimeters (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:

- Maximum height: 0.9 ± 0.1
- Minimum base thickness: 0 ~ 0.1
- Minimum lead thickness: 0.1 ~ 0.25
- Minimum lead length: 0.25 Min.

Internal Circuit Diagram:

The internal circuit diagram shows two transistors, Tr1 and Tr2, with built-in bias resistors R1 and R2. The connections are as follows:

- Pin 1: Emitter 1
- Pin 2: Base 1
- Pin 3: Emitter 2
- Pin 4: Collector 2
- Pin 5: Collector 1

	R ₁	R ₂
Tr1	47KΩ	47KΩ
Tr2	10KΩ	47KΩ

PIN Connections

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

Base 2



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	-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 : 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	200	-	-
Output Voltage	$V_{O(ON)}$	$I_o=10mA, I_i=0.5mA$	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_o=0.2V, I_o=5mA$	-	2.8	5.0	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	$V_i=5V$	-	-	0.18	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	$V_o=-5V, I_o=-10mA$	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 : NPN

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

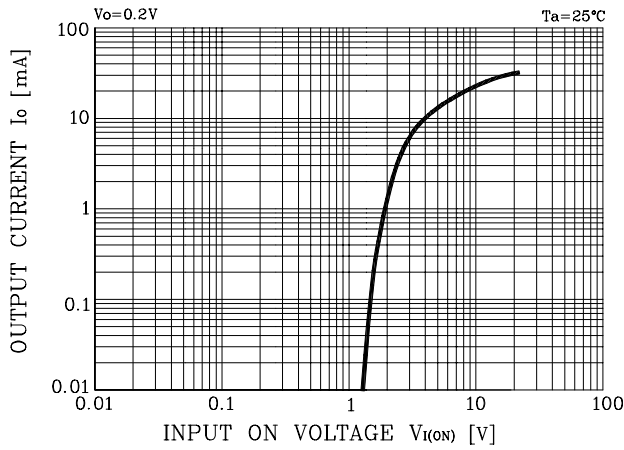


Fig. 2 $I_O - V_{I(OFF)}$

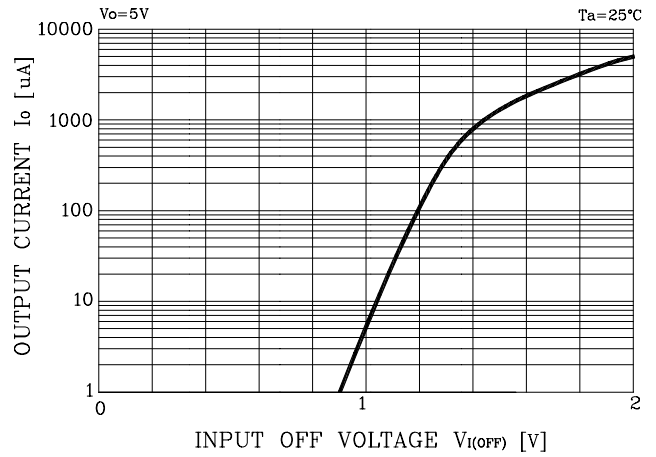
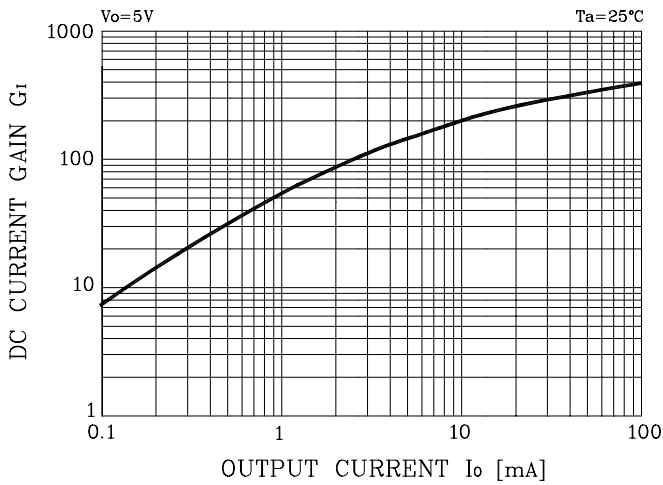


Fig. 3 $G_I - I_O$



Tr2 : PNP

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

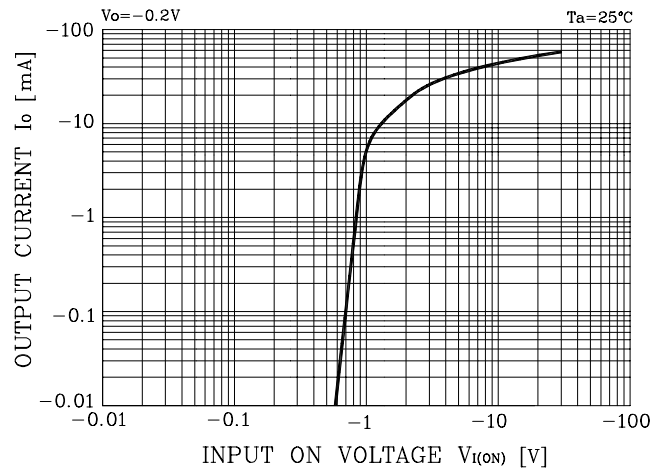


Fig. 2 $I_O - V_{I(OFF)}$

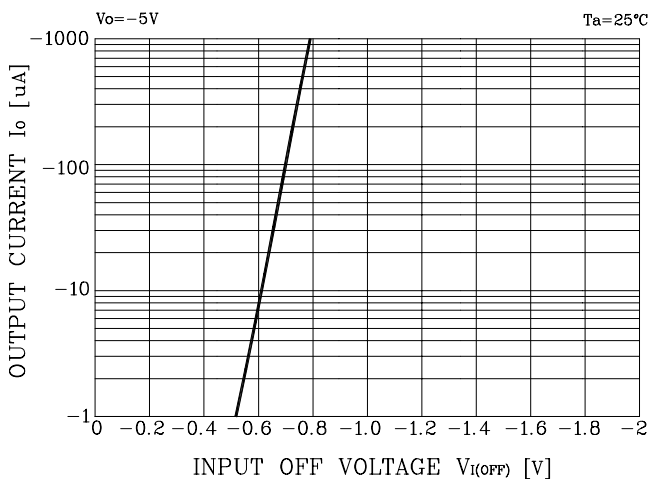


Fig. 3 $G_I - I_O$

