

## Description

- Dual chip digital transistor

## Features

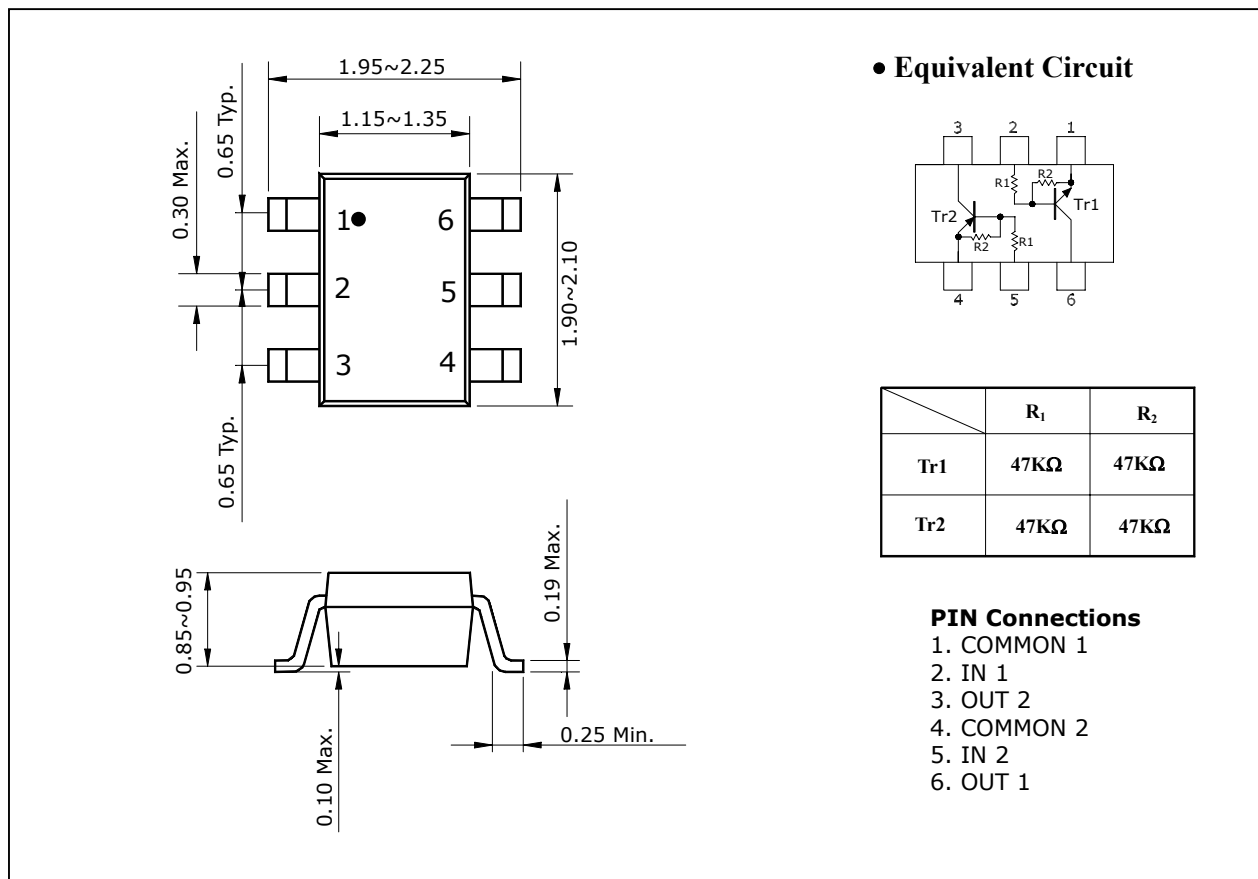
- Both SRC1204 chips and SRA2204 chip in SOT-363 package
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

## Ordering Information

Type NO.	Marking	Package Code
SUR552J	52J	SOT-363

## Outline Dimensions

unit : mm



• Equivalent Circuit

	R <sub>1</sub>	R <sub>2</sub>
Tr1	47KΩ	47KΩ
Tr2	47KΩ	47KΩ

**PIN Connections**

1. COMMON 1
2. IN 1
3. OUT 2
4. COMMON 2
5. IN 2
6. OUT 1

## Absolute Maximum Ratings [Tr1, Tr2]

(Ta=25°C)

Characteristic	Symbol	Rating		Unit
		Tr1	Tr2	
Output voltage	$V_O$	50	-50	V
Input voltage	$V_I$	40, -10	-40, 10	V
Output current	$I_O$	100	-100	mA
Power dissipation	$P_D^*$	200		mW
Junction temperature	$T_J$	150		°C
Storage temperature Range	$T_{stg}$	-55 ~ 150		°C

※ : Total rating

## Electrical Characteristics [Tr1]

(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	$f_T^*$	$V_O=10V, I_O=5mA, f=1MHz$	-	200	-	MHz
Input current	$I_I$	$V_I=5V, I_O=0$	-	-	0.18	mA
Input resistor (Input to base)	$R_1$	-	33	47	61	K $\Omega$
Input resistor (Base to common)	$R_2$	-	33	47	61	K $\Omega$

\* : Characteristic of transistor only

## Electrical Characteristics [Tr2]

(Ta=25°C)

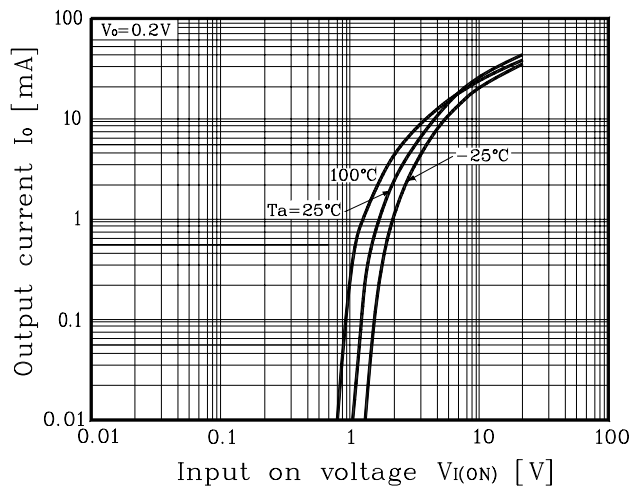
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output cut-off current	$I_{O(OFF)}$	$V_O=-50V, V_I=0$	-	-	-500	nA
DC current gain	$G_I$	$V_O=-5V, I_O=-10mA$	80	200	-	-
Output voltage	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=-0.2V, I_O=-5mA$	-	-2.8	-5.0	V
Input voltage (OFF)	$V_{I(OFF)}$	$V_O=-5V, I_O=-0.1mA$	-1.0	-1.2	-	V
Transition frequency	$f_T^*$	$V_O=-10V, I_O=-5mA, f=1MHz$	-	200	-	MHz
Input current	$I_I$	$V_I=-5V, I_O=0$	-	-	-0.18	mA
Input resistor (Input to base)	$R_1$	-	33	47	61	K $\Omega$
Input resistor (Base to common)	$R_2$	-	33	47	61	K $\Omega$

\* : Characteristic of transistor only

Electrical Characteristic Curves

[Tr1]

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



[Tr2]

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

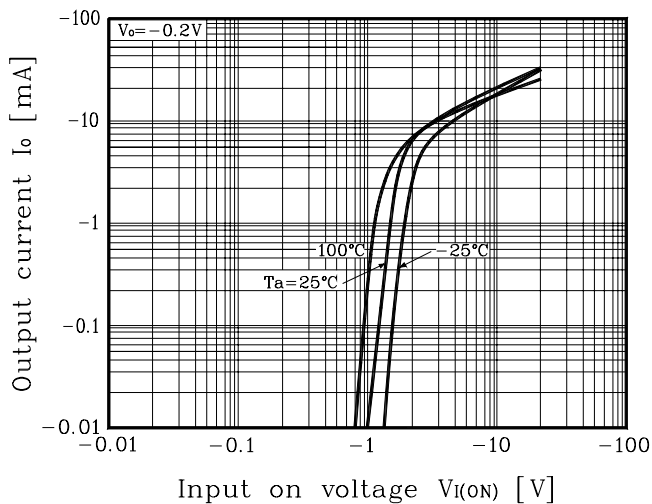


Fig. 2  $I_O - V_{I(OFF)}$

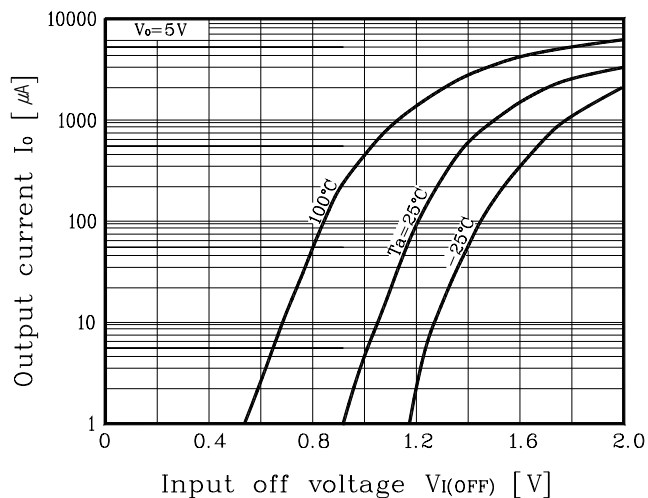


Fig. 2  $I_O - V_{I(OFF)}$

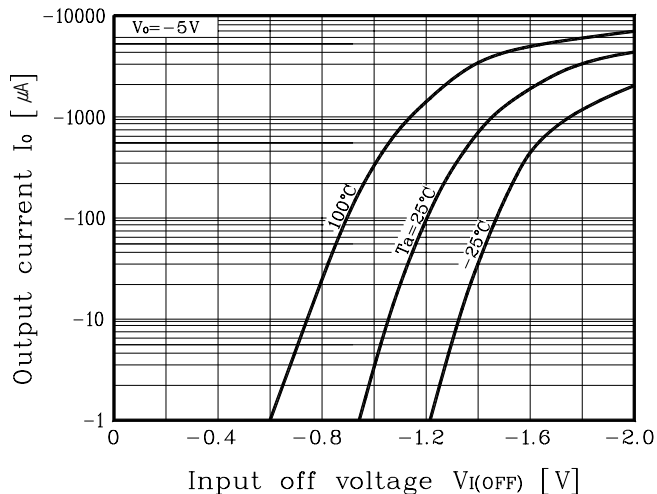


Fig. 3  $G_I - I_O$

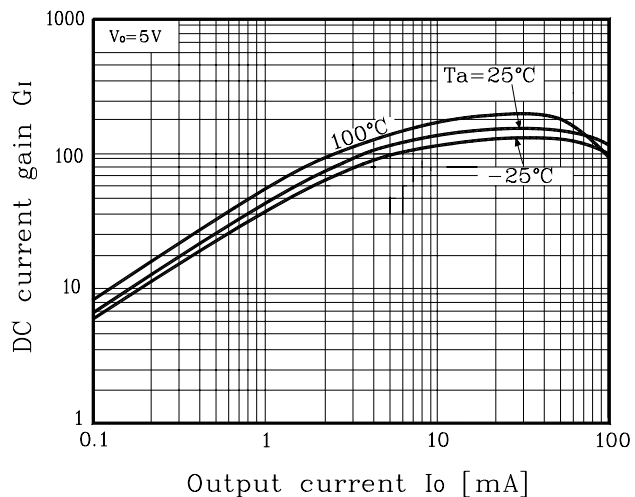
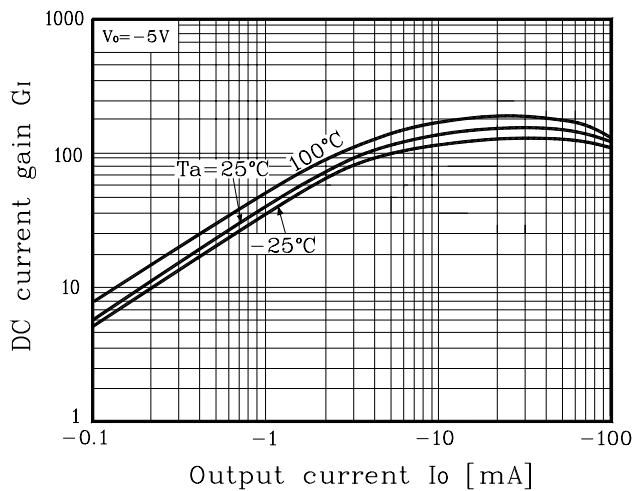


Fig. 3  $G_I - I_O$



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