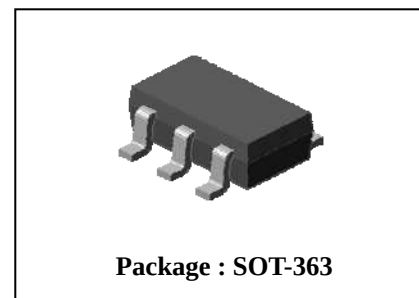


Description

- 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



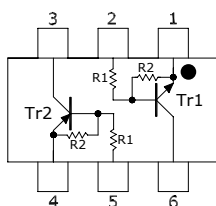
Ordering Information

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

□ : Year & Week Code

Equivalent circuit & PIN Connections

• Equivalent Circuit



	R ₁	R ₂
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 Ω
Input resistor (Base to common)	R_2	-	33	47	61	K Ω

* : Characteristic of transistor only

Electrical Characteristics [Tr2]

(Ta=25°C)

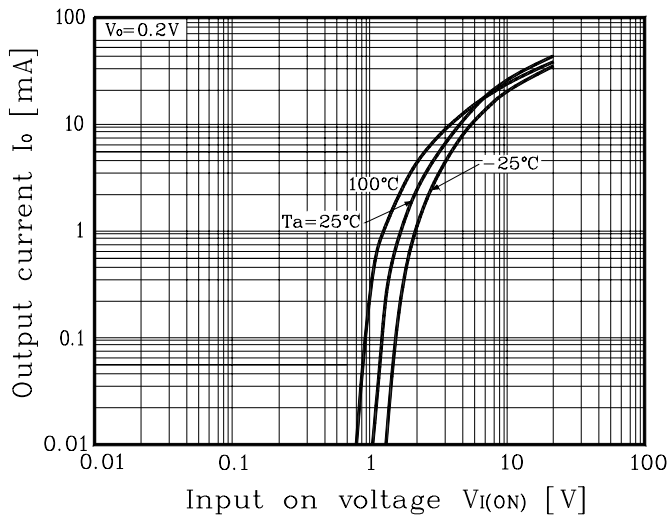
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output cut-off current	$I_{O(OFF)}$	$V_O=-50V, V_I=0$	-	-	-500	nA
DC current gain	G_I	$V_O=-5V, I_O=-10mA$	80	200	-	-
Output voltage	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=-0.2V, I_O=-5mA$	-	-2.8	-5.0	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 Ω
Input resistor (Base to common)	R_2	-	33	47	61	K Ω

* : Characteristic of transistor only

Electrical Characteristic Curves

[Tr1]

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



[Tr2]

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

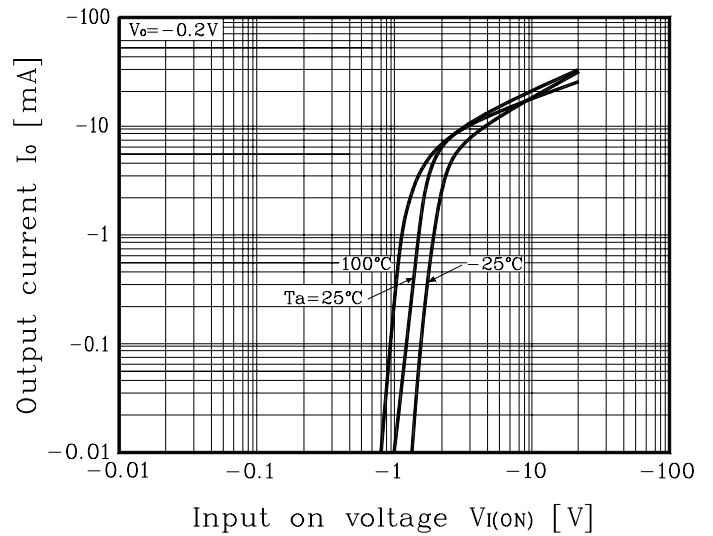


Fig. 2 $I_O - V_{I(OFF)}$

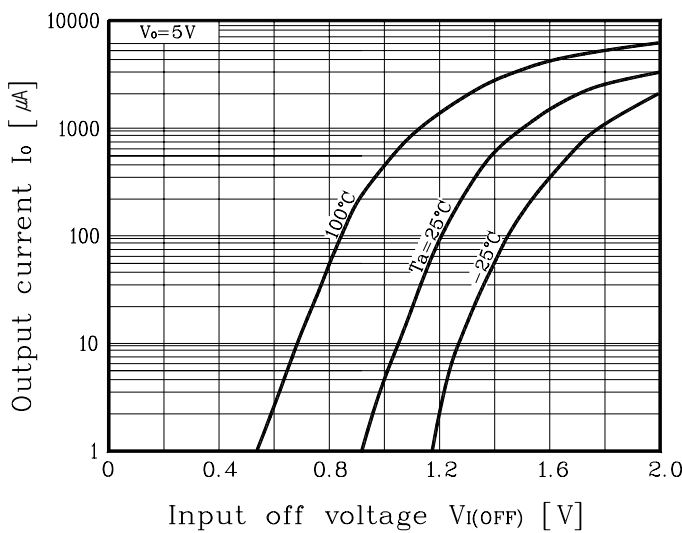


Fig. 2 $I_O - V_{I(OFF)}$

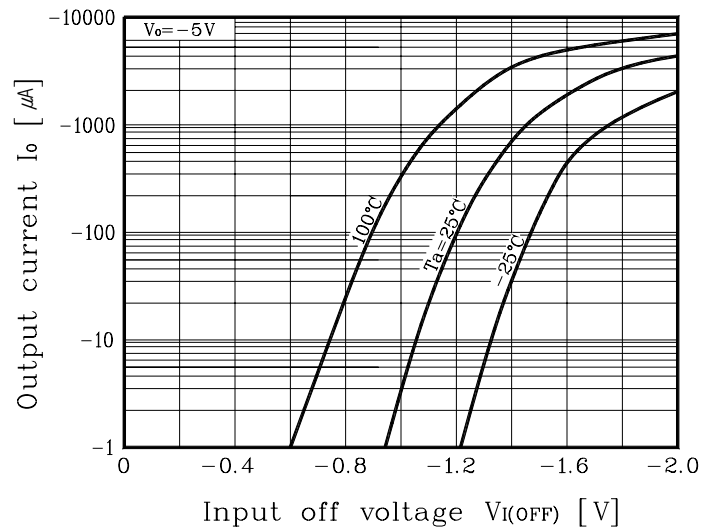


Fig. 3 $G_I - I_O$

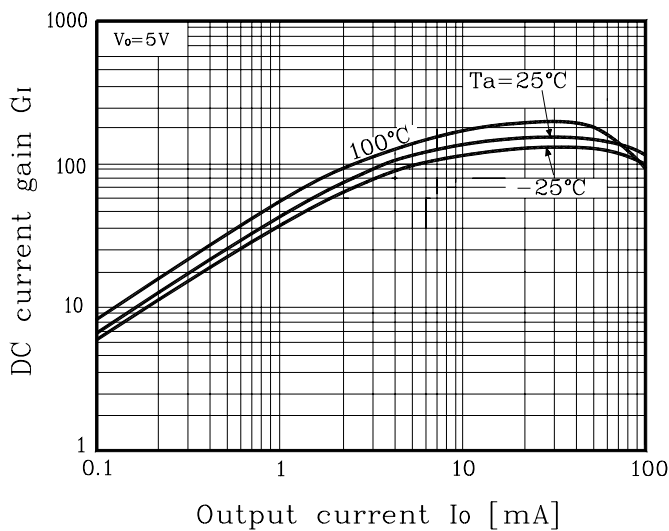
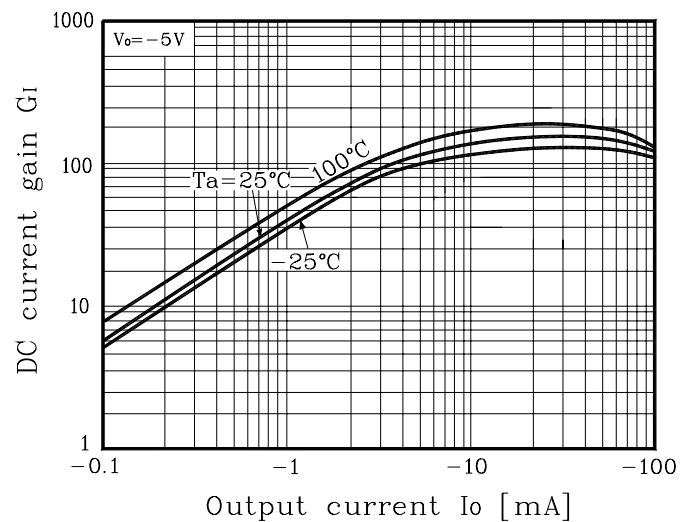
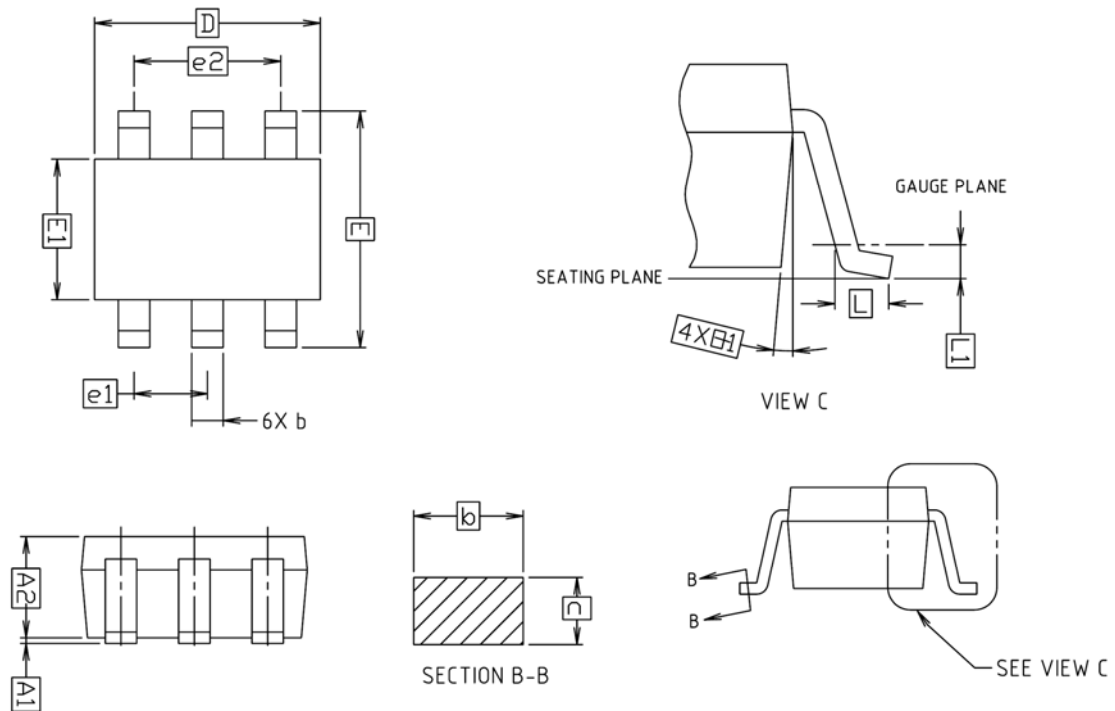


Fig. 3 $G_I - I_O$

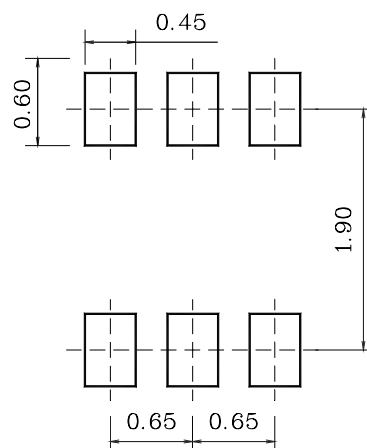


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	—	0.10	
A2	0.90	0.95	1.00	
b	0.25	—	0.40	
c	0.10	—	0.25	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.15	1.25	1.35	
e1	0.65 BSC			
e2	1.30 BSC			
L	0.25	—	—	
L1	0.15 BSC			

※ Recommend PCB solder land [Unit: mm]



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