

# SUR541J

#### Epitaxial planar NPN silicon transistor

### **Description**

• Dual chip digital transistor

#### **Features**

- Two SRC1210 chips in SOT-363 package
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

# Jy

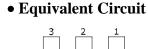
Package: SOT-363

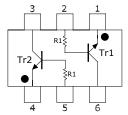
## **Ordering Information**

Type NO.	Marking	Package Code
SUR541J	HXH□	SOT-363

□ : Year & Week Code

## **Equivalent circuit & PIN Connections**





	$\mathbf{R}_1$
Tr1	4.7ΚΩ
Tr2	4.7ΚΩ

#### **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
Output voltage	Vo	50	V
Input voltage	V <sub>I</sub>	20, -5	V
Output current	I <sub>O</sub>	100	mA
Power dissipation	P <sub>D</sub> **	200	mW
Junction temperature	T <sub>3</sub>	150	°C
Storage temperature range	$T_{stg}$	-55 ~ 150	°C

\*: Total rating

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# **Electrical Characteristics** [Tr1,Tr2]

(Ta=25°C)

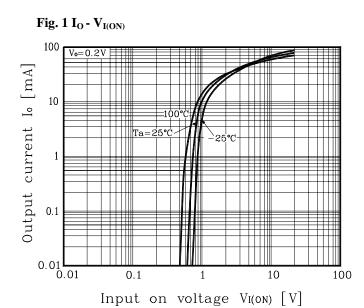
Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Output cut-off current	I <sub>O(OFF)</sub>	V <sub>O</sub> =50V, V <sub>I</sub> =0	-	-	500	nA
DC current gain	$G_{\mathrm{I}}$	V <sub>O</sub> =5V, I <sub>O</sub> =10mA	120	ı	ı	ı
Output voltage	V <sub>O(ON)</sub>	I <sub>O</sub> =10mA, I <sub>I</sub> =0.5mA	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA	-	0.8	1.2	V
Input voltage (OFF)	$V_{I(OFF)}$	V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA	0.3	0.55	-	V
Transition frequency	f <sub>T</sub> *	V <sub>O</sub> =10V, I <sub>O</sub> =5mA, f=1MHz	-	200	-	MHz
Input current	$I_{\rm I}$	V <sub>I</sub> =5V, I <sub>O</sub> =0	-	-	1.8	mA
Input resistor (Input to base)	R <sub>1</sub>	-	3.3	4.7	6.1	ΚΩ

<sup>\* :</sup> Characteristic of transistor only

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## **Electrical Characteristic Curves**

[Tr1, Tr2]



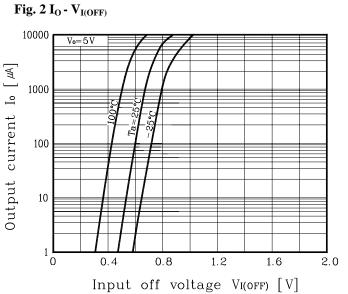
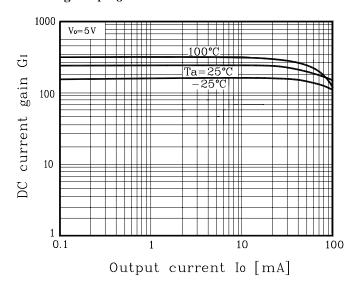
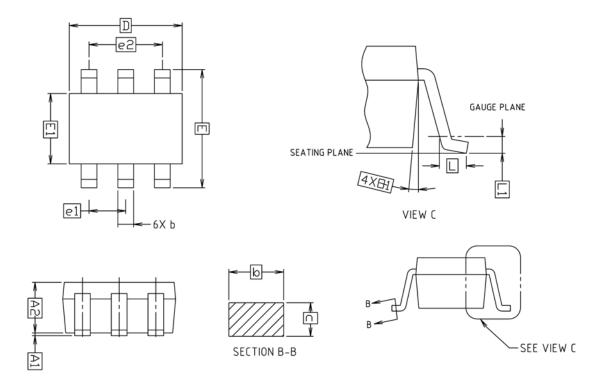


Fig. 3  $G_{\rm I}$  -  $I_{\rm O}$ 

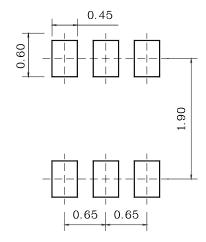


# **Outline Dimension**



	MILLIMETERS			NOTE
SYMBOL	MINIMUM	IIMUM NOMINAL MAXIMUM		
A1	0.00	_	0.10	
A2	0.90	0.95	1.00	
b	0.25	_	0.40	
С	0.10	_	0.25	
D	1.90	2.00	2.10	
Ε	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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