

# **SUR519J**

#### Epitaxial planar NPN silicon transistor

### **Description**

• Dual chip digital transistor

#### **Features**

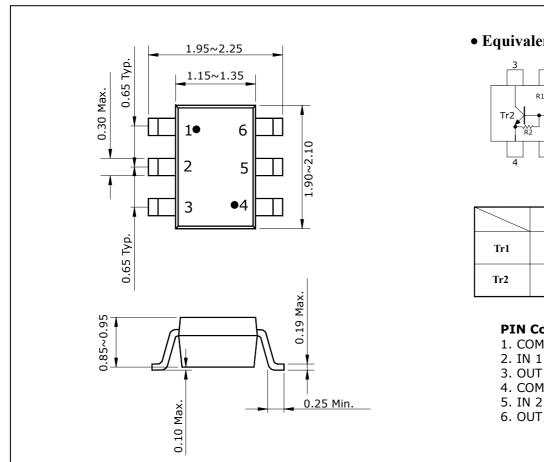
- Two SRC1207 chips in SOT-363 package
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

### **Ordering Information**

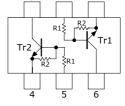
Type NO.	Marking	Package Code
SUR519J	S	SOT-363

### **Outline Dimensions**





### • Equivalent Circuit



	$\mathbf{R_1}$	R <sub>2</sub>
Tr1	10ΚΩ	47ΚΩ
Tr2	10ΚΩ	47ΚΩ

#### **PIN Connections**

- 1. COMMON 1
- 3. OUT 2
- 4. COMMON 2
- 6. OUT 1

KSD-R5S005-000 1 Absolute Maximum Ratings [Tr1, Tr2]

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Output voltage	Vo	50	V
Input voltage	$V_{\rm I}$	30,-6	V
Output current	$I_{O}$	100	mA
Power dissipation	P <sub>D</sub> **	200	mW
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature range	$T_{stg}$	-55 ~ 150	°C

<sup>\*:</sup> Total rating

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

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Output cut-off current	I <sub>O(OFF)</sub>	$V_0 = 50V, V_I = 0$	-	-	500	nA
DC current gain	$G_{\mathrm{I}}$	V <sub>O</sub> =5V, I <sub>O</sub> =10mA	80	150	-	-
Output voltage	$V_{O(ON)}$	$I_O=10$ mA, $I_I=0.5$ mA	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA	-	-	1.8	V
Input voltage (OFF)	$V_{I(OFF)}$	V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA	0.5	-	-	V
Transition frequency	$f_T^*$	$V_0=10V$ , $I_0=5$ mA, $f=1$ MHz	-	200	-	MHz
Input current	$I_{I}$	$V_I=5V$ , $I_O=0$	-	-	0.88	mA
Input resistor (Input to base)	$R_1$	-	7	10	13	<b>K</b> Ω
Input resistor (Base to common)	R <sub>2</sub>	-	33	47	61	<b>K</b> Ω

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

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### **Electrical Characteristic Curves**

[Tr1, Tr2]

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

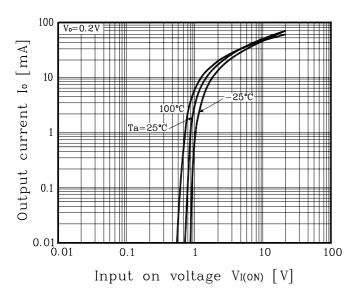


Fig. 2  $I_O$  -  $V_{I(OFF)}$ 

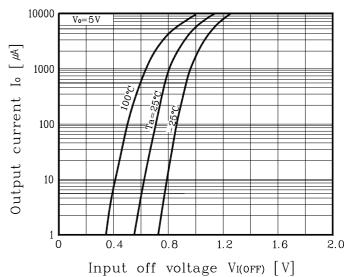
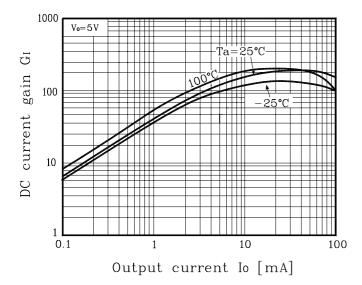


Fig. 3 G<sub>I</sub>-I<sub>O</sub>



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