

# **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

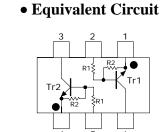
#### Package: SOT-363

# **Ordering Information**

SUR519J $\frac{S}{0} \frac{\square}{2}$ SOT-363	Type NO.	Marking	Package Code
	SUR519J		SOT-363

①Device Code ②Year&Week Code

# **Equivalent circuit & PIN Connections**



	$\mathbf{R}_1$	$\mathbf{R}_2$
Tr1	10ΚΩ	47ΚΩ
Tr2	10ΚΩ	47ΚΩ

#### **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	Vı	30,-6	V
Output current	I <sub>o</sub>	100	mA
Power dissipation	P <sub>D</sub> *	200	mW
Junction temperature	TJ	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>	$V_0 = 50V, V_1 = 0$	-	-	500	nA
DC current gain	G <sub>I</sub>	$V_0 = 5V, I_0 = 10mA$	80	150	-	-
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 <sub>I(ON)</sub>	V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA	-	-	1.8	V
Input voltage (OFF)	V <sub>I(OFF)</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA	0.5	-	-	V
Transition frequency	f <sub>T</sub> *	V <sub>O</sub> =10V, I <sub>O</sub> =5mA, f=1MHz	-	200	-	MHz
Input current	I <sub>1</sub>	V <sub>1</sub> =5V, I <sub>0</sub> =0	-	-	0.88	mA
Input resistor (Input to base)	R <sub>1</sub>	-	7	10	13	ΚΩ
Input resistor (Base to common)	R <sub>2</sub>	-	33	47	61	ΚΩ

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

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# **Electrical Characteristic Curves**

### [Tr1, Tr2]

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

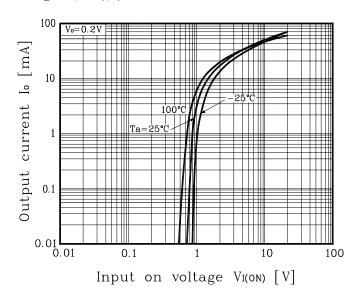


Fig. 2  $I_{\rm O}$  -  $V_{I(OFF)}$ 

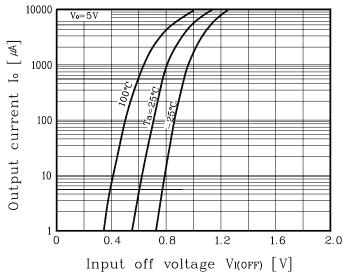
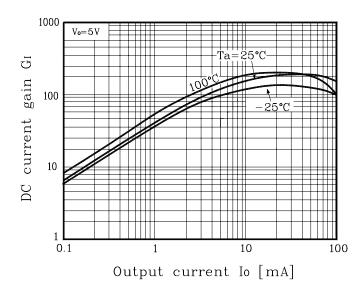
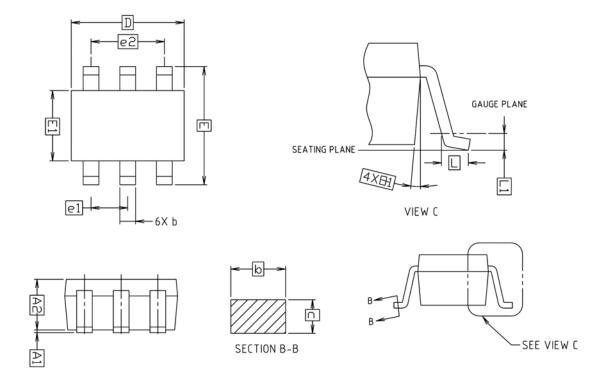


Fig. 3  $G_I$  -  $I_O$ 

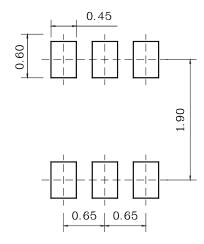


# **Outline Dimension**



	MILLIMETERS			NOTE
SYMBOL	MINIMUM	NOMINAL	MAXIMUM	NOTE
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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