

**NPN Silicon Transistor** 

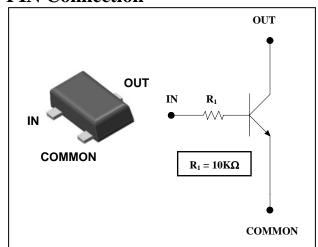
### **Descriptions**

- Switching application
- Interface circuit and driver circuit application

#### **Features**

- With built-in bias resistor
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

#### **PIN Connection**



### **Ordering Information**

Type NO.	Marking	Package Code	
SRC1211SF	<u>RCD</u> □ ① ②	SOT-23F	
	0		

①Device Code ②Year&Week Code

### **Absolute Maximum Ratings**

 $(Ta=25^{\circ}C)$ 

Characteristic	Symbol	Rating	Unit
Output voltage	Vo	50	V
Input voltage	V <sub>I</sub>	30, -5	V
Output current	I <sub>0</sub>	100	mA
Power dissipation	$P_{D}$	200	mW
Junction temperature	TJ	150	°C
Storage temperature range	$T_{stg}$	-55 ~ 150	°C

### **Electrical Characteristics**

(Ta=25°C)

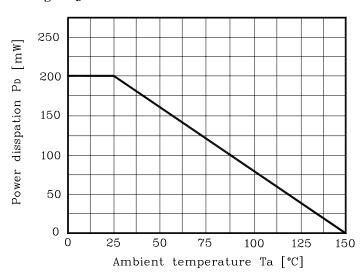
Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Output cut-off current	I <sub>O(OFF)</sub>	$V_0 = 50V, V_1 = 0$	-	-	500	nA
DC current gain	Gı	$V_0 = 5V$ , $I_0 = 10mA$	120	-	-	-
Output voltage	$V_{O(ON)}$	$I_0 = 10 \text{mA}, I_1 = 0.5 \text{mA}$	-	0.1	0.3	V
Input voltage (ON)	V <sub>I(ON)</sub>	V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA	-	0.9	1.4	V
Input voltage (OFF)	$V_{I(OFF)}$	$V_0 = 5V$ , $I_0 = 0.1 \text{mA}$	0.3	0.55	-	V
Transition frequency	f <sub>T</sub> *	$V_O=10V$ , $I_O=5$ mA, $f=1$ MHz	-	200	-	MHz
Input current	I <sub>1</sub>	$V_1 = 5V, I_0 = 0$	-	-	0.88	mA
Input resistor (Input to base)	R <sub>1</sub>	-	7	10	13	ΚΩ

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

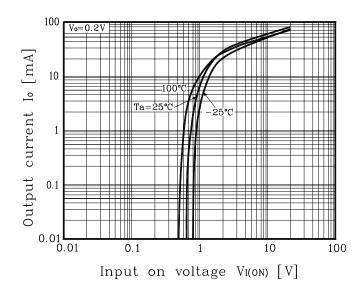
KSD-R5C018-000

### **Electrical Characteristic Curves**

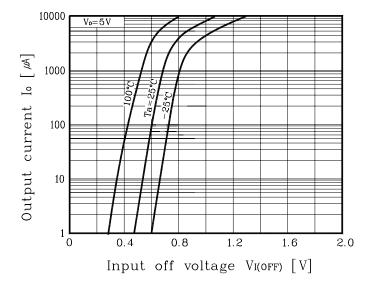
Fig. 1 P<sub>D</sub> - Ta



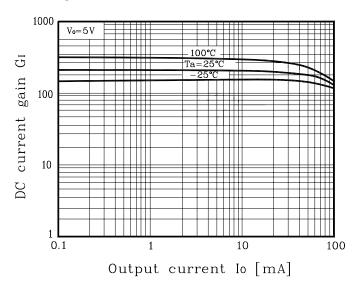
 $Fig.~2~I_O - V_{I(ON)}$ 



 $Fig.~3~I_O - V_{I(OFF)}$ 



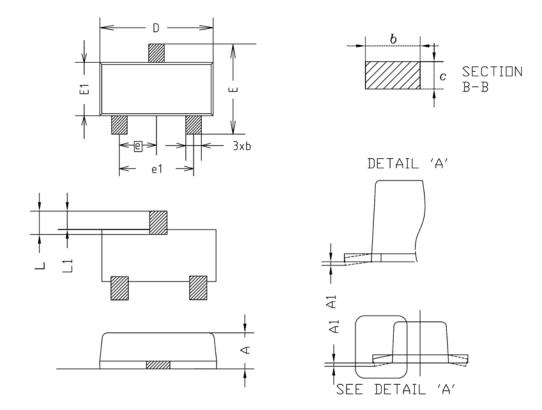
**Fig. 4 G<sub>I</sub> - I<sub>O</sub>** 



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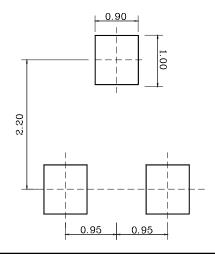
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### **Outline Dimension**



SYMBOL	MILLIMETER(mm)			NOTE
STRIBUL	MINIMUM	NDMINAL	MAXIMUM	MULE
Α	0.80	0.90	1.00	
A1	0.00	_	0.10	
b	0.35	0.40	0.45	
C	0.10	0.15	0.20	
D	2.80	2.90	3.00	
Ε	2.30	2.40	2.50	
E1	1.50	1.60	1.70	
е	0.95BSC			
e1	1.80	1.90	2.00	
L	0.48	0.58	0.68	
L1	0.30	-	0.50	

### \*Recommend PCB solder land [Unit: mm]



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