

**NPN Silicon Transistor** 

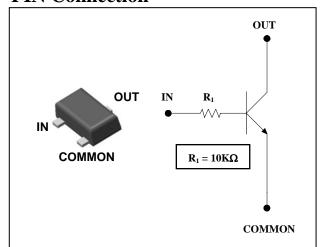
### **Descriptions**

- 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
SRC1211EF	<u>RD</u> <u> </u> ① ②	SOT-523F
	0	

①Device Code ②Year&Week Code

### **Absolute Maximum Ratings**

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Output voltage	Vo	50	V
Input voltage	V <sub>I</sub>	30, -5	V
Output current	Io	100	mA
Power dissipation	P <sub>D</sub>	150	mW
Junction temperature	TJ	150	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ 150	°C

### **Electrical Characteristics**

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

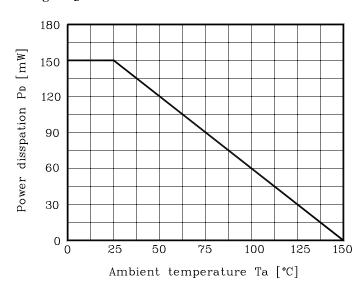
Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Output cut-off current	I <sub>O(OFF)</sub>	$V_0 = 50V, V_1 = 0$	-	-	500	nA
DC current gain	Gı	$V_O=5V$ , $I_O=10mA$	120	-	-	-
Output voltage	$V_{O(ON)}$	$I_0 = 10 \text{mA}, I_1 = 0.5 \text{mA}$	-	0.1	0.3	V
Input voltage (ON)	V <sub>I(ON)</sub>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

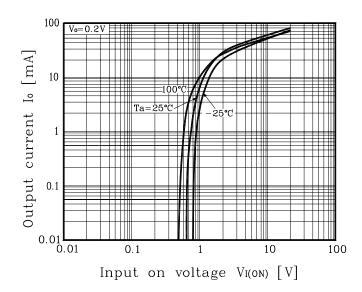
KSD-R5E018-000 1

### **Electrical Characteristic Curves**

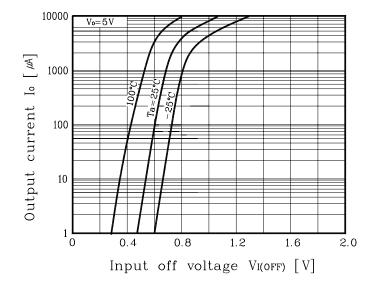
Fig. 1  $P_D$  - Ta



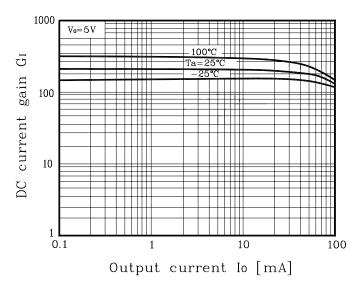
 $Fig.~2~I_O - V_{I(ON)}$ 



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

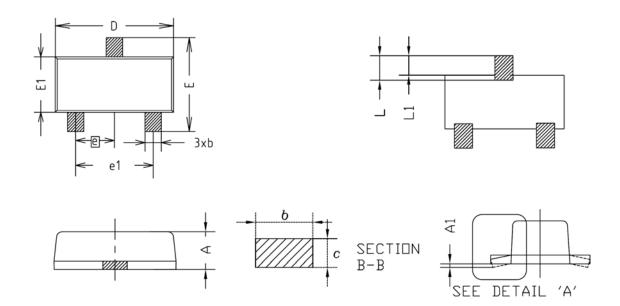


**Fig. 4 G<sub>I</sub> - I<sub>O</sub>** 



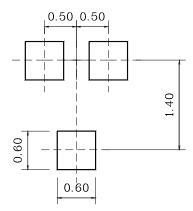
KSD-R5E018-000 2

### **Outline Dimension**



SYMBOL	MILLIMETERS			NOTE
STINDEL	MINIMUM	NOMINAL	MAXIMUM	NUIL
Α	0.63	0.68	0.73	
A1	0.00	1	0.10	
A2	_	ı	_	
b	0.25	0.30	0.35	
U	0.04	0.11	0.20	
D	1.50	1.60	1.70	
Ε	1.50	1.60	1.70	
E1	0.78	0.88	0.98	
е	0.50BSC			
e1	0.90	-	1.10	
L	0.34	0.44	0.54	
L1	0.28	0.34	0.43	

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



KSD-R5E018-000 3

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KSD-R5E018-000