

**NPN Silicon Transistor** 

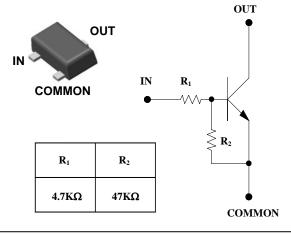
### **Descriptions**

- Switching application
- Interface circuit and driver circuit application

#### **Features**

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

## **PIN Connection**



### **Ordering Information**

Type NO.	Marking	Package Code
SRC1206EF	<u>R6</u>	SOT-523F
	1 Device Code 2 Year&Week Code	

### Absolute Maximum Ratings

Absolute Maximum Ratings			(Ta=25°C)
Characteristic	Symbol	Rating	Unit
Output voltage	Vo	50	V
Input voltage	VI	20,-5	V
Output current	Ι <sub>ο</sub>	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**

				(14 20 0)			
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	$V_0 = 5V$ , $I_0 = 10mA$	80	200	-	-	
Output voltage	V <sub>O(ON)</sub>	I <sub>0</sub> =10mA, I <sub>1</sub> =0.5mA	-	0.1	0.3	V	
Input voltage (ON)	V <sub>I(ON)</sub>	$V_0=0.2V, I_0=5mA$	-	0.9	1.3	V	
Input voltage (OFF)	V <sub>I(OFF)</sub>	$V_0 = 5V$ , $I_0 = 0.1mA$	0.5	0.65	-	V	
Transition frequency	f <sub>T</sub> *	$V_0=10V$ , $I_0=5mA$ , $f=1MHz$	-	200	-	MHz	
Input current	I <sub>1</sub>	$V_1 = 5V, I_0 = 0$	-	-	1.8	mA	
Input resistor (Input to base)	$R_1$	-	3.3	4.7	6.1	KΩ	
Input resistor (Base to common)	$R_2$	-	33	47	61	KΩ	

\* : Characteristic of transistor only

(Ta=25°C)

### **Electrical Characteristic Curves**

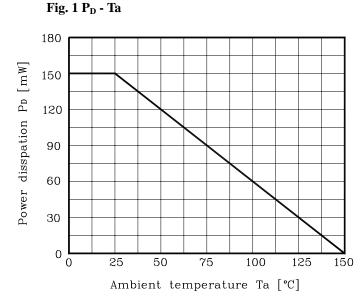


Fig. 3 I<sub>O</sub> - V<sub>I(OFF)</sub>

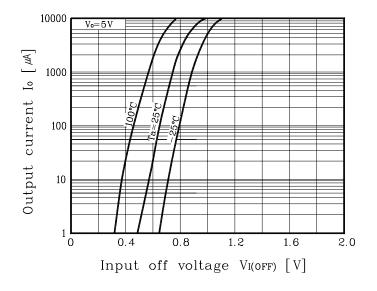


Fig. 2  $I_O$  -  $V_{I(ON)}$ 

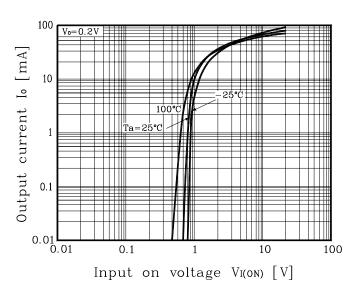
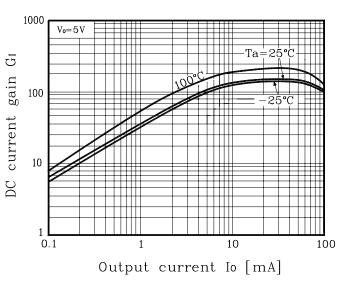
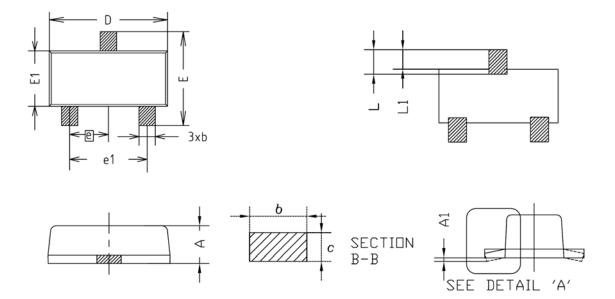


Fig. 4 G<sub>I</sub> - I<sub>O</sub>

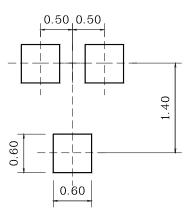


# **Outline Dimension**



SYMBOL	MILLIMETERS			NDTE
STHDUL	MINIMUM	NOMINAL	MAXIMUM	NUTE
Α	0.63	0.68	0.73	
A1	0.00	-	0.10	
A2	-	-	-	
b	0.25	0.30	0.35	
С	0.04	0.11	0.20	
D	1.50	1.60	1.70	
E	1.50	1.60	1.70	
E1	0.78	0.88	0.98	
e	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]



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