

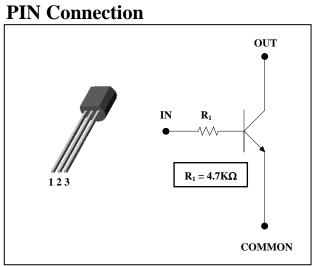
**NPN Silicon Transistor** 

#### **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



#### **Ordering Information**

Type NO.	Marking	Package Code		
SRC1210	SRC1210	TO-92		

#### Absolute Maximum Ratings

Absolute Maximum Ratings		(Ta=25°C)		
Characteristic	Symbol	Rating	Unit	
Output voltage	Vo	50	V	
Input voltage	Vı	20, -5	V	
Output current	Ι <sub>ο</sub>	100	mA	
Power dissipation	P <sub>D</sub>	625	mW	
Junction temperature	TJ	150	°C	
Storage temperature range	T <sub>stg</sub>	-55 ~ 150	°C	

#### **Electrical Characteristics**

Electrical Characteristics						(Ta=25°C)	
Characteristic	Symbol	<b>Test Condition</b>	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 <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>	$V_0 = 0.2V$ , $I_0 = 5mA$	-	0.8	1.2	V	
Input voltage (OFF)	V <sub>I(OFF)</sub>	$V_0 = 5V$ , $I_0 = 0.1mA$	0.3	0.55	-	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 <sub>1</sub>	-	3.3	4.7	6.1	KΩ	

\* : Characteristic of transistor only

### **Electrical Characteristic Curves**



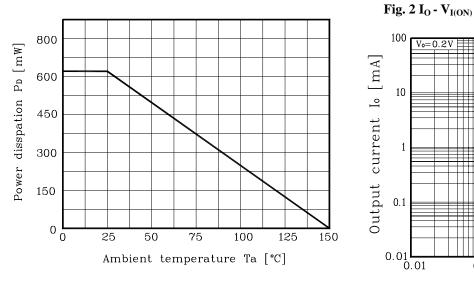
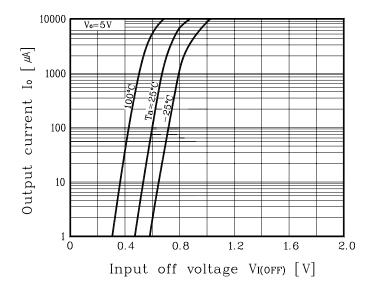
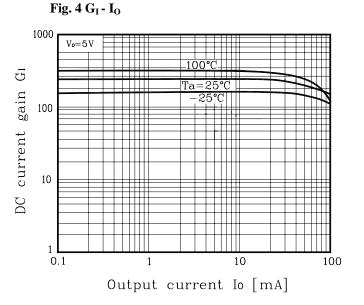


Fig. 3  $I_O$  -  $V_{I(OFF)}$ 





=1**0**0

25°C

1 Input on voltage VI(ON) [V]

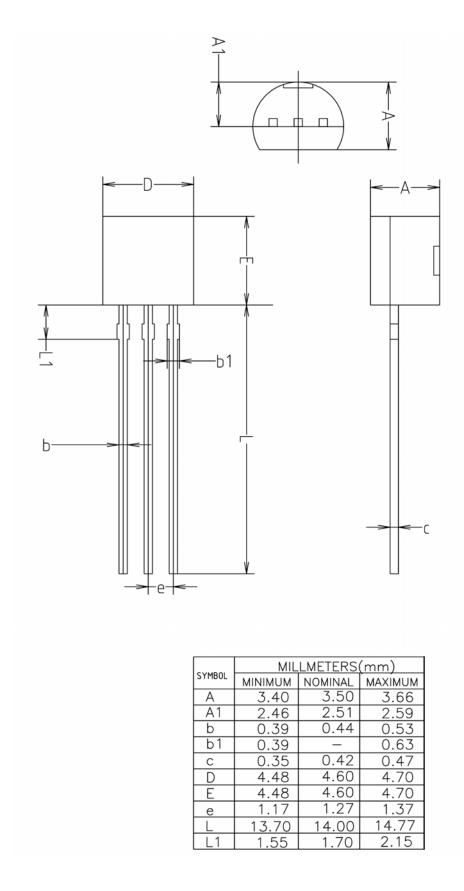
10

100

Ta = 25

0.1

### **Outline Dimension**



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