

## 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

## Ordering Information

Type NO.	Marking	Package Code
SRA2219M	2219	TO-92M

## Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Output voltage	V <sub>O</sub>	-50	V
Input voltage	V <sub>I</sub>	-20, 7	V
Output current	I <sub>O</sub>	-100	mA
Power dissipation	P <sub>D</sub>	400	mW
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ 150	°C

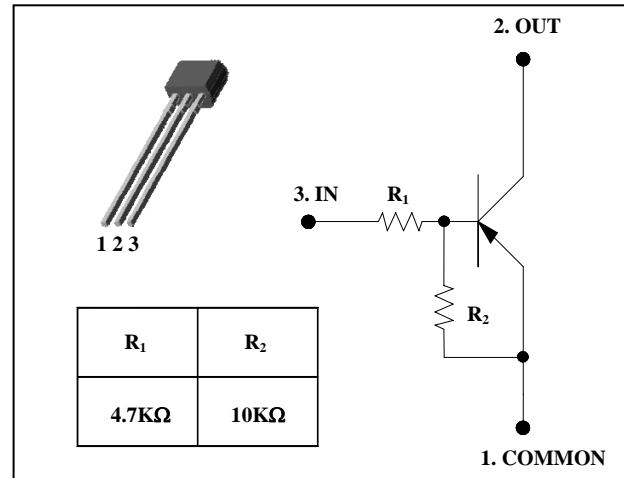
## Electrical Characteristics

(Ta=25°C)

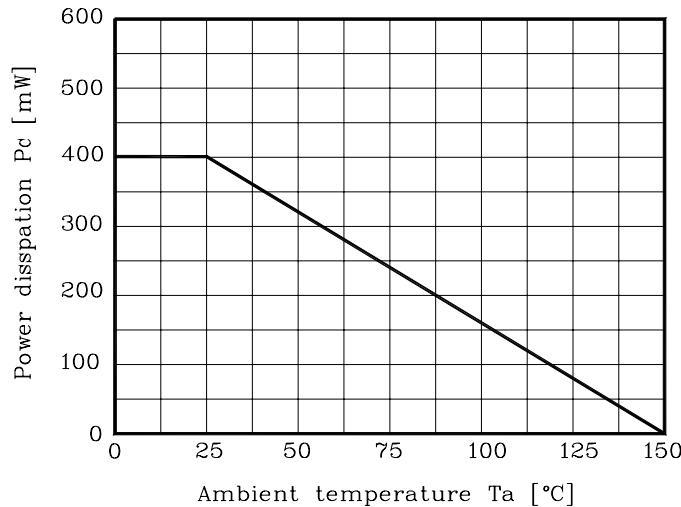
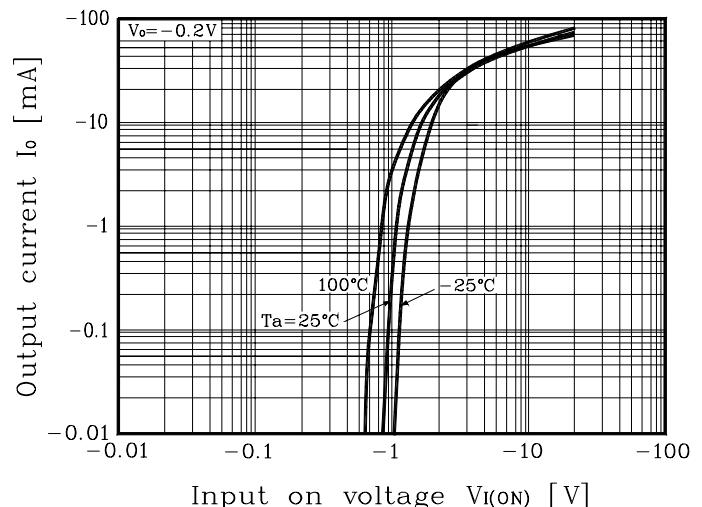
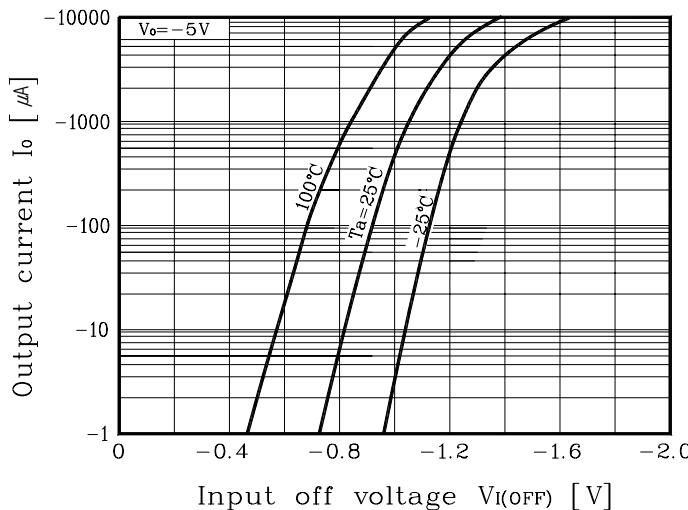
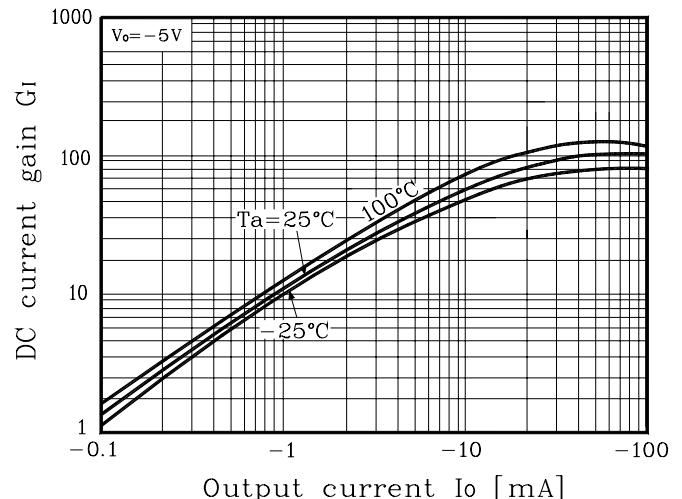
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output cut-off current	I <sub>O(OFF)</sub>	V <sub>O</sub> =-5V, V <sub>I</sub> =0	-	-	-500	nA
DC current gain	G <sub>I</sub>	V <sub>O</sub> =-5V, I <sub>O</sub> =-10mA	30	-	-	-
Output voltage	V <sub>O(ON)</sub>	I <sub>O</sub> =-10mA, I <sub>I</sub> =-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	-	-1.2	-1.6	V
Input voltage (OFF)	V <sub>I(OFF)</sub>	V <sub>O</sub> =-5V, I <sub>O</sub> =-0.1mA	-0.5	-0.82	-	V
Transition frequency	f <sub>T</sub> <sup>*</sup>	V <sub>O</sub> =-10V, I <sub>O</sub> =-5mA, f=1MHz	-	200	-	MHz
Input current	I <sub>I</sub>	V <sub>I</sub> =-5V, I <sub>O</sub> =0	-	-	-1.8	mA
Input resistor (Input to base)	R <sub>1</sub>	-	3.3	4.7	6.1	kΩ
Input resistor (Base to common)	R <sub>2</sub>	-	7	10	13	kΩ

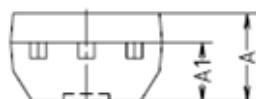
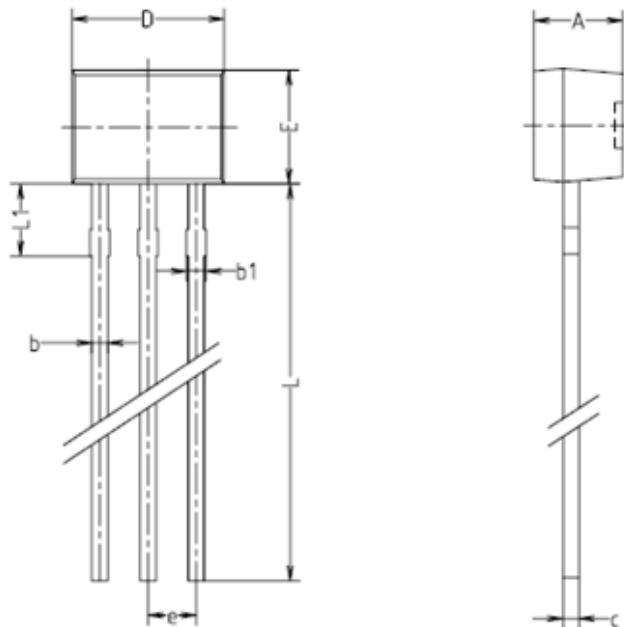
\* : Characteristic of transistor only

## PIN Connection



## Electrical Characteristic Curves

**Fig. 1**  $P_c$  -  $T_a$ **Fig. 2**  $I_o$  -  $V_{I(ON)}$ **Fig. 3**  $I_o$  -  $V_{I(OFF)}$ **Fig. 4**  $G_I$  -  $I_o$ 

**Outline Dimension**

SYMBOL	TO-92M		
	MINIMUM	NOMINAL	MAXIMUM
A	2.25	2.30	2.35
A1	1.50	1.55	1.60
b	0.40	0.42	0.44
b1	0.40	—	0.50
c	0.40	0.42	0.44
D	3.93	4.00	4.07
E	2.93	3.00	3.07
e	1.17	1.27	1.37
L	14.30	14.50	14.70
L1	2.05	2.15	2.25

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