

## SOT-23 Digital transistors

### Features

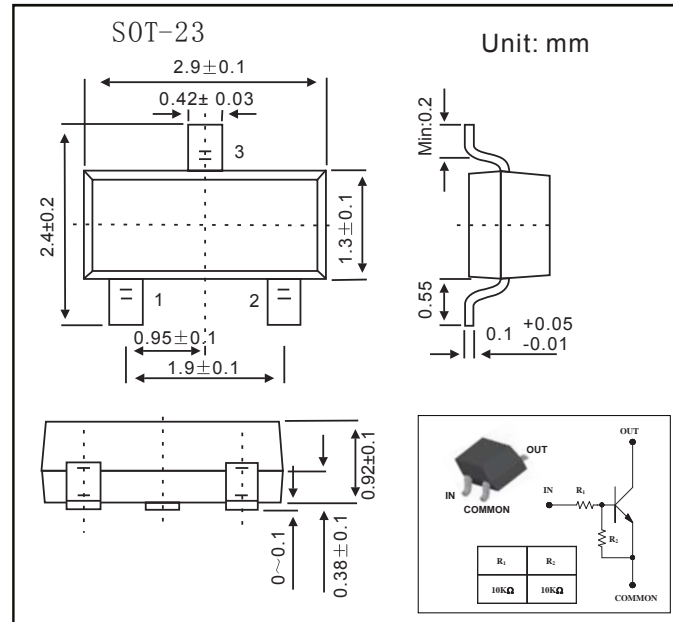
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density
- NPN Silicon Transistor

### Descriptions

- Switching application
- Interface circuit and driver circuit application

### MECHANICAL DATA

- Case: SOT-23 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



### ABSOLUTE MAXIMUM RATINGS

@ 25°C Ambient Temperature (unless otherwise noted)

Characteristic	Symbol	Rating	Unit
Output voltage	$V_O$	50	V
Input voltage	$V_I$	30, -10	V
Output current	$I_O$	100	mA
Power dissipation	$P_D$	200	mW
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{stg}$	-55 ~ 150	°C

### Electrical Specification ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output cut-off current	$I_{O(OFF)}$	$V_O=50\text{V}, V_I=0$	-	-	500	nA
DC current gain	$G_I$	$V_O=5\text{V}, I_O=10\text{mA}$	50	80	-	-
Output voltage	$V_{O(ON)}$	$I_O=10\text{mA}, I_I=0.5\text{mA}$	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=0.2\text{V}, I_O=5\text{mA}$	-	1.8	2.4	V
Input voltage (OFF)	$V_{I(OFF)}$	$V_O=5\text{V}, I_O=0.1\text{mA}$	1.0	1.2	-	V
Transition frequency	$f_T^*$	$V_O=10\text{V}, I_O=5\text{mA}, f=1\text{MHz}$	-	200	-	MHz
Input current	$I_I$	$V_I=5\text{V}, I_O=0$	-	-	0.88	mA
Input resistor (Input to base)	$R_1$	-	7	10	13	KΩ
Input resistor (Base to common)	$R_2$	-	7	10	13	KΩ

\* : Characteristic of transistor only

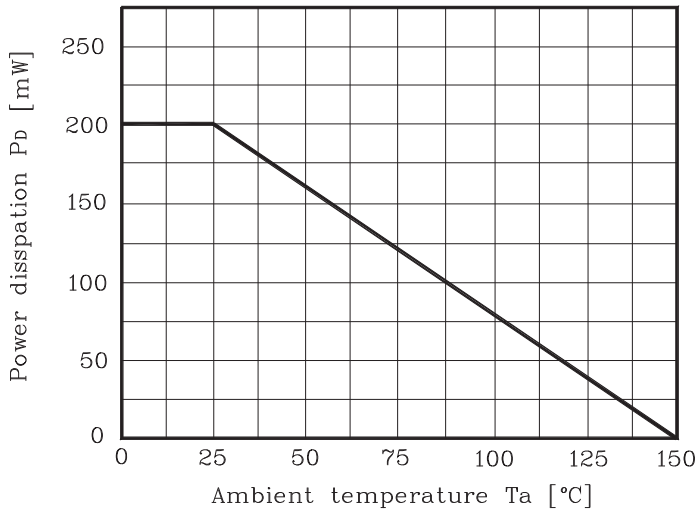
### Ordering Information

Type NO.	Marking	Package Code
SRC1202S	RC2 □ ① ②	SOT-23

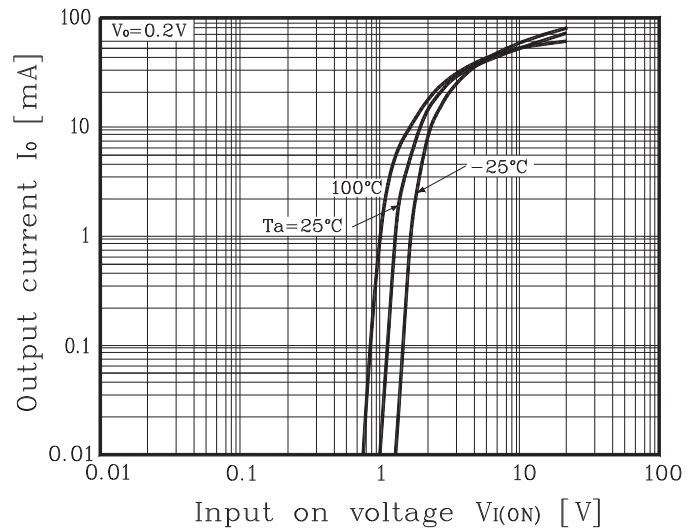
① Device Code ② Year&Week Code

## ■ Typical Characteristics

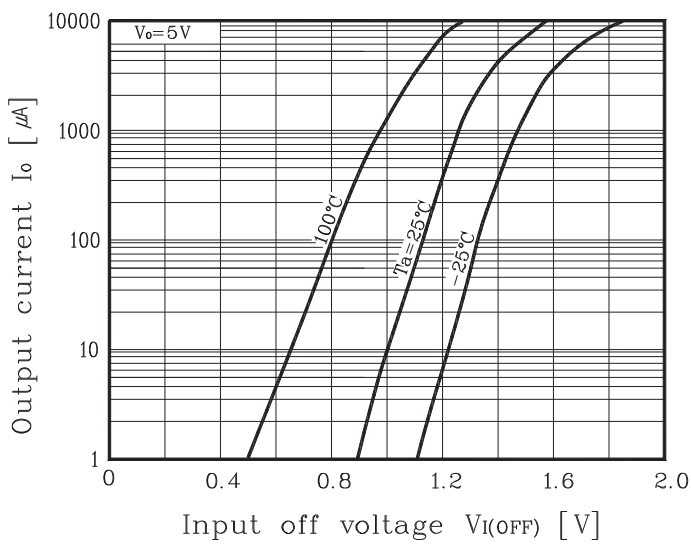
**Fig. 1  $P_D - T_a$**



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



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



**Fig. 4  $G_I - I_O$**

