

**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
SRC1202E	R2	SOT-523

**Outline Dimensions**

unit : mm

Technical drawing showing dimensions for the SRC1202E transistor. Dimensions include: 1.60±0.1 (total width), 0.80±0.1 (width of pins), 1.60±0.1 (height), 1.00 BSC (base to emitter distance), 0.2~0.3 (pin thickness), 0.70±0.1 (height of base resistor), 0.15 Min. (width of base resistor), 0.1 Min. (height of base resistor), and 0~0.1 (height of emitter resistor).

**• Equivalent Circuit**

Equivalent circuit diagram showing the transistor with base resistor R<sub>1</sub> and emitter resistor R<sub>2</sub>. The base is labeled B(IN), the emitter is labeled E(COMMON), and the collector is labeled C(OUT).

**PIN Connections**

1. Base
2. Emitter
3. Collector

R <sub>1</sub>	R <sub>2</sub>
10KΩ	10KΩ



**Absolute maximum ratings**

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Out Voltage	$V_O$	50	V
Input Voltage	$V_I$	30	V
Out Current	$I_O$	100	mA
Power Dissipation	$P_D$	150	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55 ~ 150	°C

**Electrical Characteristics**

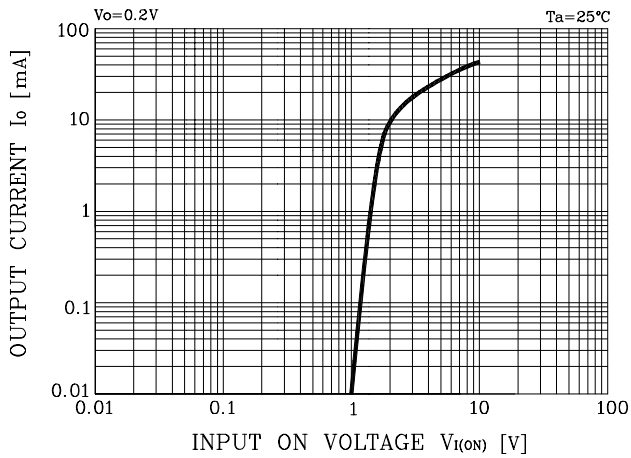
(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Cut-off Current	$I_{O(OFF)}$	$V_O=50V, V_I=0$	-	-	500	nA
DC Current Gain	$G_I$	$V_O=5V, I_O=10mA$	50	80	-	-
Output Voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_O=0.2V, I_O=5mA$	-	1.8	2.4	V
Input Voltage (OFF)	$V_{I(OFF)}$	$V_O=5V, I_O=0.1mA$	1.0	1.2	-	V
Transition Frequency	$f_T^*$	$V_O=10V, I_O=5mA$	-	200	-	MHz
Input Current	$I_I$	$V_I=5V$	-	-	0.88	mA

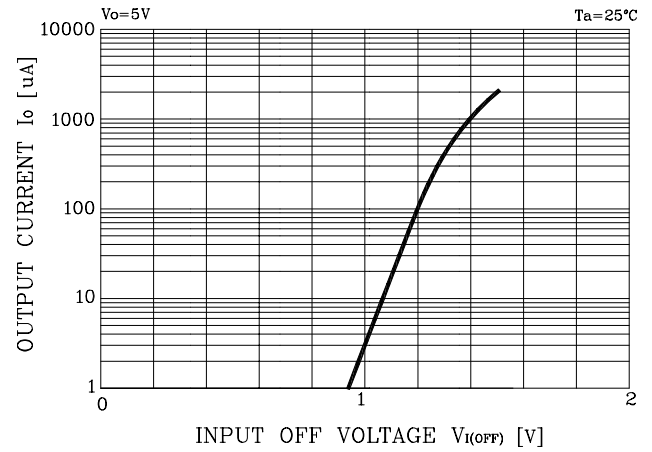
\* : Characteristic of Transistor Only

## Electrical Characteristic Curves

**Fig. 1  $I_o - V_{I(ON)}$**



**Fig. 2  $I_o - V_{I(OFF)}$**



**Fig. 3  $G_I - I_o$**

