

Descriptions

- Switching application
- Interface circuit and driver circuit application

Features

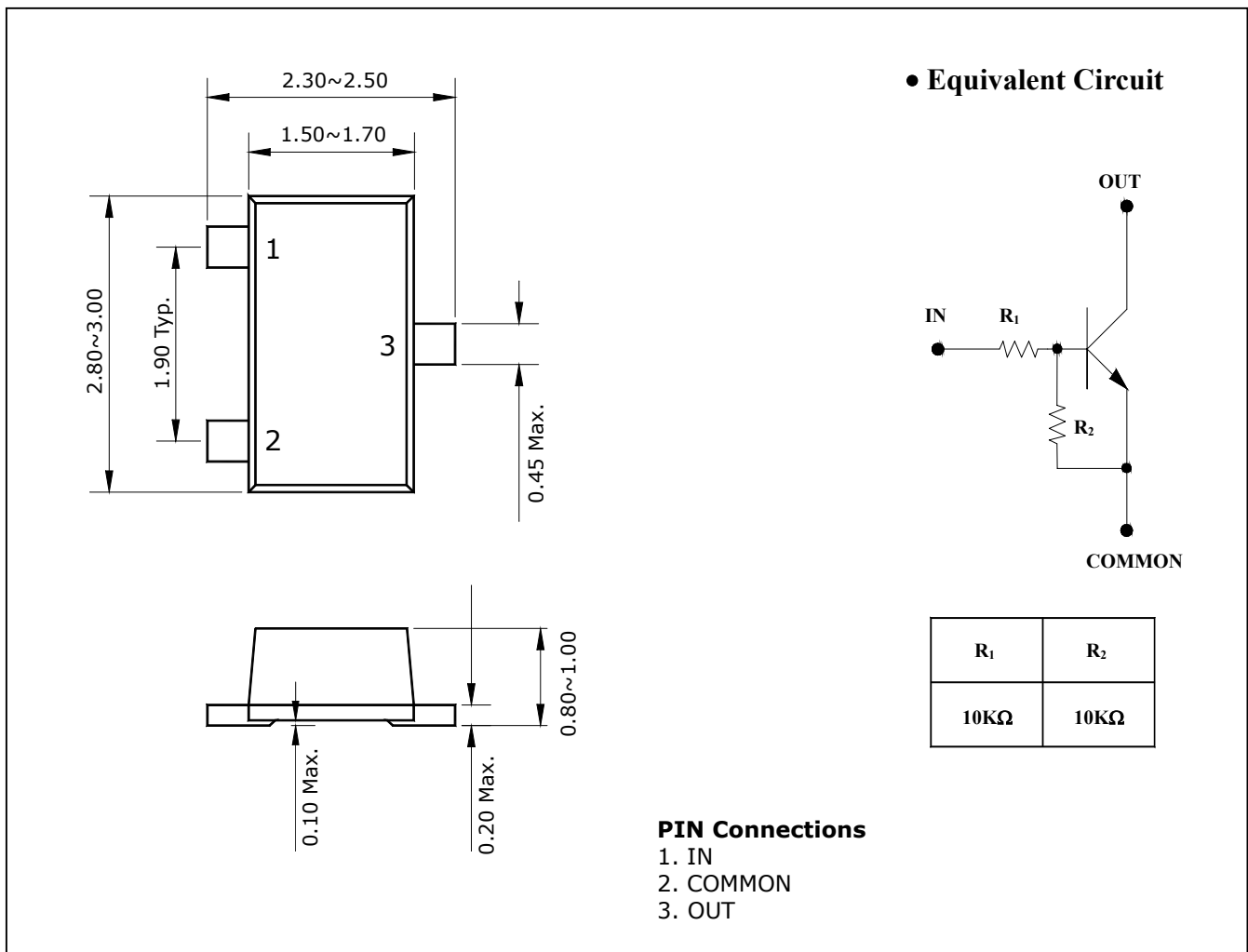
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

Ordering Information

Type NO.	Marking	Package Code
SRC1202SF	RC2	SOT-23F

Outline Dimensions

unit : mm



The image shows the physical dimensions and electrical characteristics of the SRC1202SF transistor. The top diagram is a top view showing a rectangular package with three pins labeled 1, 2, and 3. Dimensions include a total width of 2.30~2.50 mm, a pin spacing of 1.50~1.70 mm, a total height of 2.80~3.00 mm, and a typical pin height of 1.90 mm. The bottom diagram is a side view showing a maximum pin thickness of 0.10 mm, a maximum pin width of 0.20 mm, and a maximum package height of 0.80~1.00 mm. To the right, the 'Equivalent Circuit' shows an NPN transistor with an input terminal (IN) connected to the base through a resistor R₁, an output terminal (OUT) connected to the collector, and a common terminal (COMMON) connected to the emitter through a resistor R₂. A table below the circuit specifies R₁ = 10KΩ and R₂ = 10KΩ. The 'PIN Connections' section lists: 1. IN, 2. COMMON, 3. OUT.

Absolute Maximum Ratings

(Ta=25°C)

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 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^*	$V_O=10V, I_O=5mA, f=1MHz$	-	200	-	MHz
Input current	I_I	$V_I=5V, I_O=0$	-	-	0.88	mA
Input resistor (Input to base)	R_1	-	7	10	13	K Ω
Input resistor (Base to common)	R_2	-	7	10	13	K Ω

* : Characteristic of transistor only

Electrical Characteristic Curves

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

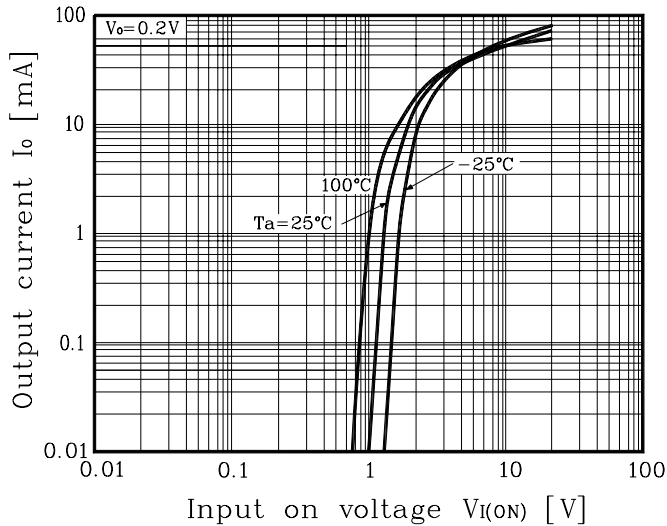


Fig. 2 $I_o - V_{I(OFF)}$

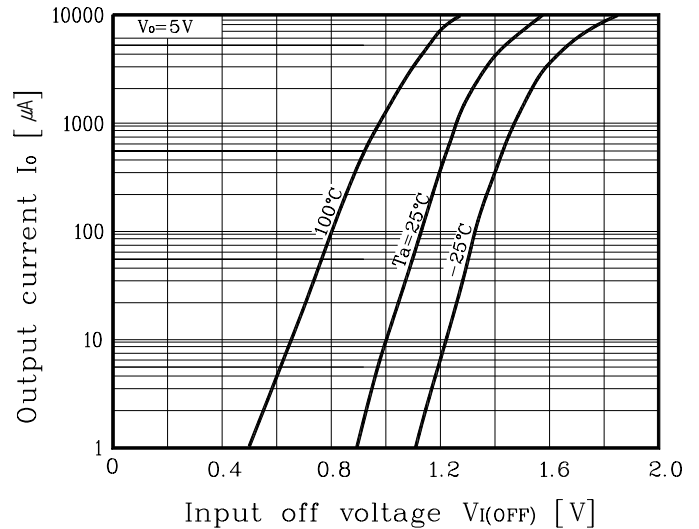
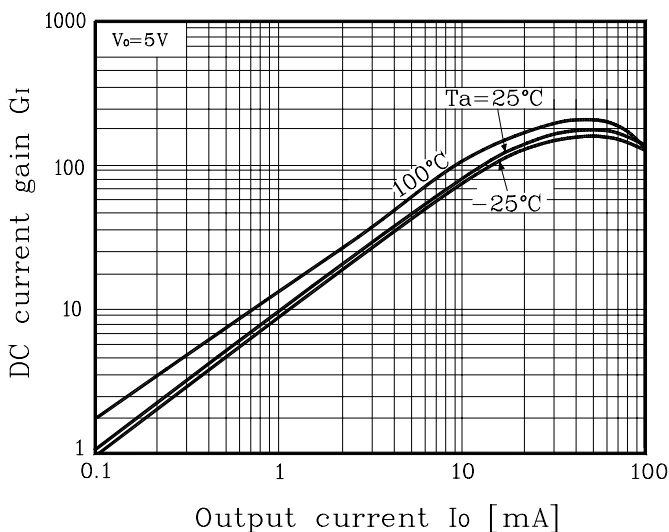


Fig. 3 $G_1 - I_o$



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