

Descriptions

- Switching application
- Interface circuit and driver circuit application

Features

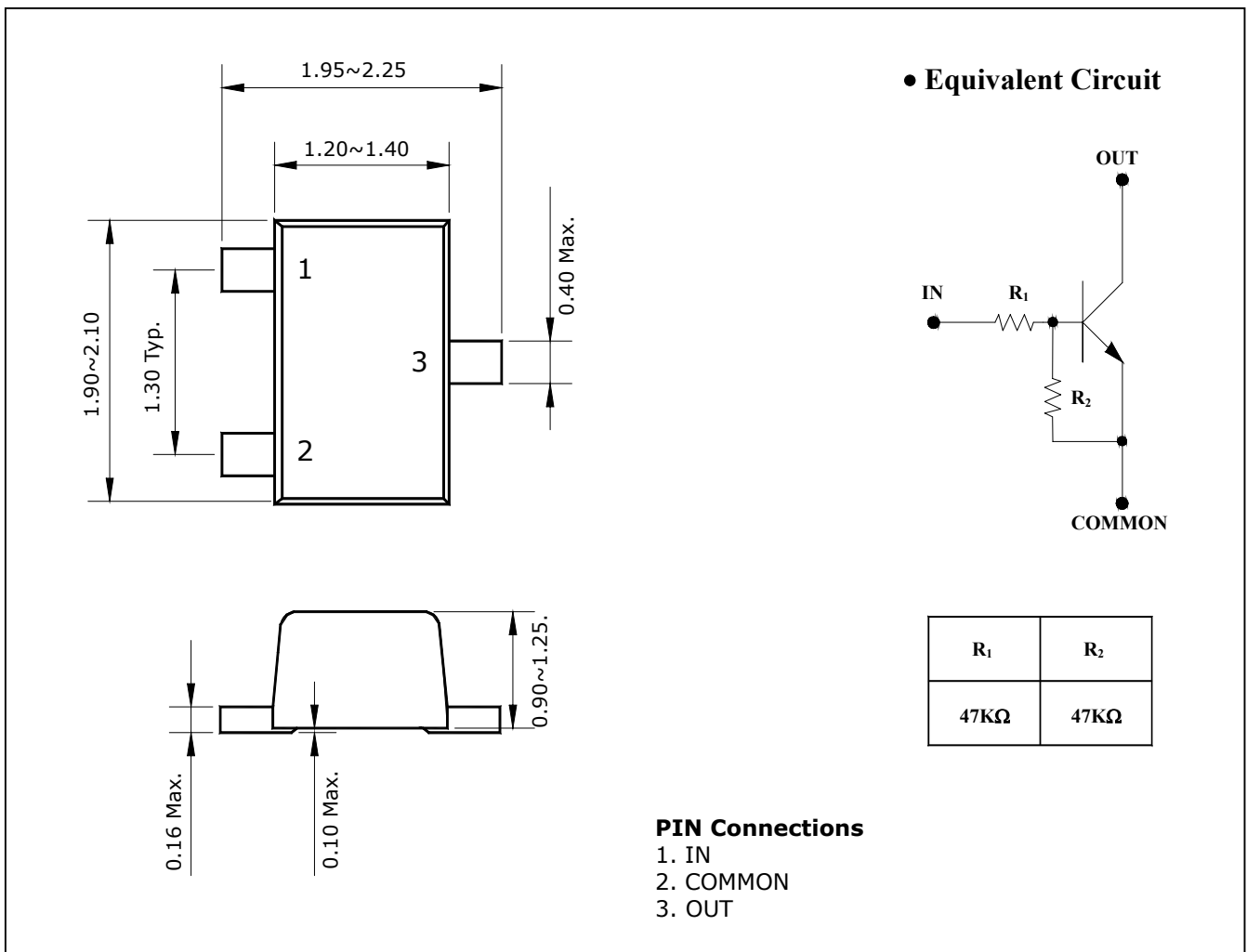
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

Ordering Information

Type NO.	Marking	Package Code
SRC1204UF	R4	SOT-323F

Outline Dimensions

unit : mm



The figure shows the mechanical dimensions and electrical equivalent circuit of the SRC1204UF transistor. The top-left diagram is a top view showing dimensions: 1.95~2.25 mm for the total width, 1.20~1.40 mm for the central body width, 1.90~2.10 mm for the total height, and 1.30 Typ. mm for the central body height. Pin 1 is on the left, pin 2 is on the right, and pin 3 is at the bottom. The bottom-left diagram is a side view showing dimensions: 0.16 Max. mm for the lead thickness, 0.10 Max. mm for the lead width, and 0.90~1.25 mm for the body height. The top-right diagram is the equivalent circuit, showing an NPN transistor with an input terminal (IN) connected to the base through resistor R₁, an output terminal (OUT) connected to the collector, and a common terminal (COMMON) connected to the emitter through resistor R₂. The bottom-right table specifies the values for R₁ and R₂.

R ₁	R ₂
47KΩ	47KΩ

PIN Connections

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	40,-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	$V_O=5V, I_O=10mA$	80	200	-	-
Output voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=0.2V, I_O=5mA$	-	2.8	5.0	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	$V_I=5V, I_O=0$	-	-	0.18	mA
Input resistor (Input to base)	R_1	-	33	47	61	K Ω
Input resistor (Base to common)	R_2	-	33	47	61	K Ω

* : Characteristic of transistor only

Electrical Characteristic Curves

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

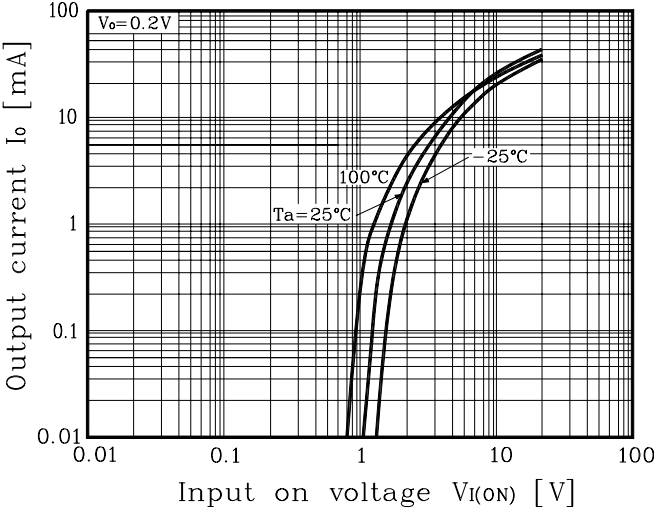


Fig. 2 $I_o - V_{I(OFF)}$

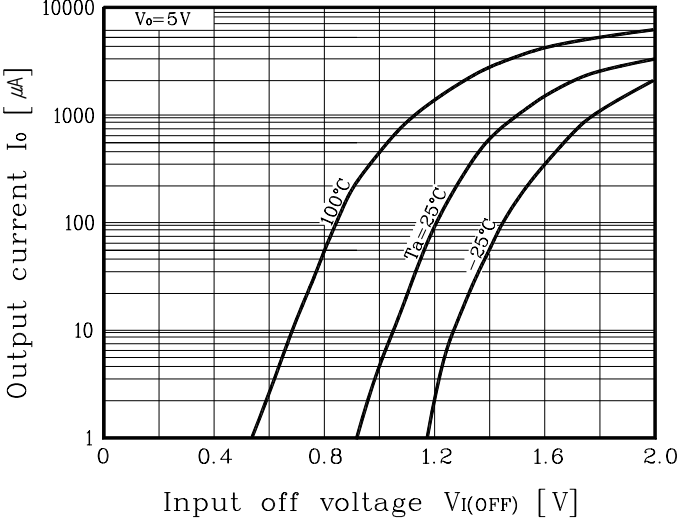
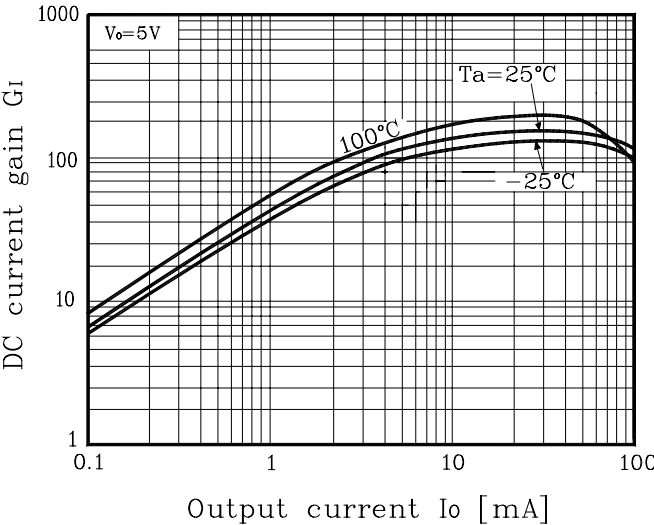


Fig. 3 $G_I - I_o$



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