

Descriptions

- Switching application
- Interface circuit and driver circuit application

Features

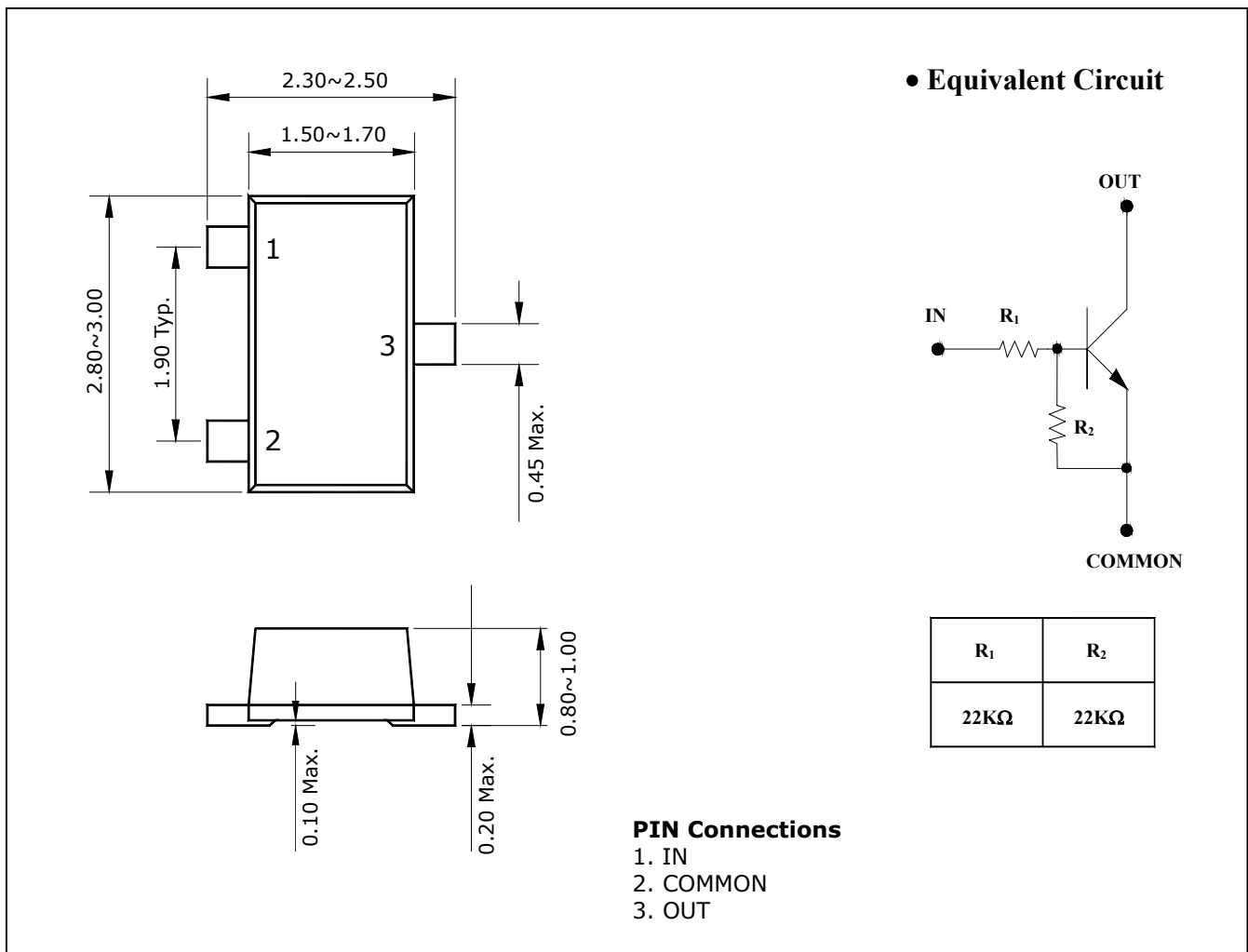
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

Ordering Information

Type NO.	Marking	Package Code
SRC1203SF	RC3	SOT-23F

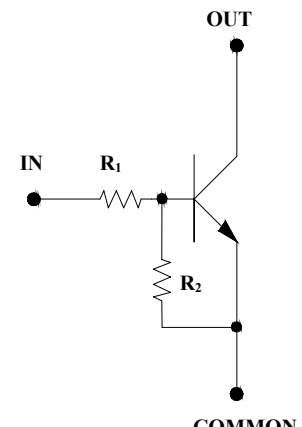
Outline Dimensions

unit : mm



The figure shows the physical dimensions of the SOT-23F package and its equivalent circuit. The top diagram is a top view showing a rectangular package with dimensions: total width 2.30~2.50 mm, inner width 1.50~1.70 mm, total height 2.80~3.00 mm, and a typical height of 1.90 mm. The pins are labeled 1 (IN), 2 (COMMON), and 3 (OUT). The bottom diagram is a side view showing a maximum height of 0.45 mm, a maximum base thickness of 0.10 mm, and a maximum lead height of 0.20 mm. The overall height of the package is 0.80~1.00 mm.

• Equivalent Circuit



R ₁	R ₂
22KΩ	22KΩ

PIN Connections

1. IN
2. COMMON
3. OUT

Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Out voltage	V_O	50	V
Input voltage	V_I	40,-10	V
Out current	I_O	100	mA
Power dissipation	P_D	200	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	$V_O=5V, I_O=10mA$	70	120	-	-
Output voltage	$V_{O(ON)}$	$I_O=10mA, I_I=0.5mA$	-	0.1	0.3	V
Input voltage (ON)	$V_{I(ON)}$	$V_O=0.2V, I_O=5mA$	-	2.1	3.0	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	$V_I=5V, I_O=0$	-	-	0.36	mA
Input resistor (Input to base)	R_1	-	15.4	22	28.6	K Ω
Input resistor (Base to common)	R_2	-	15.4	22	28.6	K Ω

* : Characteristic of transistor only

Electrical Characteristic Curves

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

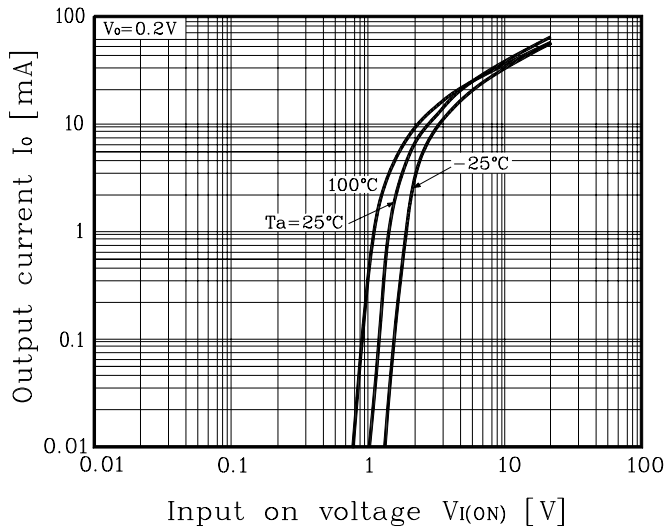


Fig. 2 $I_o - V_{I(OFF)}$

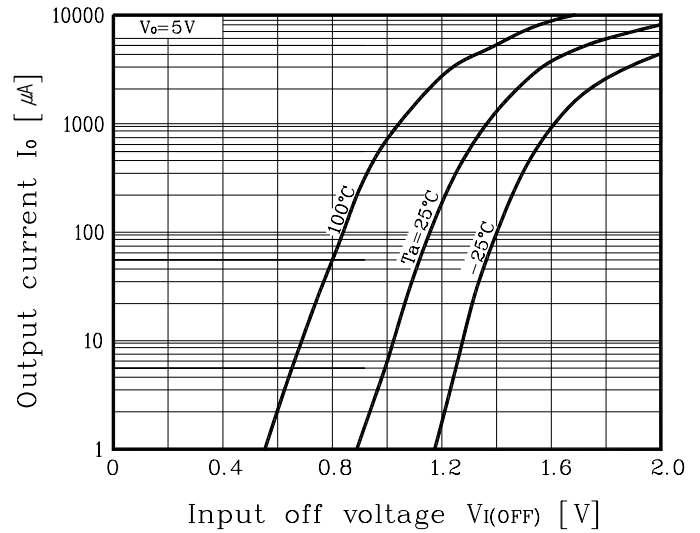
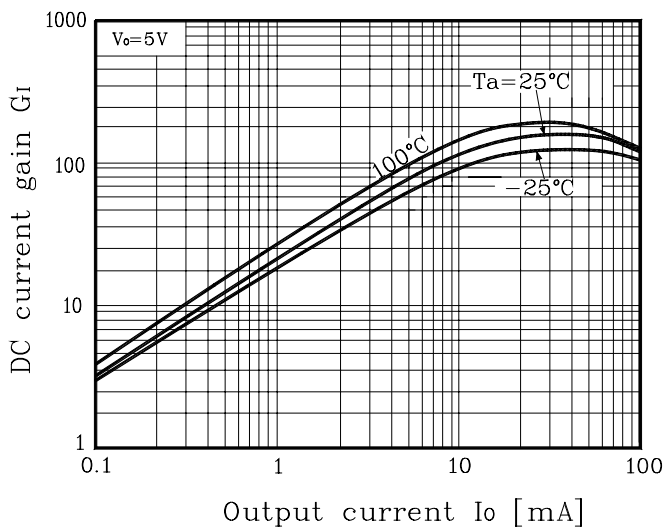


Fig. 3 $G_I - I_o$



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