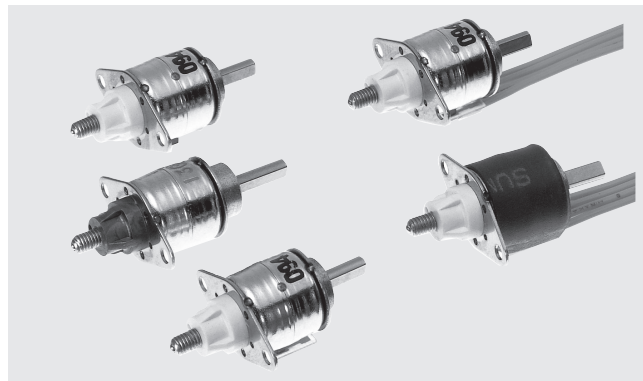


STEPPING MOTORS

SPS10

The SPS10 series uses a screw construction in the front shaft, creating an actuator for converting rotational force into linear force. The shaft extends as it rotates, and there is steel ball on the end for pushing the object. The motor is a normal PM stepping motor and can be driven with a standard stepping motor driver. The characteristics assume intermittent driving.



FEATURES

- Precision position control is possible (20 μ m/step, \pm 7 μ m: initial value)
- Most compact size of the SPS series
- Position can be held with power off
- Soft running is possible, proportional control is easy
- Good matching with micro stepping drive
- RoHS compliant

APPLICATIONS

- Other precisely position sensing
- Small bulbs
- Game machines

PART NUMBER DESIGNATION

SPS10 - 2 18 22 - 1002

Series name

Number of phases

2 : 2 phases

Step angle (at 2 phases-EX.)

18°

Winding resistance

22 : 22 Ω

Code for a model (In reference to a name of product)

1002 : Pin terminals

1101 : With PCB

1200 : With PCB and lead wire

1300 : With PCB, lead wire and heat shrink tube

1003 : 10 mm stroke

Lot production is required. Please consult us for ordering.

SPS10

STEPPING MOTORS

STANDARD SPECIFICATIONS

Item	SPS10 series	Remarks
Number of phases/Excitation	2/2 phases bipolar	—
Steps	20	2 phases-EX.
Screw pitch	0.4 mm	—
Step size	20 μm	2 phases-EX.
Winding resistance	22 Ω	—
Allowable thrust	4.9 N	—
Thrust	0.98 N	Reference value
Voltage	Refer to PERFORMANCE CURVES	Initial strength value
Current		
Pull-in thrust		
Pull-out thrust		
Temperature increase	Refer to TEMPERATURE CHARACTERISTICS	—
Insulation resistance	30 MΩ minimum	DC500 V
Dielectric strength	500 Vrms	AC, 1 min
Effective mechanical stroke	8 mm (Code-1003 is 11 mm)	—
Effective stroke	7 mm (Code-1003 is 10 mm)	
Operating temperature range	0~50 °C	
Storage temperature range	-10~ 60 °C	
Life	1 million cycles minimum at a load 0.98 N	Reference value ※ 1
Net weight	Approx. 6 g maximum	—

Wiring diagram

When 2 phase-EX. is in order the motor shaft moves ahead step 1 → 4 .

step	φ1	φ3	φ2	φ4
1	H	L	H	L
2	L	H	H	L
3	L	H	L	H
4	H	L	L	H
1	H	L	H	L

※ Please contact us for driving the micro step.

※ 1: Life depends on greatly how to use it. For more information, please contact us.

Lot production is required. Please consult us for ordering.

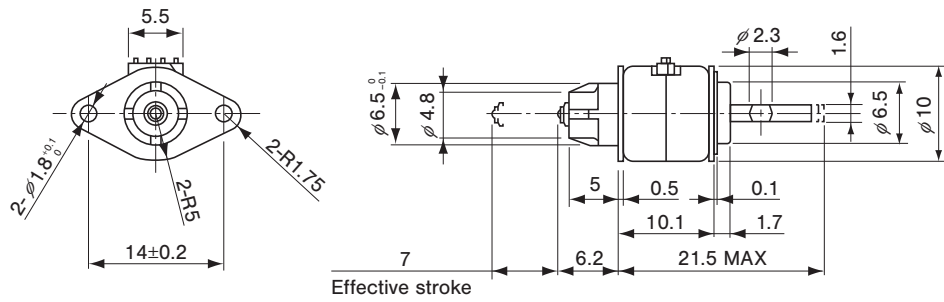
SPS10

STEPPING MOTORS

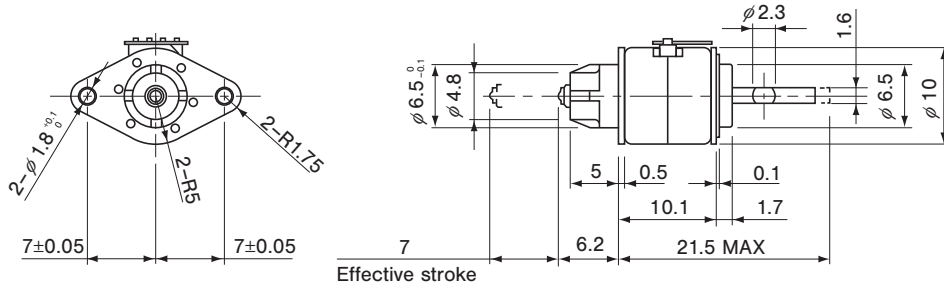
OUTLINE DIMENSIONS

Unless otherwise specified tolerance: ± 0.5 (Unit: mm)

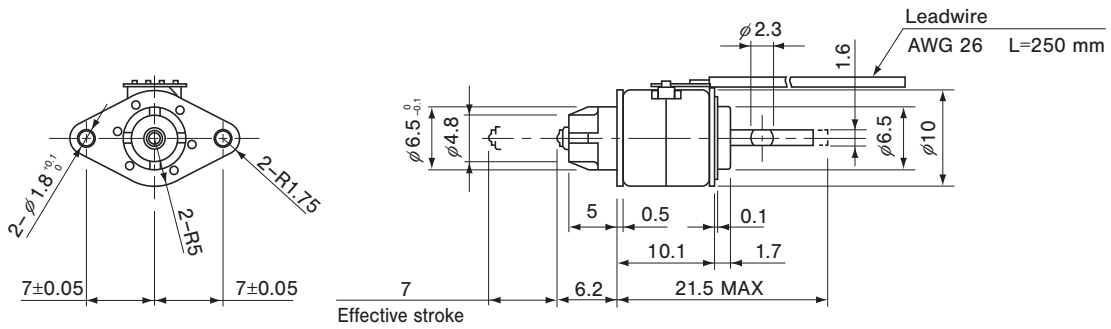
SPS10-1002



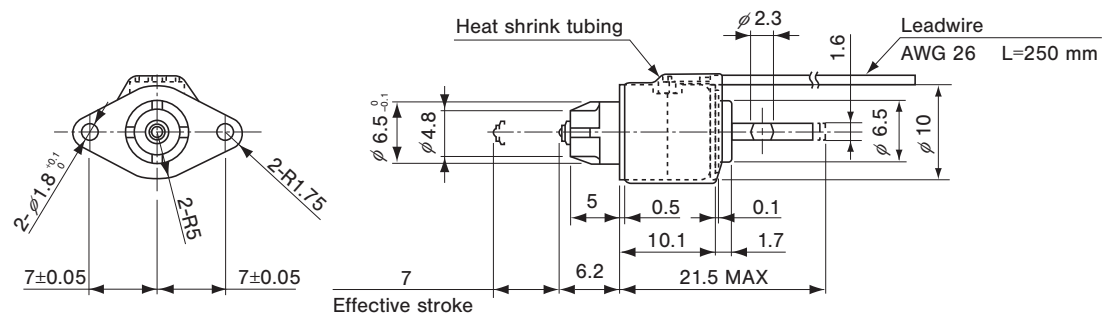
SPS10-1101



SPS10-1200



SPS10-1300



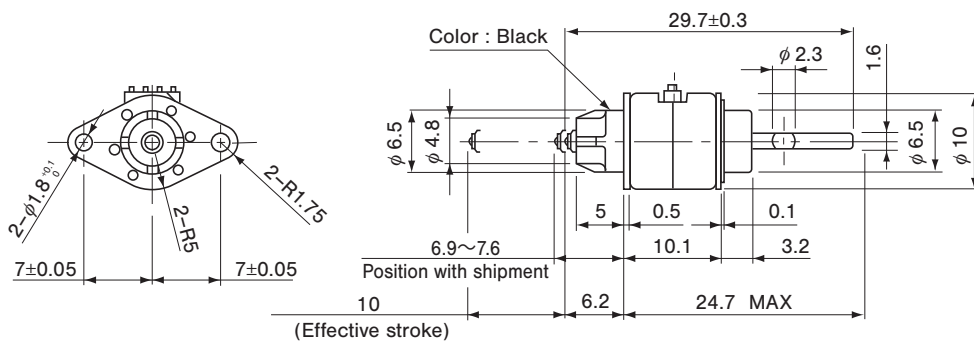
SPS10

STEPPING MOTORS

OUTLINE DIMENSIONS

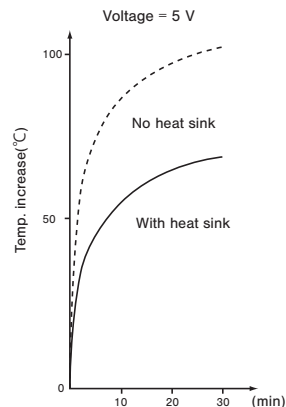
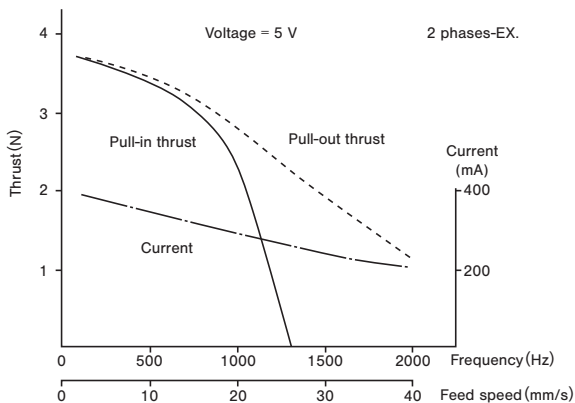
SPS10-1003

Unless otherwise specified tolerance: ± 0.5 (Unit: mm)



PERFORMANCE CURVES (Reference values) TEMPERATURE CHARACTERISTICS

(at 500 Hz-2 phases-EX., Heat sink : 50 mm x 100 mm x 1 mm Aluminium plate)



※ These performance curves show actual value, not guaranteed value.