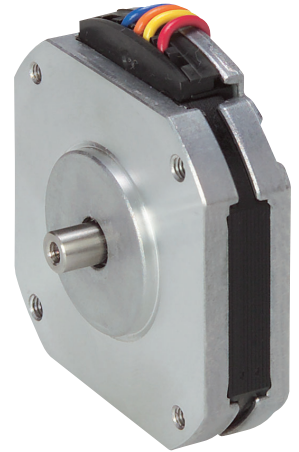


SANMOTION

New Product Information

2-phase Stepping Motor 42 mm square by 11.6 mm thin

SANYO DENKI EUROPE SA. is pleased to introduce its new 2-phase 1.8° per step very thin stepping motor serie «SANMOTION F2 - SS24». This serie has achieved industry-leading thinness of 11.6 mm among 42 mm square size motors.



■ Specifications

Basic angle : 1.8°

Winding : bipolar (unipolar models available upon request) with lead wire output

Rated current : 1A/phase

Model No.		Size		Holding torque at 2-phase energization	Mass
Single shaft	Double shaft	Flange size	Motor length		
SS2421-5041	SS2421-5011	42 mm	11.6 mm	0.083 Nm min.	0.07 kg
SS2422-5041	SS2422-5011	42 mm	18.6 mm	0.186 Nm min.	0.14 kg
SS2423-5041	SS2423-5011	42 mm	25.6 mm	0.24 Nm min.	0.2 kg

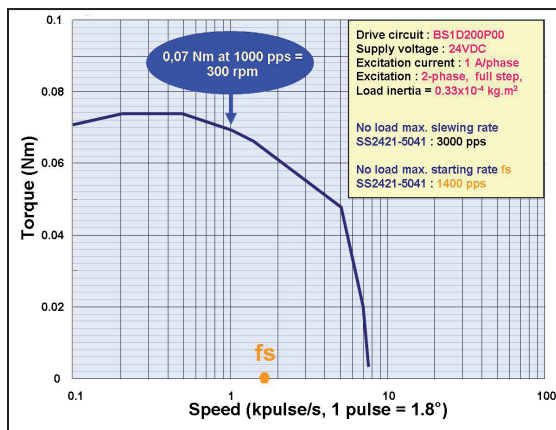


Figure 1 : SS2421 Torque - Speed Curve

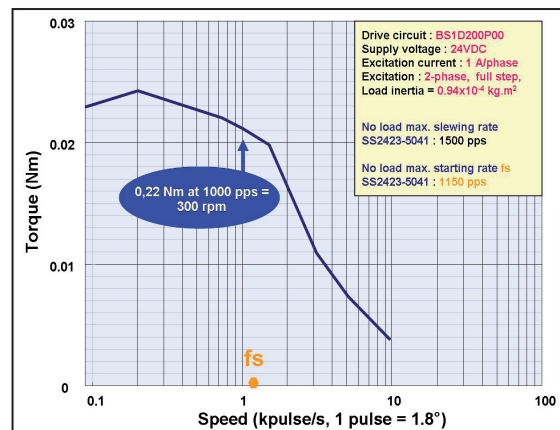


Figure 2 : SS2423 Torque - Speed Curve

■ Main features

Industry Leading Thinness 11.6 mm with high torque

The first motor of this serie is the higher torque hybrid stepping motor of the market with such small thickness of 11,6 mm and a weight of 0,07 kg. Easily installed into very compact devices, it contributes to downsizing of equipments and offer new design possibilities for device manufacturers.

■ Target Applications

Small surveillance camera, chip mounter and semiconductor manufacturing device, general-purpose mounter, medical inspection device, etc.



2-phase stepping motor

42mm sq.(1.65inch sq.)

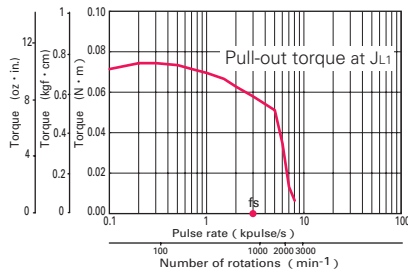
SS2421
1.8 ° / step Bipolar winding

Unipolar winding • Lead wire type

Model		Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Mass (Weight)
Single shaft	Double shafts	[N · m (oz · in) MIN.]	A/phase	/phase	mH/phase	[× 10 ⁻⁴ kg · m ² (oz · in ²)]	[kg(lbs)]
SS2421-5041	-5011	0.083 (11.75)	1	3.5	1.2	0.015 (0.082)	0.07 (0.15)
SS2422-5041	-5011	0.186 (26.33)	1	5.4	2.9	0.028 (0.153)	0.14 (0.31)
SS2423-5041	-5011	0.240 (33.98)	1	7.3	5	0.038 (0.208)	0.20 (0.44)

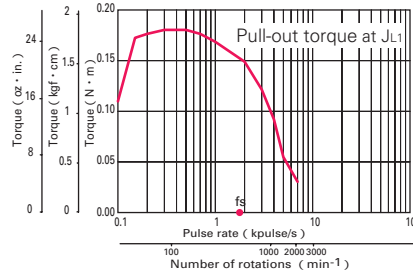
Pulse rate-torque characteristics

SS2421-50



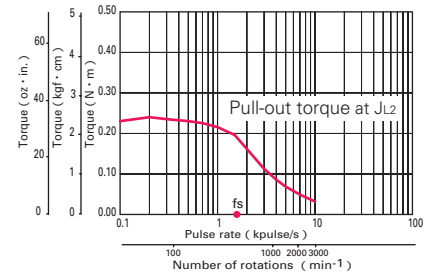
Constant current circuit
Source voltage : DC24V · operating current : 1A/phase,
2-phase energization (full-step)
 J_{L1} = [0.33x10⁻⁴kg · m² (1.80 oz · in²) inertia of rubber coupling is
in cluded]
 J_{L2} = [0.94x10⁻⁴kg · m² (5.14 oz · in²) inertia of rubber coupling is
in cluded]
fs: No load maximum starting pulse rate

SS2422-50



Constant current circuit
Source voltage : DC24V · operating current : 1A/phase,
2-phase energization (full-step)
 J_{L1} = [0.33x10⁻⁴kg · m² (1.80 oz · in²) inertia of rubber coupling is
in cluded]
 J_{L2} = [0.94x10⁻⁴kg · m² (5.14 oz · in²) inertia of rubber coupling is
in cluded]
fs: No load maximum starting pulse rate

SS2423-50

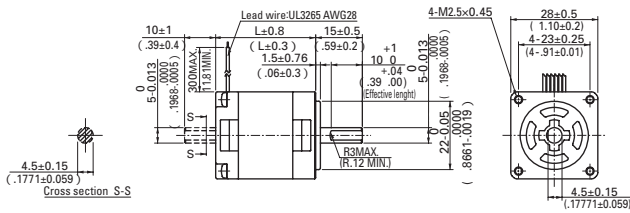


Constant current circuit
Source voltage : DC24V · operating current : 1A/phase,
2-phase energization (full-step)
 J_{L1} = [0.33x10⁻⁴kg · m² (1.80 oz · in²) inertia of rubber coupling is
in cluded]
 J_{L2} = [0.94x10⁻⁴kg · m² (5.14 oz · in²) inertia of rubber coupling is
in cluded]
fs: No load maximum starting pulse rate

The data are measured under the drive condition of our company. The drive torque may very depending on the accuracy of customer-side equipment.

Motors [Unit: mm (inch)]

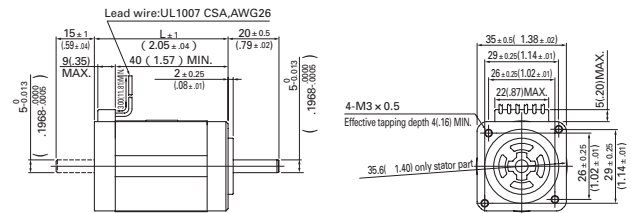
28mm (1.10inch)



Connector type Lead wire type

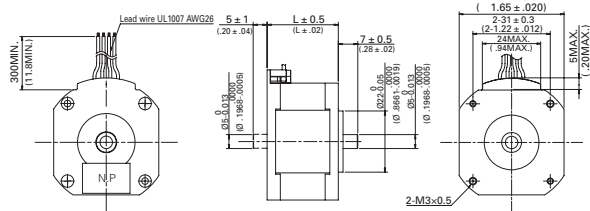
	Set part number	Motor model number	Motor length : mm (inch)	Cable type
Unipolar	DU14S281	SH2281-51	1 32(1.26)	Lead wire
	DU14S281	SH2281-52	1 32(1.26)	Lead wire
	DU14S285	SH2285-51	1 51.5(2.03)	Lead wire
	DU14S285	SH2285-52	1 51.5(2.03)	Lead wire
Bipolar	DB14S281	SH2281-56	1 32(1.26)	Lead wire
	DB14S281	SH2281-57	1 32(1.26)	Lead wire
	DB14S285	SH2285-56	1 51.5(2.03)	Lead wire
	DB14S285	SH2285-57	1 51.5(2.03)	Lead wire

35mm (1.65inch)



	Set part number	Motor model number	Motor length : mm (inch)	Cable type
Unipolar	—	SH3533-12U	0 33(1.25)	Lead wire
	—	SH3537-12U	0 37(1.54)	Lead wire
	—	SH3552-12U	0 52(1.89)	Lead wire
	—	SH3552-12U	0 52(1.89)	Lead wire

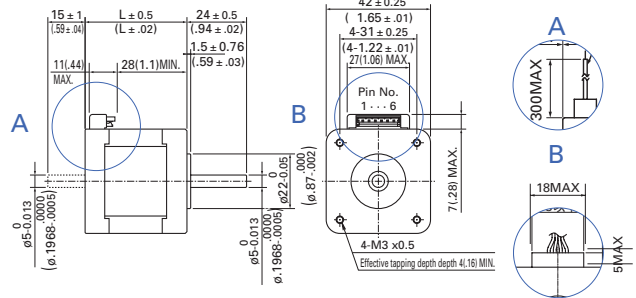
42mm (1.65inch)



Lead wire type

	Set part number	Motor model number	Motor length : mm (inch)	Cable type
Bipolar	—	SS2421-50	1 11.6(.457)	Lead wire
	—	SS2422-50	1 18.6(.732)	Lead wire
	—	SS2423-50	1 25.6(1.008)	Lead wire

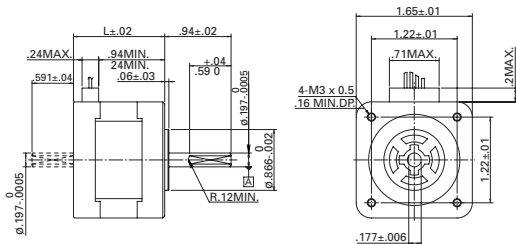
42mm (1.65inch)



Connector type Lead wire type

	Set part number	Motor model number	Motor length : mm (inch)	Cable type
Unipolar	DU15H521	103H5205-04	0 33(1.25)	Connector
	DU15H522	103H5208-04	0 39(1.54)	Connector
	DU15H524	103H5210-04	0 48(1.89)	Connector
	—	103H5209-04	0 41(1.61)	Connector

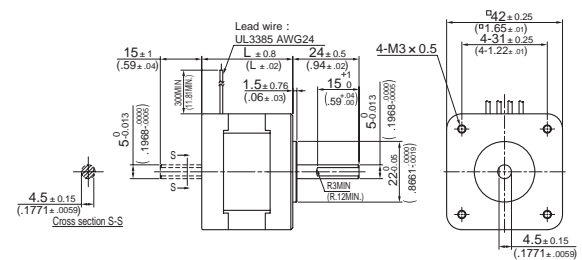
42mm (1.65inch)



Connector type Lead wire type

	Set part number	Motor model number	Motor length : mm (inch)	Cable type
Bipolar	DB14H521	103H5205-52	0 33(1.25)	Lead wire
	DB14H522	103H5208-52	0 39(1.54)	Lead wire
	DB14H524	103H5210-52	0 48(1.89)	Lead wire
	—	103H5205-50	0 33(1.25)	Lead wire
	—	103H5205-51	0 33(1.25)	Lead wire
	—	103H5208-50	0 39(1.54)	Lead wire
	—	103H5208-51	0 39(1.54)	Lead wire
	—	103H5209-50	0 41(1.61)	Lead wire
	—	103H5209-51	0 41(1.61)	Lead wire
	—	103H5209-52	0 41(1.61)	Lead wire
	—	103H5210-50	0 48(1.89)	Lead wire
	—	103H5210-51	0 48(1.89)	Lead wire

42mm (1.65inch)



Lead wire type

	Set part number	Motor model number	Motor length : mm (inch)	Cable type
Unipolar	DU15S141	SH1421-04	1 33(1.25)	Lead wire
	DU15S142	SH1422-04	1 39(1.54)	Lead wire
	DU15S144	SH1424-04	1 48(1.89)	Lead wire
Bipolar	DB16H141	SH1421-52	1 33(1.25)	Lead wire
	DB16H142	SH1422-52	1 39(1.54)	Lead wire
	DB16H144	SH1424-52	1 48(1.89)	Lead wire

: Motor shaft specification code

Motor shaft spec	Set type code	Motor type code
Single shaft	S	7
Double shafts	D	3

: Motor shaft specification code

Motor shaft spec	Set type code	Motor type code
Single shaft	S	4
Double shafts	D	1