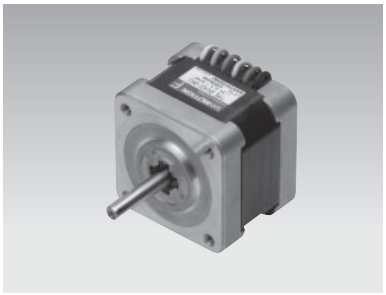


42 mm sq.

0.9°/step RoHS

Unipolar, lead type

ECO PRODUCTS

Custom options

Hollow shaft | Custom shaft | Gear | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

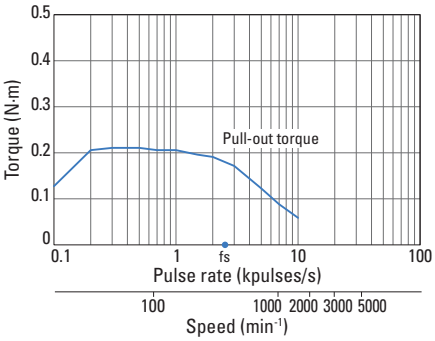
Unipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
SH1421-0441	**SH1421-0411**	0.2	1.2	2.7	3.2	0.044	0.24	33
SH1422-0441	**SH1422-0411**	0.29	1.2	3.1	5.3	0.066	0.29	39
SH1424-0441	**SH1424-0411**	0.39	1.2	3.5	5.3	0.089	0.38	48

Characteristics

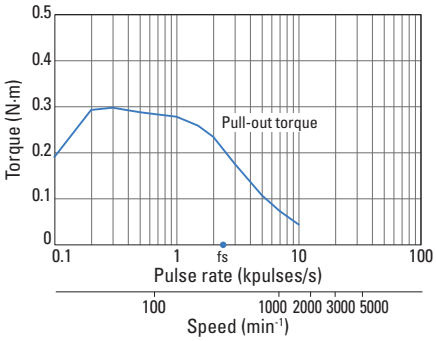
SH1421-0441 SH1421-0411

Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



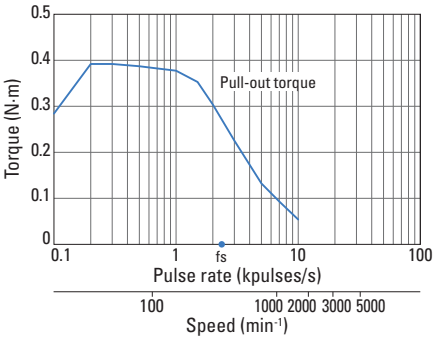
SH1422-0441 SH1422-0411

Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load

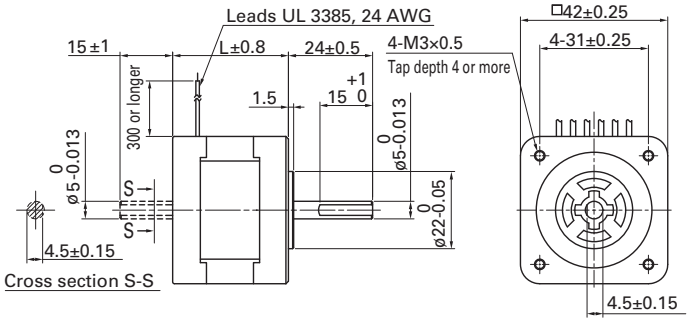


SH1424-0441 SH1424-0411

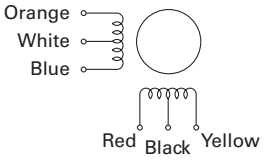
Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding

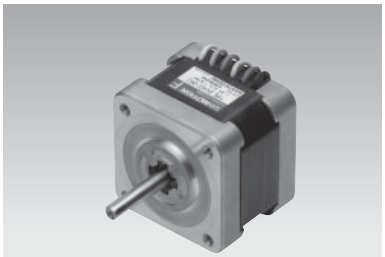


Compatible drivers

Model no.: US1D200P10 (DC input)
Operating current selection switch setting: 8
Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



Note: The photo shows a unipolar motor.

42 mm sq.

0.9°/step RoHS

Bipolar, lead type

ECO PRODUCTS

Custom options

Hollow shaft | Custom shaft | Gear | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

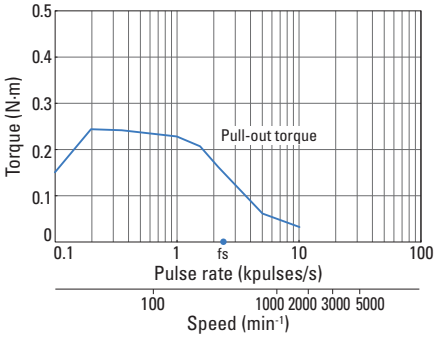
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
SH1421-5041	SH1421-5011	0.23	1	3.3	8.0	0.044	0.24	33
SH1421-5241	SH1421-5211	0.23	2	0.85	2.1	0.044	0.24	33
SH1422-5041	SH1422-5011	0.34	1	4.0	14.0	0.066	0.29	39
SH1422-5241	SH1422-5211	0.34	2	1.05	3.6	0.066	0.29	39
SH1424-5041	SH1424-5011	0.48	1	4.7	15.0	0.089	0.38	48
SH1424-5241	SH1424-5211	0.48	2	1.25	3.75	0.089	0.38	48

Characteristics

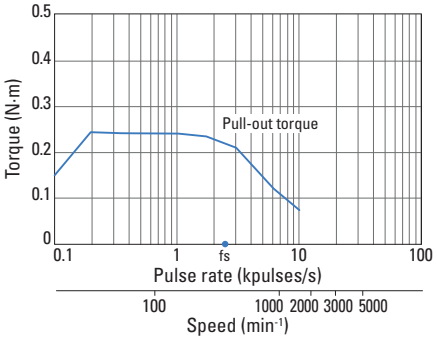
SH1421-5041 SH1421-5011

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



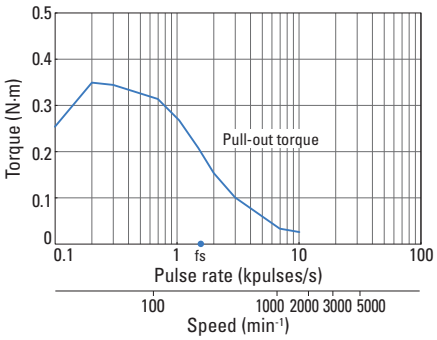
SH1421-5241 SH1421-5211

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



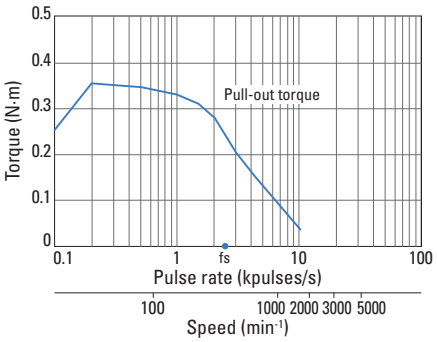
SH1422-5041 SH1422-5011

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



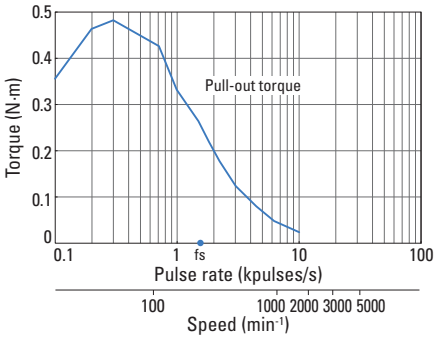
SH1422-5241 SH1422-5211

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



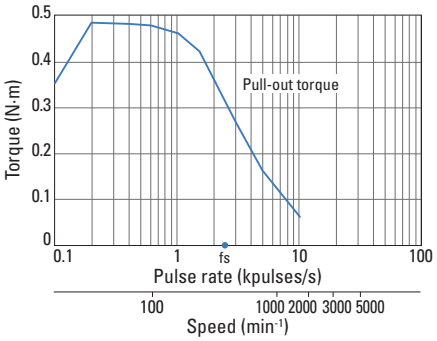
SH1424-5041 SH1424-5011

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load

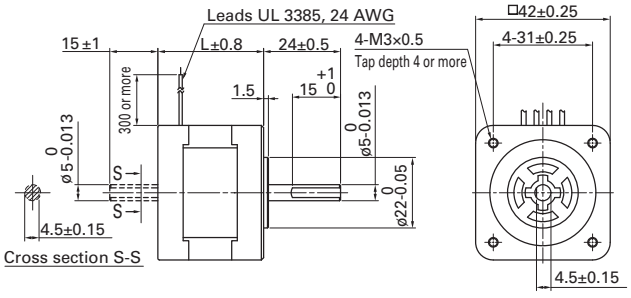


SH1424-5241 SH1424-5211

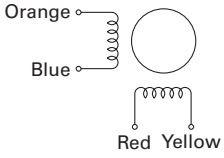
Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



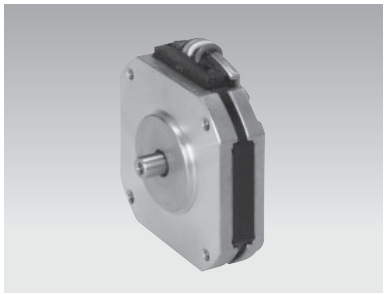
Compatible drivers

- For motors SH142□-52□1 (2 A/phase)...
  Model no.: BS1D200P10 (DC input)
  Operating current selection switch setting: 0
- For motors SH142□-50□1 (1 A/phase)...
  Model no.: BS1D200P10 (DC input)
  Operating current selection switch setting: A

Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70
General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



42 mm sq.

1.8°/step **Thin-profile** **RoHS**

Bipolar, lead type

ECO PRODUCTS

Custom options

Hollow shaft | Custom shaft | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

Bipolar, lead type Radial load: 10 N

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
SS2421-5041	**SS2421-5011**	0.083	1	3.5	1.2	0.015	0.07	11.6
SS2422-5041	**SS2422-5011**	0.186	1	5.4	2.9	0.028	0.14	18.6

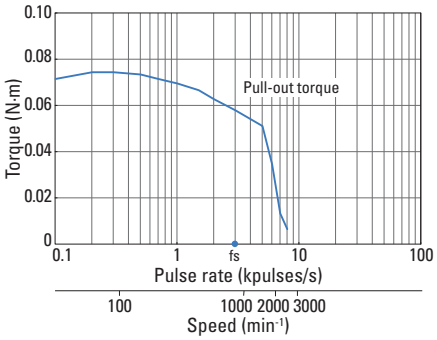
Bipolar, lead type Heavy duty Radial load: 25 N

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
SS2421-50400	**SS2421-50100**	0.083	1	3.5	1.2	0.015	0.09	14.5
SS2422-50400	**SS2422-50100**	0.186	1	5.4	2.9	0.028	0.16	21.5

Characteristics

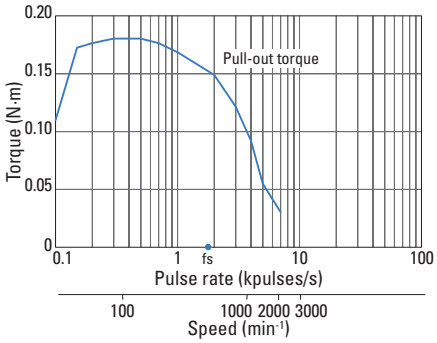
SS2421-5041
SS2421-5011
SS2421-50400
SS2421-50100

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.33 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



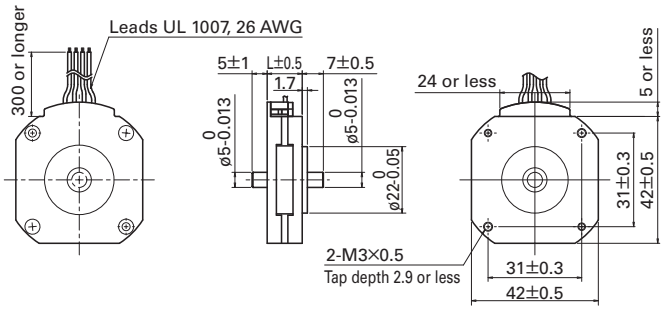
SS2422-5041
SS2422-5011
SS2422-50400
SS2422-50100

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.33 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load

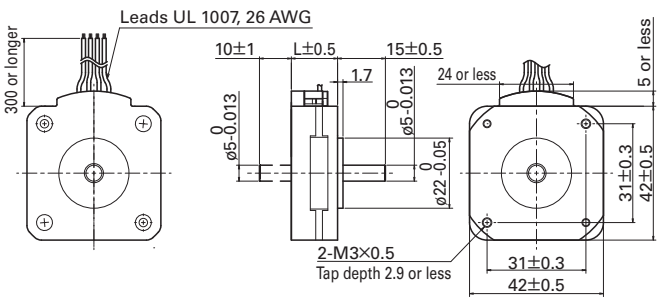


Dimensions (Unit: mm)

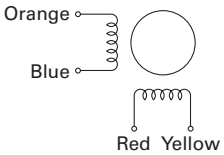
Model no.: SS242□-50□□



Model no.: SS242□-50□00



Internal winding

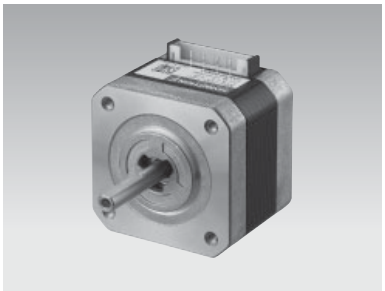


Compatible drivers

Model no.: BS1D200P10 (DC input)
Operating current selection switch setting: A
Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



42 mm sq.

1.8°/step RoHS

Unipolar, connector type

Bipolar, connector type ▶p. 45

ECO PRODUCTS

Custom options

Custom shaft | Gear | Encoder | Brake

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

Unipolar, connector type

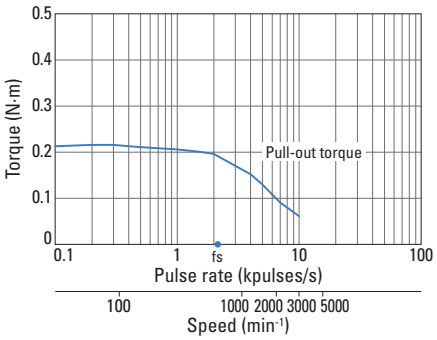
Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$kg·m^2	kg	mm
SF2421-12U41	SF2421-12U11	0.22	1.2	2.4	2.4	0.031	0.23	33 ± 0.5
SF2422-12U41	SF2422-12U11	0.33	1.2	3	3.3	0.046	0.3	39 ± 0.5
SF2423-12U41	SF2423-12U11	0.4	1.2	3.4	3.9	0.063	0.38	48 ± 0.5
SF2424-12U41	SF2424-12U11	0.58	1.2	4.4	5.4	0.094	0.51	59.5 ± 1

Motor cable model no.: 4835774-1

Characteristics

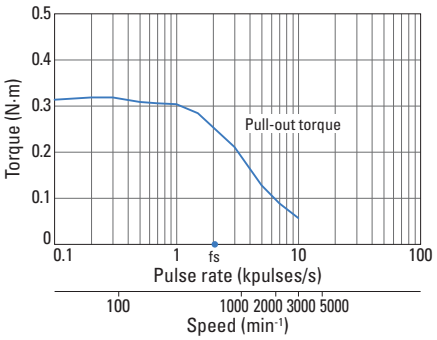
SF2421-12U41 SF2421-12U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



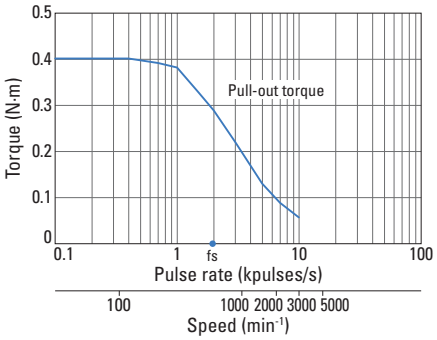
SF2422-12U41 SF2422-12U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



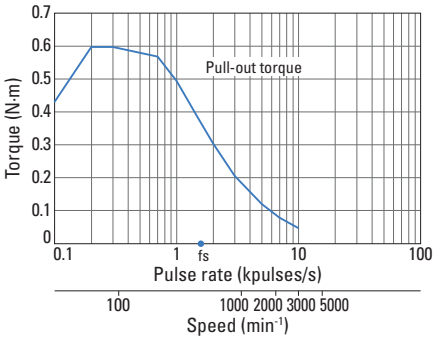
SF2423-12U41 SF2423-12U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load

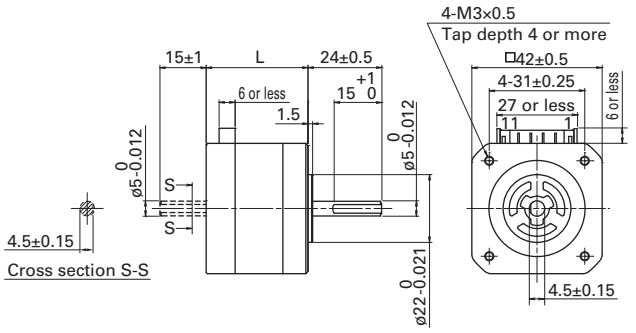


SF2424-12U41 SF2424-12U11

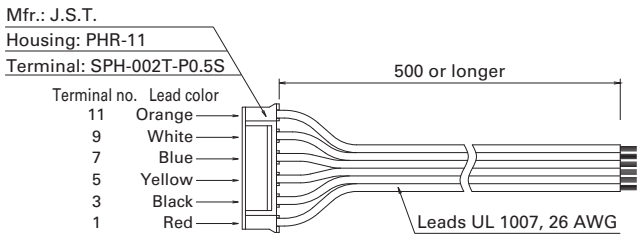
Constant current circuit
Input voltage: 24 VDC
Winding current:
1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



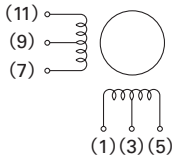
Separate option: Motor cable 4835774-1



This is a motor cable for model nos. SF242□-12U□1

Internal wiring

In parentheses are connector pin nos.



Compatible drivers

Model no.: US1D200P10 (DC input)

Operating current selection switch setting: 8

Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

Bipolar, connector type

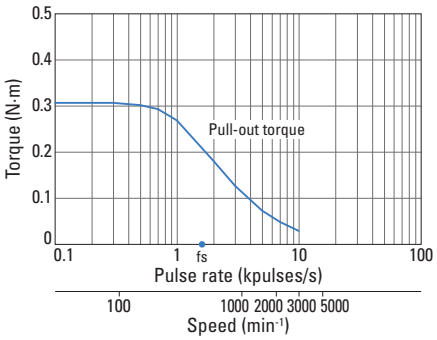
Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
SF2421-10B41	**SF2421-10B11**	0.29	1	3.6	7	0.031	0.23	33 ± 0.5
SF2422-10B41	**SF2422-10B11**	0.43	1	4.6	9.6	0.046	0.3	39 ± 0.5
SF2423-10B41	**SF2423-10B11**	0.56	1	5.3	12.5	0.063	0.38	48 ± 0.5
SF2424-10B41	**SF2424-10B11**	0.8	1	6.5	16	0.094	0.51	59.5 ± 1

Motor cable model no.: 4835775-1

Characteristics

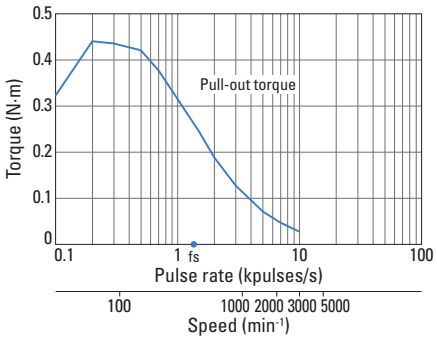
SF2421-10B41 SF2421-10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



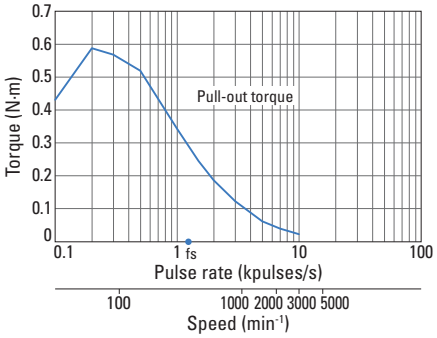
SF2422-10B41 SF2422-10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



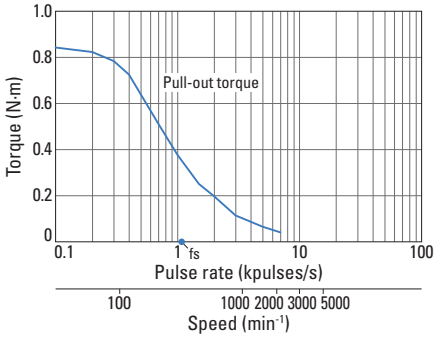
SF2423-10B41 SF2423-10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load

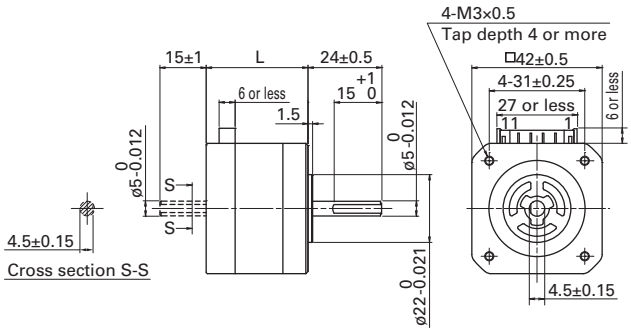


SF2424-10B41 SF2424-10B11

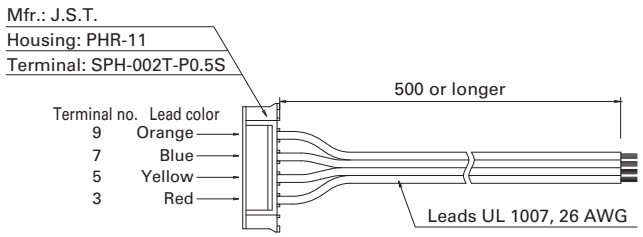
Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



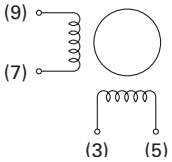
Separate option: Motor cable 4835775-1



This is a motor cable for model nos. SF242□-10B□1

Internal wiring

In parentheses are connector pin nos.

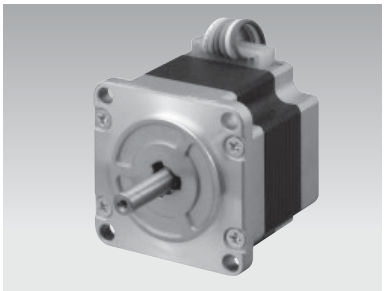


Compatible drivers

Model no.: BS1D200P10 (DC input)
Operating current selection switch setting: A
Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



50 mm sq.

1.8°/step RoHS

Unipolar, lead type

Bipolar, lead type ▶p. 48

Custom options

Hollow shaft | Custom shaft | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

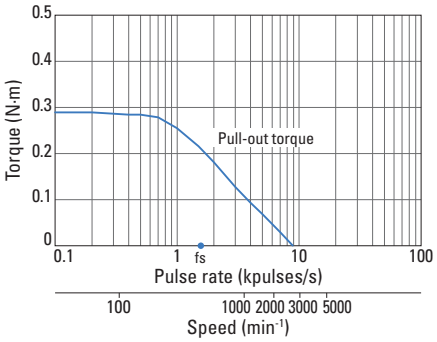
Unipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
103H6701-0140	103H6701-0110	0.28	1	4.3	6.8	0.057	0.35	39.8
103H6701-0440	103H6701-0410	0.28	2	1.1	1.6	0.057	0.35	39.8
103H6701-0740	103H6701-0710	0.28	3	0.6	0.7	0.057	0.35	39.8
103H6703-0140	103H6703-0110	0.49	1	6	13	0.118	0.5	51.3
103H6703-0440	103H6703-0410	0.49	2	1.6	3.2	0.118	0.5	51.3
103H6703-0740	103H6703-0710	0.49	3	0.83	1.4	0.118	0.5	51.3
103H6704-0140	103H6704-0110	0.52	1	6.5	16.5	0.14	0.55	55.8
103H6704-0440	103H6704-0410	0.52	2	1.7	3.8	0.14	0.55	55.8
103H6704-0740	103H6704-0710	0.53	3	0.9	1.7	0.14	0.55	55.8

Characteristics

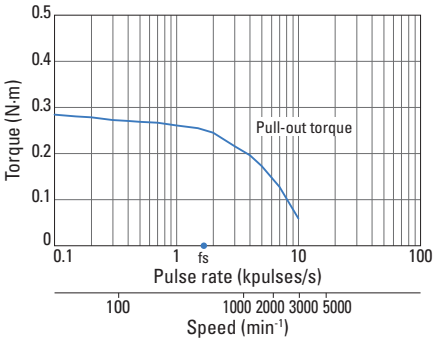
103H6701-0140 103H6701-0110

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



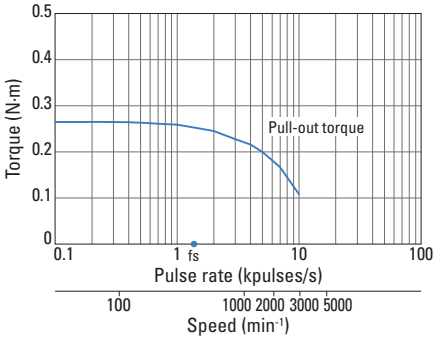
103H6701-0440 103H6701-0410

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



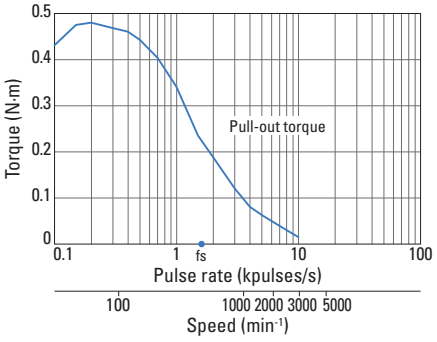
103H6701-0740 103H6701-0710

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



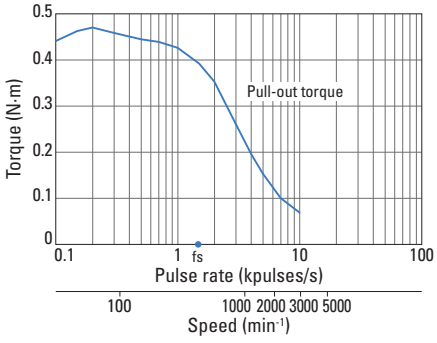
103H6703-0140 103H6703-0110

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



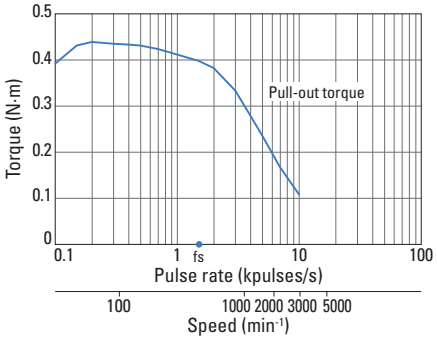
103H6703-0440 103H6703-0410

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



103H6703-0740 103H6703-0710

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



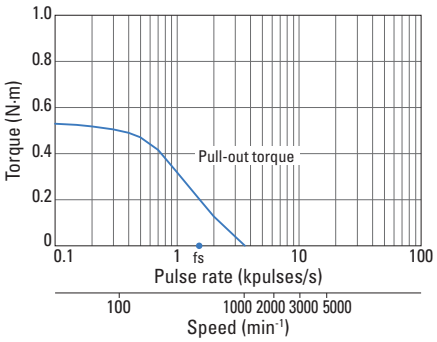
Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

Characteristics

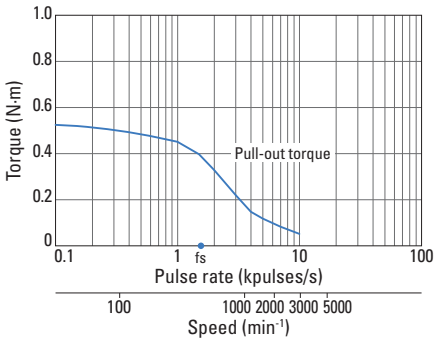
103H6704-0140
103H6704-0110

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



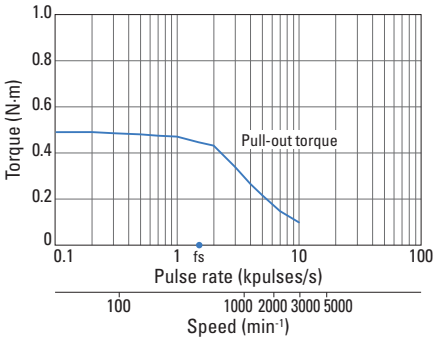
103H6704-0440
103H6704-0410

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load

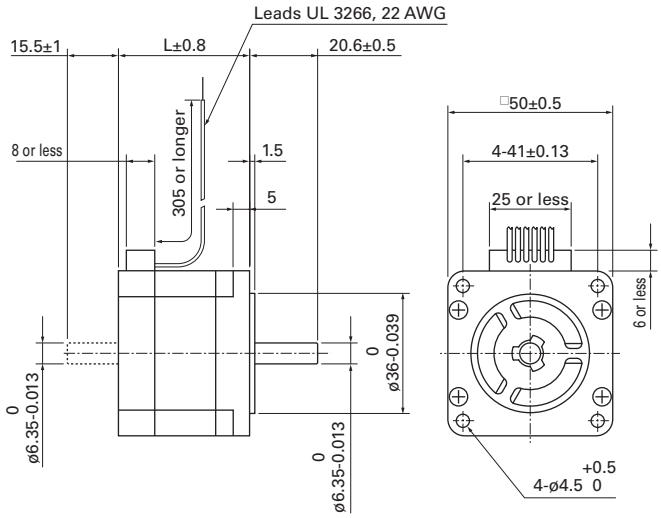


103H6704-0740
103H6704-0710

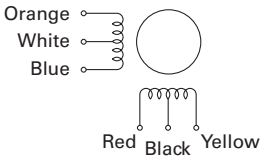
Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



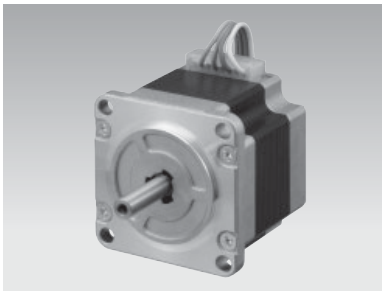
Compatible drivers

- For motors 103H670 □ -04 □ 0 (2 A/phase)...
  Model no.: US1D200P10 (DC input)
  Operating current selection switch setting: 0
- For motors other than above...
  A driver is to be provided by the customer.

Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



50 mm sq.

1.8°/step RoHS

Bipolar, lead type

Unipolar, lead type ▶p. 46

Custom options

Hollow shaft | Custom shaft | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

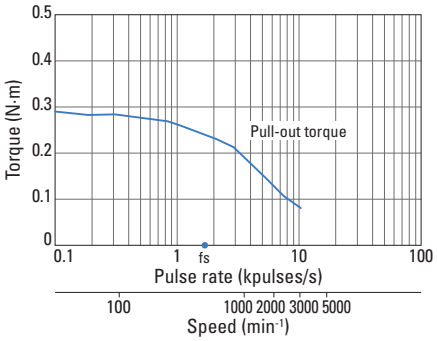
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
103H6701-5040	**103H6701-5010**	0.28	2	0.6	1.6	0.057	0.35	39.8
103H6703-5040	**103H6703-5010**	0.49	2	0.8	3.2	0.118	0.5	51.3
103H6704-5040	**103H6704-5010**	0.52	2	0.9	3.8	0.14	0.55	55.8

Characteristics

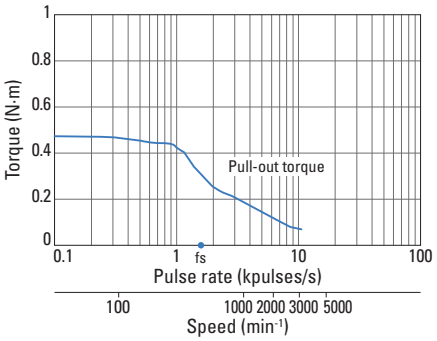
103H6701-5040 103H6701-5010

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



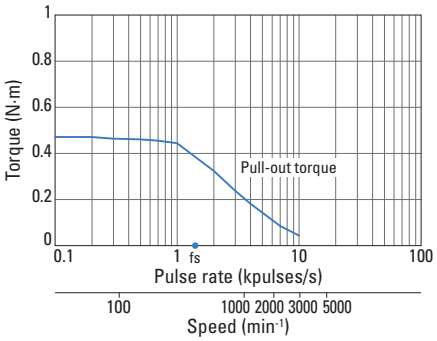
103H6703-5040 103H6703-5010

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load

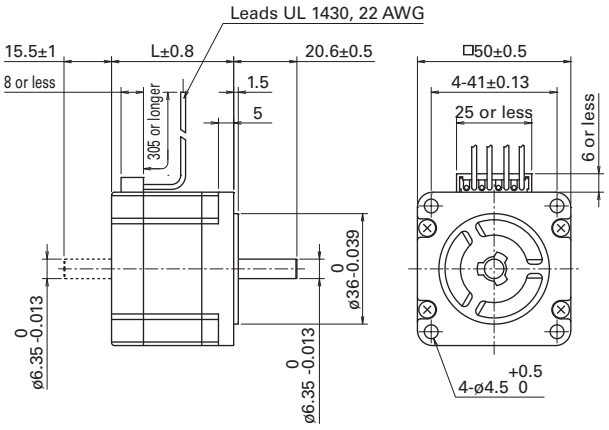


103H6704-5040 103H6704-5010

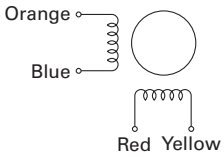
Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



Compatible drivers

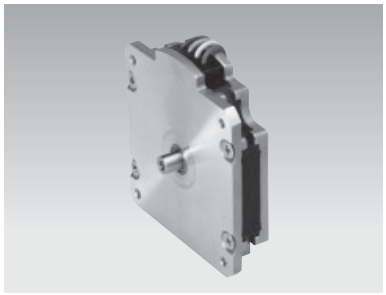
Model no.: BS1D200P10 (DC input)

Operating current selection switch setting: 0

Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



50 mm sq.

1.8°/step **Thin-profile** **RoHS**

Bipolar, lead type

Custom options

Hollow shaft | Custom shaft

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

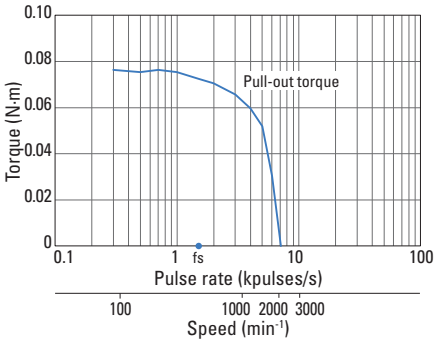
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$kg·m^2	kg	mm
SS2501-8040	**SS2501-8010**	0.1	1	4.5	2	0.026	0.09	11.4
SS2502-8040	**SS2502-8010**	0.215	1	5.9	3.2	0.049	0.15	16.4

Characteristics

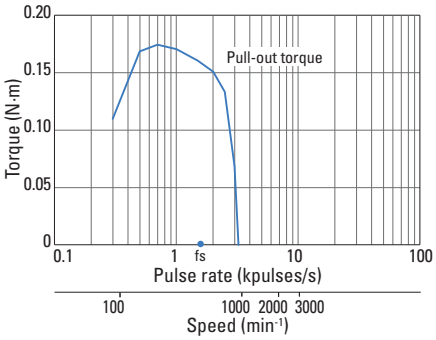
SS2501-8040
SS2501-8010

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.01 \times 10^{-4}$kg·m^2
(Pulley balancer method)
f_S: Maximum starting pulse rate with no load

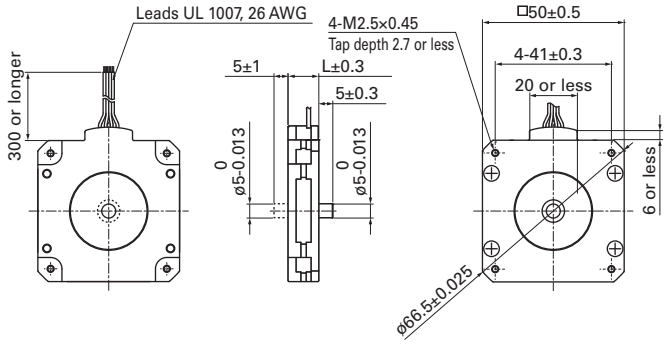


SS2502-8040
SS2502-8010

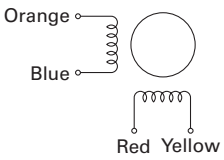
Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.01 \times 10^{-4}$kg·m^2
(Pulley balancer method)
f_S: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



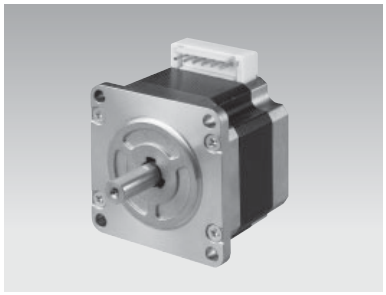
Compatible drivers

Model no.: BS1D200P10 (DC input)

Operating current selection switch setting: A

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



56 mm sq.

1.8°/step RoHS

Unipolar, connector type

ECO PRODUCTS

Custom options

Hollow shaft | Custom shaft | Gear | Encoder | Brake

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

Unipolar, connector type

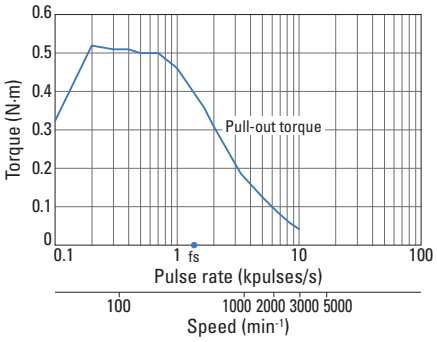
Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm
SM2561C10U41	**SM2561C10U11**	0.53	1	4.3	6.8	0.14	0.49	41.8
SM2561C20U41	**SM2561C20U11**	0.53	2	1.15	1.8	0.14	0.49	41.8
SM2561C30U41	**SM2561C30U11**	0.53	3	0.52	0.77	0.14	0.49	41.8
SM2562C10U41	**SM2562C10U11**	1.1	1	5.85	12.6	0.28	0.69	53.8
SM2562C20U41	**SM2562C20U11**	1.1	2	1.55	3.3	0.28	0.69	53.8
SM2562C30U41	**SM2562C30U11**	1.1	3	0.69	1.37	0.28	0.69	53.8
SM2563C10U41	**SM2563C10U11**	1.7	1	7.8	17	0.5	1.1	75.8
SM2563C20U41	**SM2563C20U11**	1.7	2	1.87	4.2	0.5	1.1	75.8
SM2563C30U41	**SM2563C30U11**	1.7	3	0.74	1.75	0.5	1.1	75.8
SM2564C10U41	**SM2564C10U11**	1.75	1	9	22	0.6	1.27	85.8
SM2564C20U41	**SM2564C20U11**	1.75	2	2.1	5.4	0.6	1.27	85.8
SM2564C30U41	**SM2564C30U11**	1.75	3	0.84	2.2	0.6	1.27	85.8

Motor cable model no.: 4837798-1

Characteristics

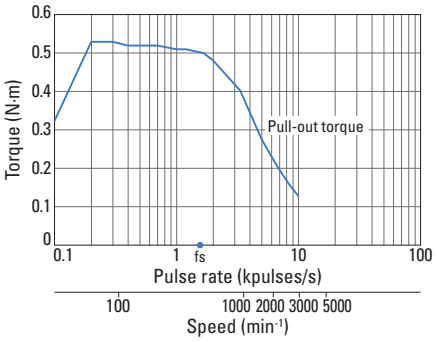
SM2561C10U41 SM2561C10U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



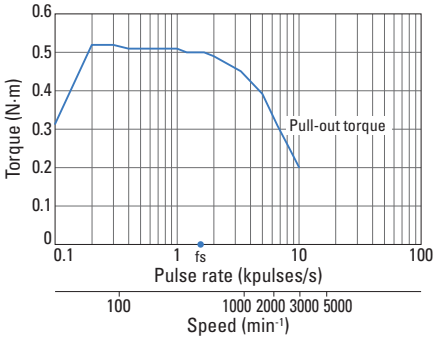
SM2561C20U41 SM2561C20U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



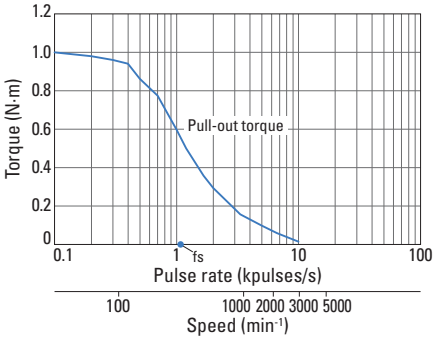
SM2561C30U41 SM2561C30U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



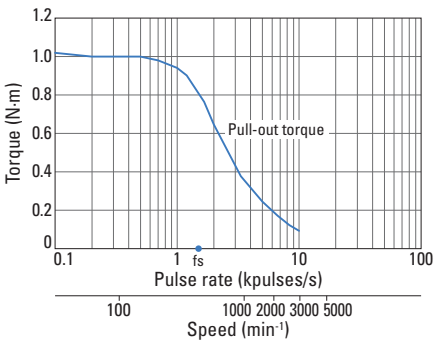
SM2562C10U41 SM2562C10U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



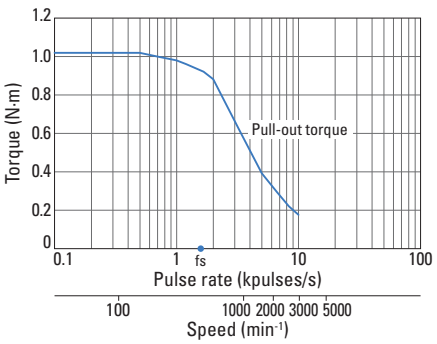
SM2562C20U41 SM2562C20U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



SM2562C30U41 SM2562C30U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



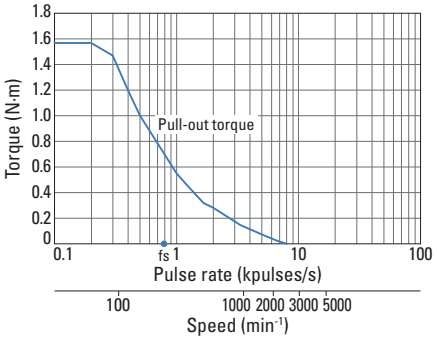
Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

Characteristics

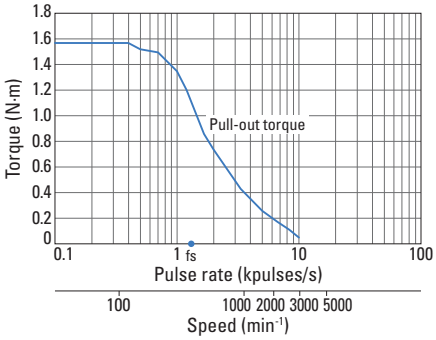
SM2563C10U41 SM2563C10U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
J_L = 7.4 × 10^{-4}kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



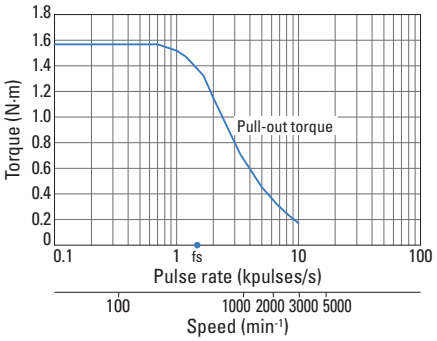
SM2563C20U41 SM2563C20U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
J_L = 7.4 × 10^{-4}kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



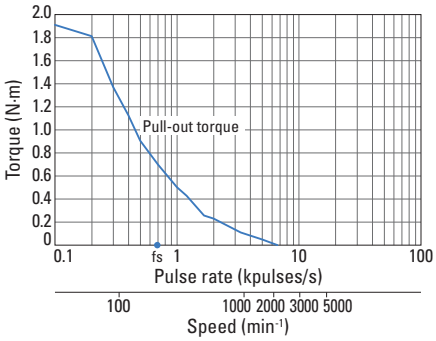
SM2563C30U41 SM2563C30U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
J_L = 7.4 × 10^{-4}kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



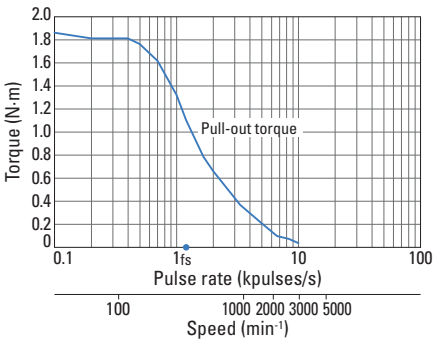
SM2564C10U41 SM2564C10U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
J_L = 7.4 × 10^{-4}kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



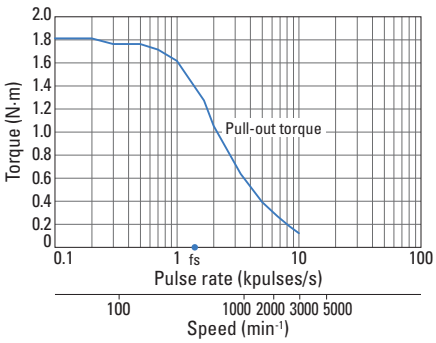
SM2564C20U41 SM2564C20U11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
J_L = 7.4 × 10^{-4}kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load

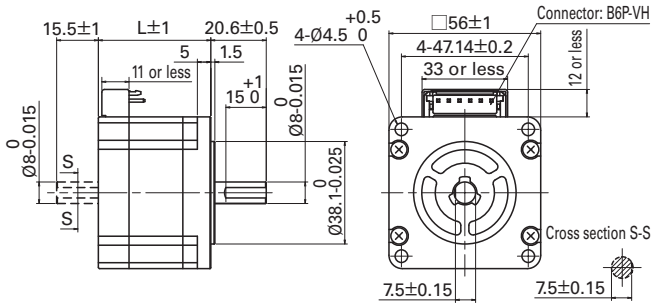


SM2564C30U41 SM2564C30U11

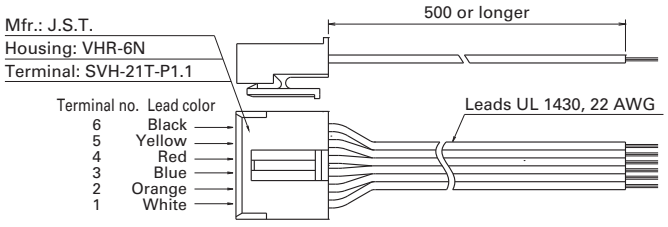
Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
J_L = 7.4 × 10^{-4}kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



Dimensions (Unit: mm)

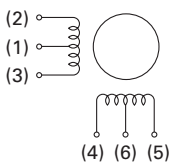


Separate option: Motor cable 4837798-1



Internal wiring

In parentheses are connector pin nos.



Compatible drivers

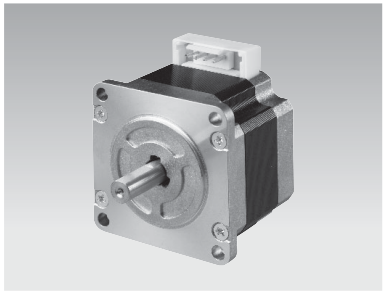
- For motors SM256□C20U□1 (2 A/phase)...
  Model no.: US1D200P10 (DC input)
  Operating current selection switch setting: 0
- For motors other than above...
  A driver is to be provided by the customer.

Note: The characteristics shown above are calculated using our experimental circuit.

If considering replacing our conventional 56 mm sq. motors (103H712□),
→ See Models No Longer Listed and Their Replacement Models in p. 78 to 79

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



56 mm sq.

1.8°/step RoHS

Bipolar, connector type

ECO PRODUCTS

Custom options

Hollow shaft | Custom shaft | Gear | Encoder | Brake

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

Bipolar, connector type

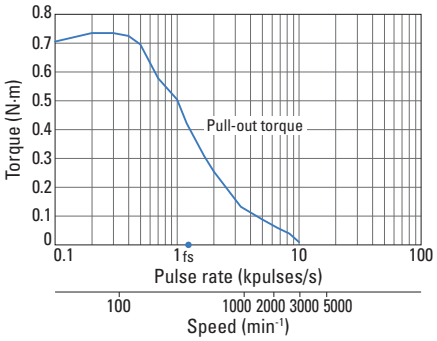
Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$kg·m^2	kg	mm
SM2561C10B41	**SM2561C10B11**	0.75	1	4.6	13.5	0.14	0.49	41.8
SM2561C20B41	**SM2561C20B11**	0.75	2	1.1	3.5	0.14	0.49	41.8
SM2561C30B41	**SM2561C30B11**	0.75	3	0.51	1.5	0.14	0.49	41.8
SM2561C40B41	**SM2561C40B11**	0.75	4	0.28	0.85	0.14	0.49	41.8
SM2561C60B41	**SM2561C60B11**	0.75	6	0.14	0.38	0.14	0.49	41.8
SM2562C10B41	**SM2562C10B11**	1.4	1	6.3	25.5	0.28	0.69	53.8
SM2562C20B41	**SM2562C20B11**	1.4	2	1.5	6.5	0.28	0.69	53.8
SM2562C30B41	**SM2562C30B11**	1.4	3	0.68	2.9	0.28	0.69	53.8
SM2562C40B41	**SM2562C40B11**	1.4	4	0.37	1.5	0.28	0.69	53.8
SM2562C60B41	**SM2562C60B11**	1.4	6	0.18	0.72	0.28	0.69	53.8
SM2563C10B41	**SM2563C10B11**	2.35	1	8.6	36	0.5	1.1	75.8
SM2563C20B41	**SM2563C20B11**	2.35	2	2.1	9.5	0.5	1.1	75.8
SM2563C30B41	**SM2563C30B11**	2.35	3	0.95	4.2	0.5	1.1	75.8
SM2563C40B41	**SM2563C40B11**	2.35	4	0.52	2.4	0.5	1.1	75.8
SM2563C60B41	**SM2563C60B11**	2.35	6	0.25	1.05	0.5	1.1	75.8
SM2564C10B41	**SM2564C10B11**	2.5	1	9.4	41	0.6	1.27	85.8
SM2564C20B41	**SM2564C20B11**	2.5	2	2.1	11	0.6	1.27	85.8
SM2564C30B41	**SM2564C30B11**	2.5	3	0.95	4.9	0.6	1.27	85.8
SM2564C40B41	**SM2564C40B11**	2.5	4	0.59	2.8	0.6	1.27	85.8
SM2564C60B41	**SM2564C60B11**	2.5	6	0.27	1.15	0.6	1.27	85.8

Motor cable model no.: 4837961-1

Characteristics

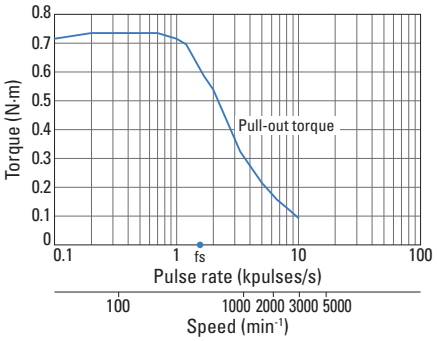
SM2561C10B41 SM2561C10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



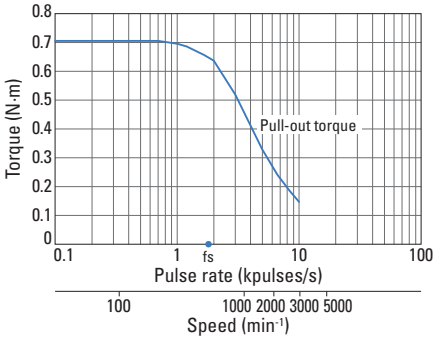
SM2561C20B41 SM2561C20B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



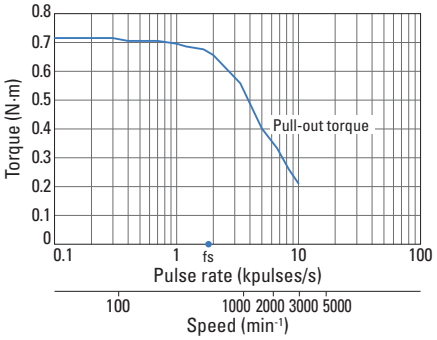
SM2561C30B41 SM2561C30B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



SM2561C40B41 SM2561C40B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
4 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m^2
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



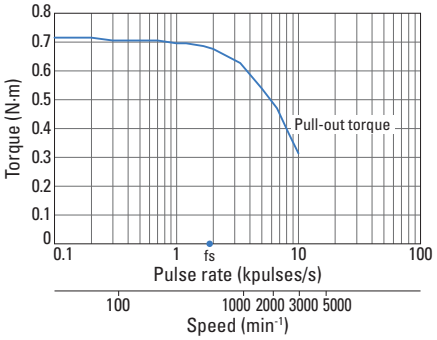
Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

Characteristics

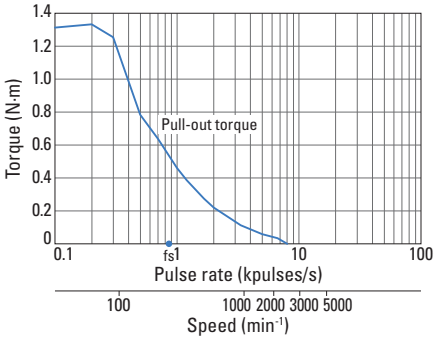
SM2561C60B41 SM2561C60B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
6 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



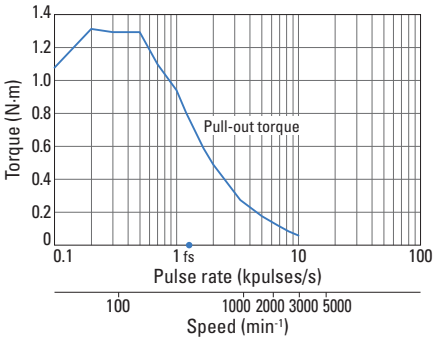
SM2562C10B41 SM2562C10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



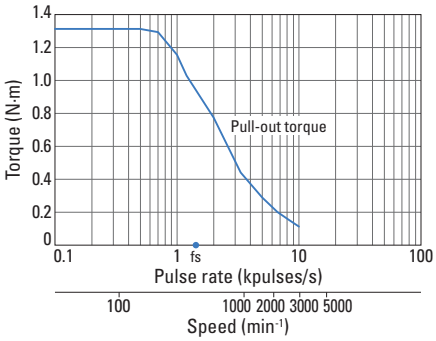
SM2562C20B41 SM2562C20B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



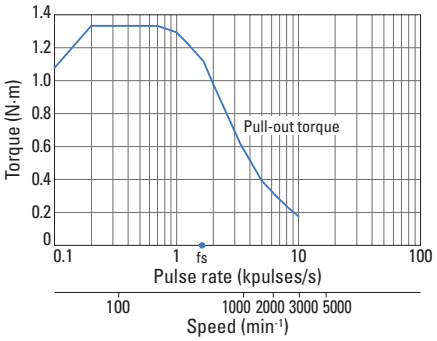
SM2562C30B41 SM2562C30B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



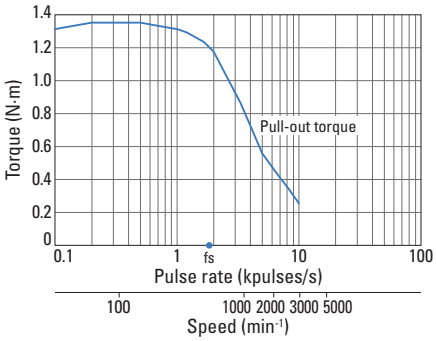
SM2562C40B41 SM2562C40B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
4 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



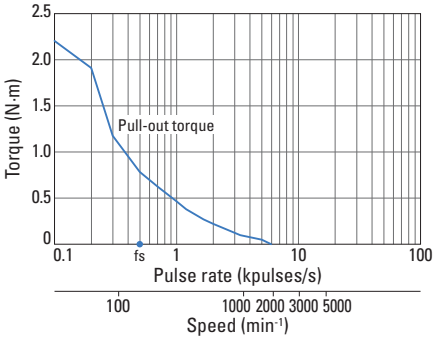
SM2562C60B41 SM2562C60B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
6 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



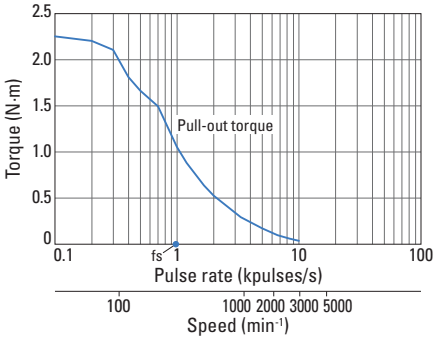
SM2563C10B41 SM2563C10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



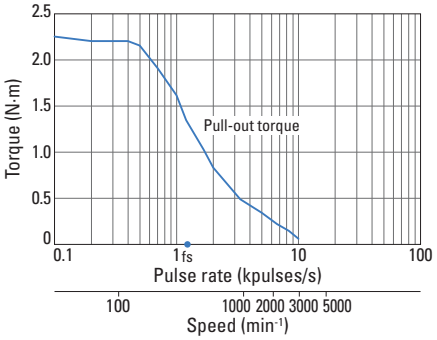
SM2563C20B41 SM2563C20B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



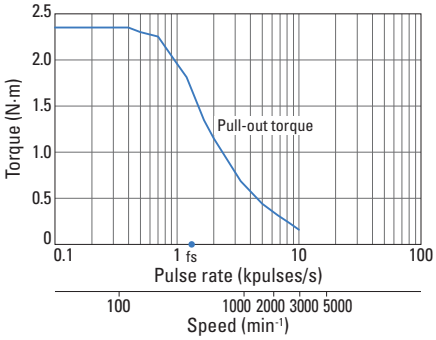
SM2563C30B41 SM2563C30B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



SM2563C40B41 SM2563C40B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
4 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



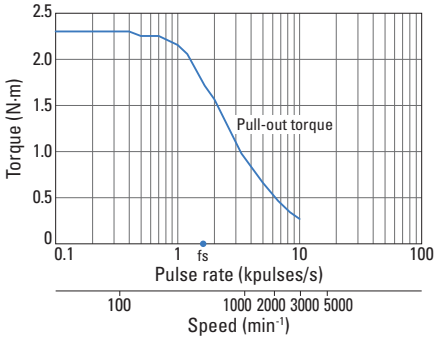
Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

Characteristics

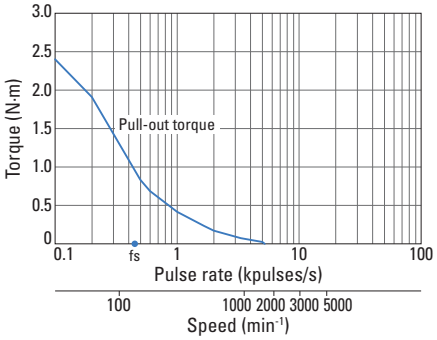
SM2563C60B41 SM2563C60B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
6 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



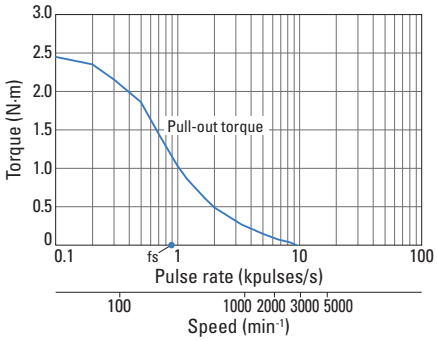
SM2564C10B41 SM2564C10B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



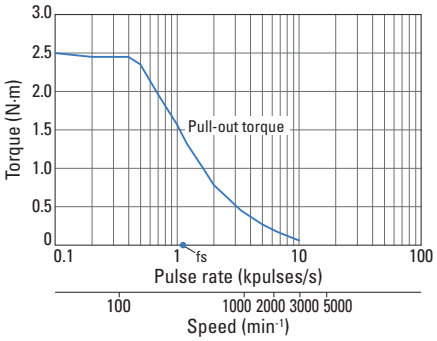
SM2564C20B41 SM2564C20B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



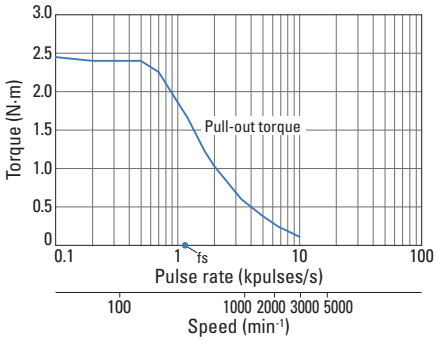
SM2564C30B41 SM2564C30B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
3 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



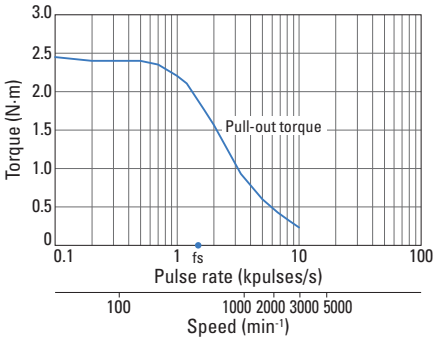
SM2564C40B41 SM2564C40B11

Constant current circuit
Input voltage: 24 VDC
Winding current:
4 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



SM2564C60B41 SM2564C60B11

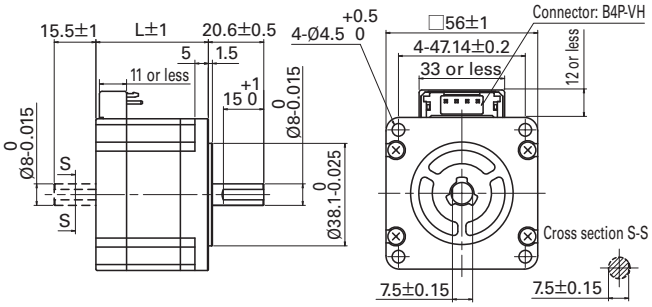
Constant current circuit
Input voltage: 24 VDC
Winding current:
6 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$ kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



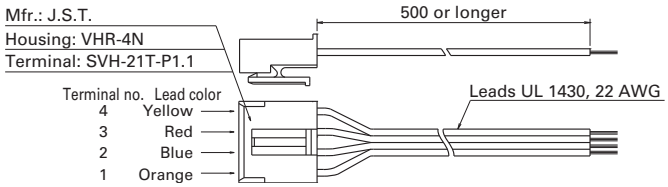
Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

Dimensions (Unit: mm)

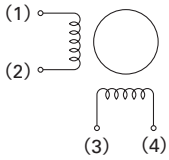


Separate option: Motor cable 4837961-1



Internal wiring

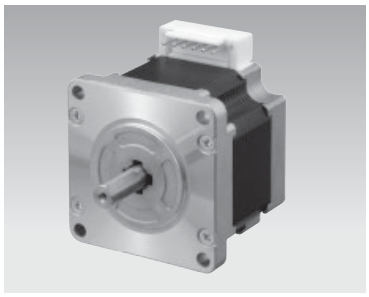
In parentheses are connector pin nos.



Compatible drivers

- For motors SM256□C20B□1 (2 A/phase)...
  Model no.: BS1D200P10 (DC input)
  Operating current selection switch setting: 0
- For motors other than above...
  A driver is to be provided by the customer.

Note: The characteristics shown above are calculated using our experimental circuit.



60 mm sq.

Our conventional 60 mm sq. motors (103H782□)

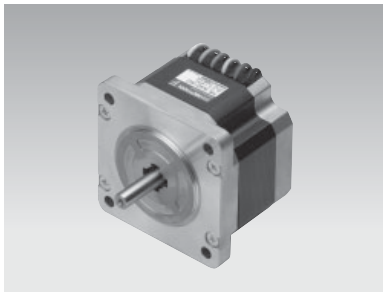
1.8-phase step RoHS

It is recommended you use a 56 mm sq. motor (SM256□C□0□□1) that has equivalent torque in a smaller size. See Models No Longer Listed and Their Replacement Models in pages 78 to 79.
We also offer customization that makes the flange compatible with 60 mm sq. motors for easy replacement.

If considering replacing our conventional 56 mm sq. motors (103H712□),
→ See Models No Longer Listed and Their Replacement Models in p. 78 to 79

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.



60 mm sq.

0.9°/step RoHS

Unipolar, lead type

Bipolar, lead type

ECO PRODUCTS

Custom options

Hollow shaft | Custom shaft | Gear | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

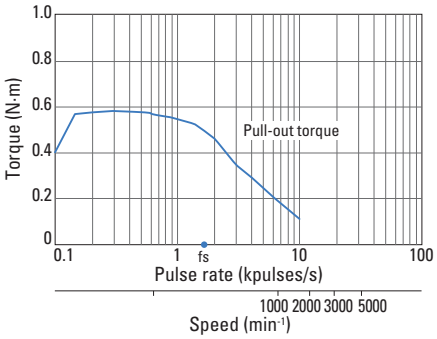
Unipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)	Shaft diameter (D)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm	mm
SH1601-0440	**SH1601-0410**	0.57	2	1.35	2	0.24	0.55	42	0 ø6.35-0.013
SH1602-0440	**SH1602-0410**	1.1	2	1.8	3.5	0.4	0.8	54	0 ø6.35-0.013
SH1603-0440	**SH1603-0410**	1.7	2	2.3	4.5	0.75	1.2	76	0 ø8-0.015

Characteristics

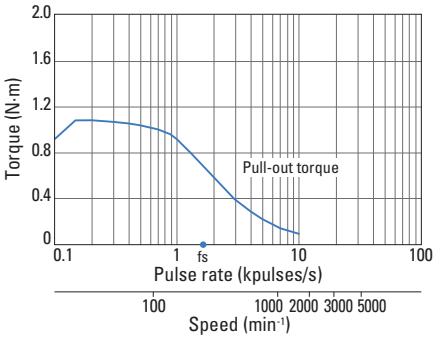
SH1601-0440 SH1601-0410

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



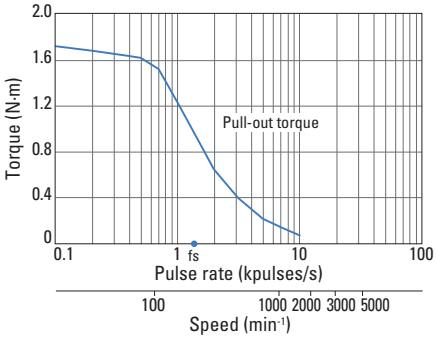
SH1602-0440 SH1602-0410

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load

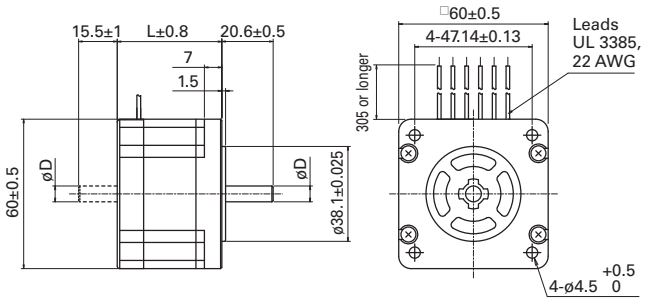


SH1603-0440 SH1603-0410

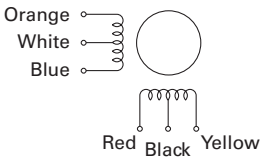
Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$kg·m²
(with rubber coupling used)
fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



Compatible drivers

A driver is to be provided by the customer.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.

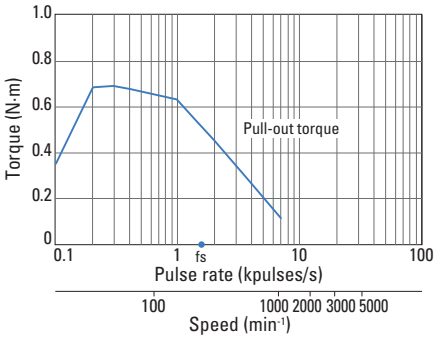
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)	Shaft diameter (D)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10⁻⁴kg·m²	kg	mm	mm
SH1601-5240	**SH1601-5210**	0.69	2	1.2	3.5	0.24	0.55	42	0 ø6.35-0.013
SH1602-5240	**SH1602-5210**	1.28	2	1.65	6.1	0.4	0.8	54	0 ø6.35-0.013
SH1603-5240	**SH1603-5210**	2.15	2	2.3	8.8	0.75	1.2	76	0 ø8-0.015

Characteristics

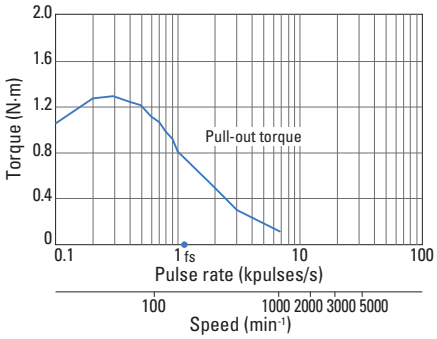
SH1601-5240 SH1601-5210

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 0.94 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



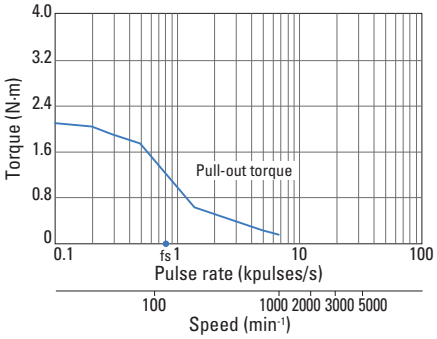
SH1602-5240 SH1602-5210

Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 2.6 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load

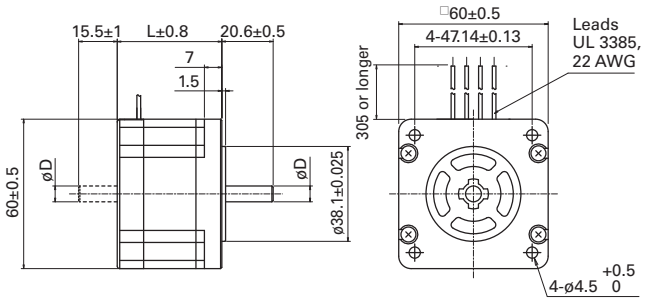


SH1603-5240 SH1603-5210

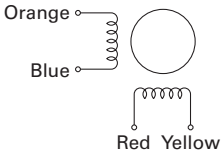
Constant current circuit
Input voltage: 24 VDC
Winding current:
2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
$J_L = 7.4 \times 10^{-4}$kg·m²
(with rubber coupling used)
f_S: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



Compatible drivers

Model no.: BS1D200P10 (DC input)
Operating current selection switch setting: 0
Note: The characteristics shown above are calculated using our experimental circuit.

Allowable loads... ▶p. 69 Internal wiring and rotational directions... ▶p. 70 General specifications... ▶p. 71

Data is measured under the drive conditions of SANYO DENKI. Drive torque may vary depending on the actual machine precision.