



2-phase Stepping Motor

**60mm sq.
(2.36inch sq.)**

103H782 □

1.8°/step

Recommendable Driver

Refer to the page 7,17,27 and 45.

Specifications

Unipolar winding

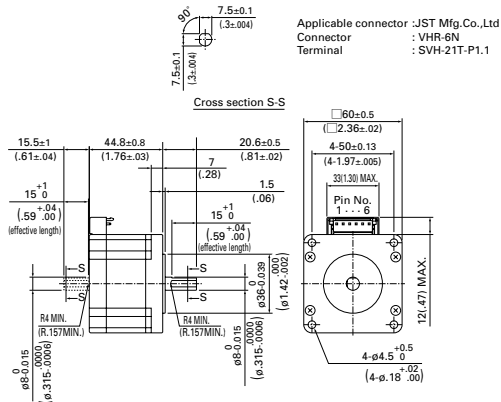
Model		Holding torque at 2-phase energization	Rated current	Resistance	Inductance	Rotor inertia	Mass(Weight)
Single shaft	Double shaft	N·m (oz·in) MIN.	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$ kg·m ² (oz·in ²)	kg (lbs)
103H7821-0140	-0110	0.78(110.5)	1	5.7	8.3	0.275(1.50)	0.6(1.32)
103H7821-0440	-0410	0.78(110.5)	2	1.5	2	0.275(1.50)	0.6(1.32)
103H7821-0740	-0710	0.78(110.5)	3	0.68	0.8	0.275(1.50)	0.6(1.32)
103H7822-0140	-0110	1.17(165.7)	1	6.9	14	0.4(2.19)	0.77(1.70)
103H7822-0440	-0410	1.17(165.7)	2	1.8	3.6	0.4(2.19)	0.77(1.70)
103H7822-0740	-0710	1.17(165.7)	3	0.8	1.38	0.4(2.19)	0.77(1.70)
103H7823-0140	-0110	2.1(297.4)	1	10	21.7	0.84(4.59)	1.34(2.95)
103H7823-0440	-0410	2.1(297.4)	2	2.7	5.6	0.84(4.59)	1.34(2.95)
103H7823-0740	-0710	2.1(297.4)	3	1.25	2.4	0.84(4.59)	1.34(2.95)

Bipolar winding

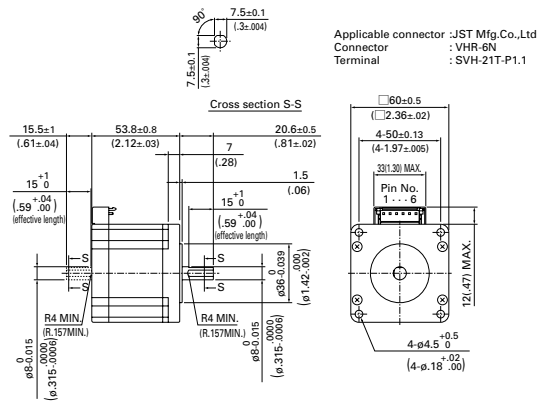
Model		Holding torque at 2-phase energization	Rated current	Resistance	Inductance	Rotor inertia	Mass(Weight)
Single shaft	Double shaft	N·m (oz·in) MIN.	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$ kg·m ² (oz·in ²)	kg (lbs)
103H7821-1740	-1710	0.88(124.6)	4	0.35	0.8	0.275(1.50)	0.6(1.32)
103H7822-1740	-1710	1.37(194.0)	4	0.43	1.38	0.4(2.19)	0.77(1.70)
103H7823-1740	-1710	2.7(382.3)	4	0.65	2.4	0.84(4.59)	1.34(2.95)

Dimensions [Unit:mm(inch)]

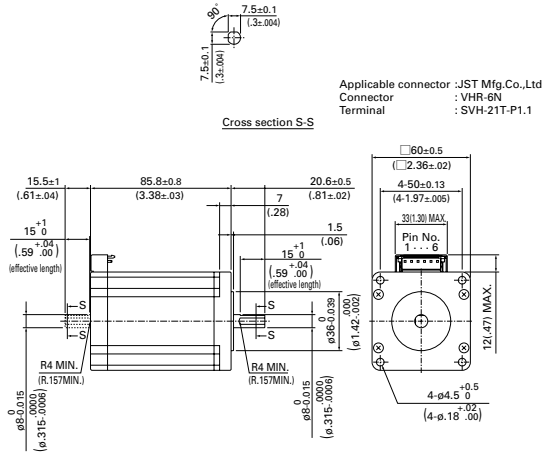
103H7821-0140/0440/0740 (Single shaft)
103H7821-0110/0410/0710 (Double shaft)



103H7822-0140/0440/0740 (Single shaft)
103H7822-0110/0410/0710 (Double shaft)

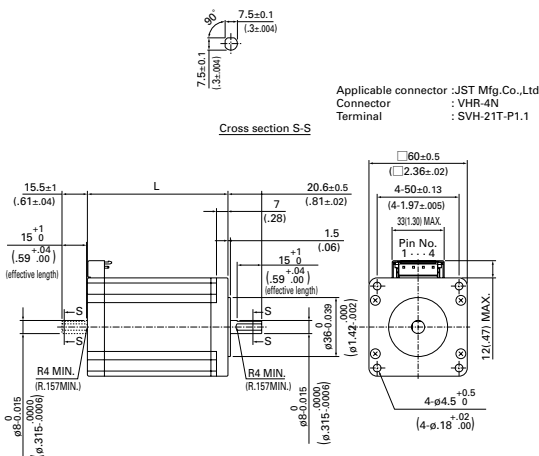


103H7823-0140/0440/0740 (Single shaft)
103H7823-0110/0410/0710 (Double shaft)



Bipolar winding

103H7821-1740/103H7822-1740/103H7823-1740(Single shaft)
103H7821-1710/103H7822-1710/103H7823-1710(Double shaft)

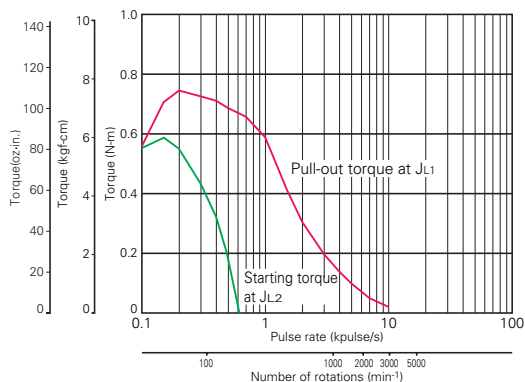


Model	L
103H7821-□□□□	44.8±0.8 (1.76±0.03)
103H7822-□□□□	53.8±0.8 (2.12±0.03)
103H7823-□□□□	85.8±0.8 (3.38±0.03)

39mm(1.54)/0.9
42mm(1.65)/0.9
28mm(1.10)/1.8
35mm(1.38)/1.8
42mm(1.65)/1.8
50mm(1.97)/1.8
56mm(2.20)/1.8
60mm(2.36)/1.8
86mm(3.39)/1.8
106mm(4.17)/1.8
56mm(2.20)/CE
86mm(3.39)/CE
106mm(4.17)/CE
Specifications of
2-phase stepping motor
In-vacuum
stepping motor
2-phase
synchronous motor

Pulse Rate - Torque Characteristics

● 103H7821-0140



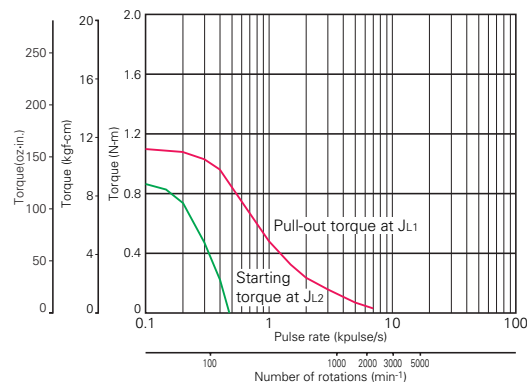
Sanyo constant current circuit

Source voltage: DC24V Operating current: 1A/phase, 2-phase energization (full-step)

$J_{L1} = [0.94 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (5.14 \text{ oz-in}^2)]$ Use the rubber coupling]

$J_{L2} = [0.8 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (4.37 \text{ oz-in}^2)]$ Use the direct coupling]

● 103H7822-0140



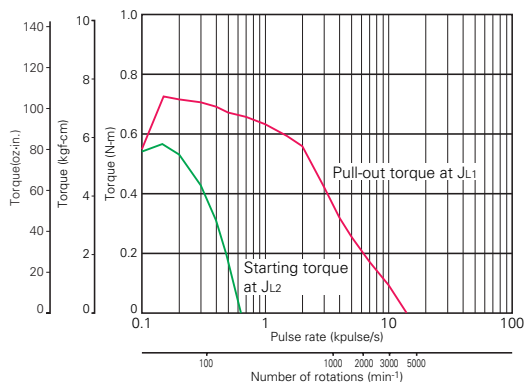
Sanyo constant current circuit

Source voltage: DC24V Operating current: 1A/phase, 2-phase energization (full-step)

$J_{L1} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz-in}^2)]$ Use the rubber coupling]

$J_{L2} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz-in}^2)]$ Use the direct coupling]

● 103H7821-0440



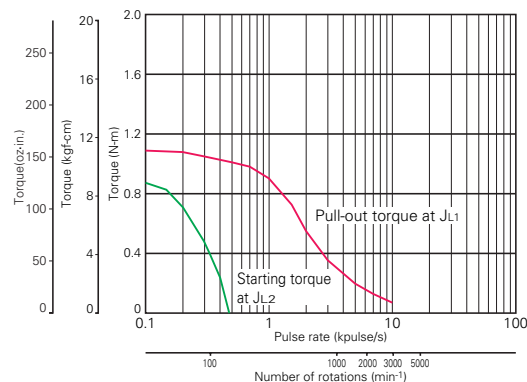
Sanyo constant current circuit

Source voltage: DC24V Operating current: 2A/phase, 2-phase energization (full-step)

$J_{L1} = [0.94 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (5.14 \text{ oz-in}^2)]$ Use the rubber coupling]

$J_{L2} = [0.8 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (4.37 \text{ oz-in}^2)]$ Use the direct coupling]

● 103H7822-0440



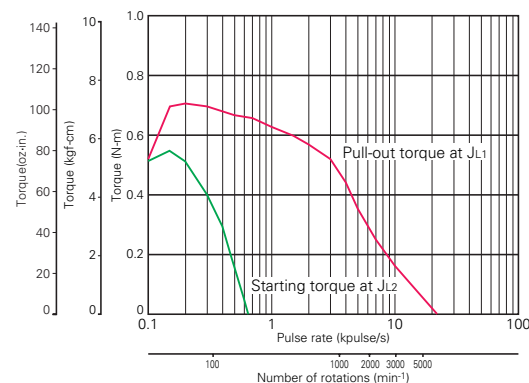
Sanyo constant current circuit

Source voltage: DC24V Operating current: 2A/phase, 2-phase energization (full-step)

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$J_{L2} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz-in}^2)]$ Use the direct coupling]

● 103H7821-0740



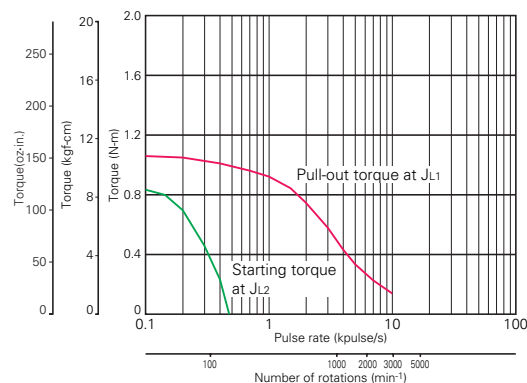
Sanyo constant current circuit

Source voltage: DC24V Operating current: 3A/phase, 2-phase energization (full-step)

$J_{L1} = [0.94 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (5.14 \text{ oz-in}^2)]$ Use the rubber coupling]

$J_{L2} = [0.8 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (4.37 \text{ oz-in}^2)]$ Use the direct coupling]

● 103H7822-0740



Sanyo constant current circuit

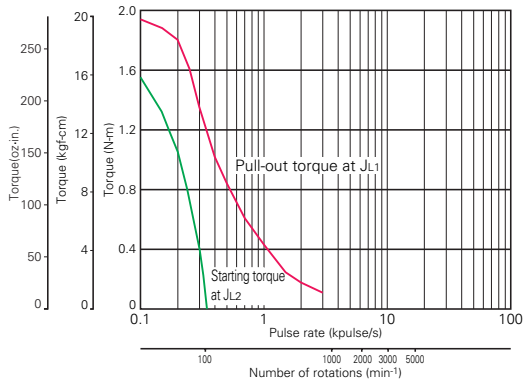
Source voltage: DC24V Operating current: 3A/phase, 2-phase energization (full-step)

$J_{L1} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz-in}^2)]$ Use the rubber coupling]

$J_{L2} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz-in}^2)]$ Use the direct coupling]

Pulse Rate - Torque Characteristics

103H7823-0140



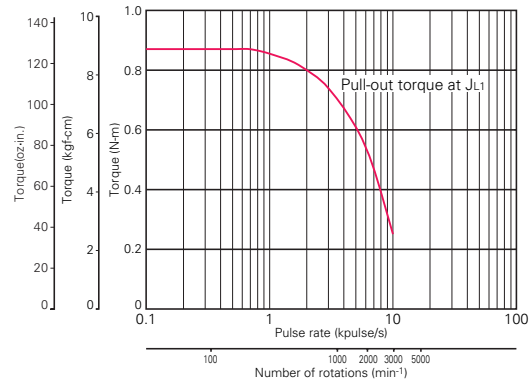
Sanyo constant current circuit

Source voltage: DC24V Operating current: 1A/phase, 2-phase energization (full-step)

$J_{L1} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the rubber coupling]

$J_{L2} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the direct coupling]

103H7821-1740

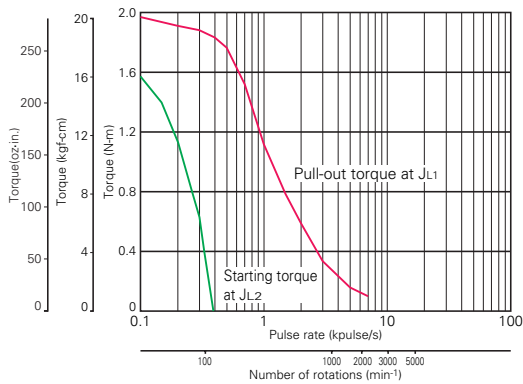


Sanyo constant current circuit

Source voltage: AC100V Operating current: 4A/phase, 2-phase energization (full-step)

$J_{L1} = [2.6 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (14.22 \text{ oz} \cdot \text{in}^2)]$ Use the rubber coupling]

103H7823-0440



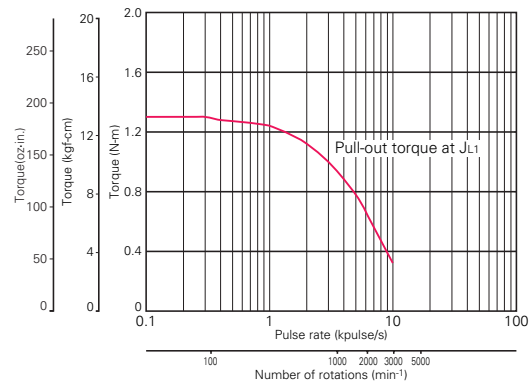
Sanyo constant current circuit

Source voltage: DC24V Operating current: 2A/phase, 2-phase energization (full-step)

$J_{L1} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the rubber coupling]

$J_{L2} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the direct coupling]

103H7822-1740

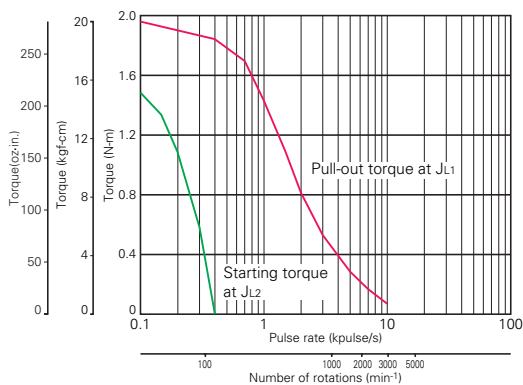


Sanyo constant current circuit

Source voltage: AC100V Operating current: 4A/phase, 2-phase energization (full-step)

$J_{L1} = [2.6 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (14.22 \text{ oz} \cdot \text{in}^2)]$ Use the rubber coupling]

103H7823-0740



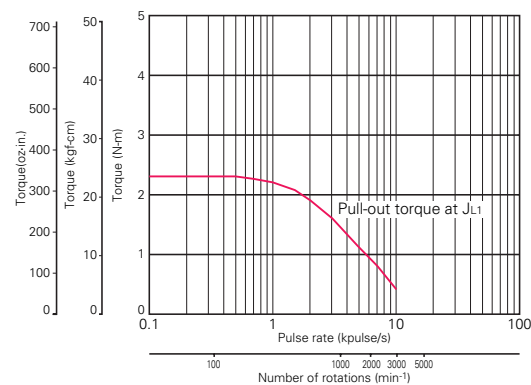
Sanyo constant current circuit

Source voltage: DC24V Operating current: 3A/phase, 2-phase energization (full-step)

$J_{L1} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the rubber coupling]

$J_{L2} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the direct coupling]

103H7823-1740



Sanyo constant current circuit

Source voltage: AC100V Operating current: 4A/phase, 2-phase excitation (full-step)

$J_{L1} = [7.4 \times 10^{-4} \text{ kg} \cdot \text{m}^2 (40.46 \text{ oz} \cdot \text{in}^2)]$ Use the rubber coupling]

39mm (1.54/0.9)
42mm (1.65/0.9)
28mm (1.10/1.8)
35mm (1.38/1.8)
42mm (1.65/1.8)
50mm (1.97/1.8)
56mm (2.20/1.8)
60mm (2.36/1.8)
ø86mm (3.39/1.8)
ø106mm (4.17/1.8)
ø106mm (2.20)/CE
ø106mm (4.17)/CE
ø86mm (3.39)/CE
ø106mm (4.17)/CE
Specifications of 2-phase stepping motor
In-vacuum stepping motor
2-phase synchronous motor