

MOONS'

STEPPING MOTOR SPECIFICATION

MOONS' MODEL
35PM024S8-00502
4611120002401

REV	DESCRIPTION	DATE
A	FIRST ISSUED	2019.03.04
B	Inductance changed	2020.08.12

SHANGHAI MOONS' ELECTRIC CO., LTD.

North Minhang Industrial Park District
168 Mingjia Rd.
Shanghai, China

1. RATED CHARACTERISTICS AND CONDITIONS

NO.	ITEM	SPECIFICATION	REMARK
1.1	Rated Voltage	24V DC	
1.2	Constant Current	0. 5A/Phase	Chopper Driver IC
1.3	Phase Number	Two (2)	Phases A&B
1.4	Step Angle	15°	Full-Step
1.5	Excitation Method	Bipolar Full-Step	
1.6	Insulation Class	Class B	

2. ELECTRICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION	REMARK
2.1	Resistance per Phase	$5\Omega \pm 10\%$	@ 25°C
2.2	Inductance per Phase A/B	$5\text{mH} \pm 20\%$	1 kHz 1V rms
2.3	Holding Torque	190 gcm min.	Two-Phase On
2.4	Detent Torque	45 gcm max.	
2.5	Dynamic Pull-in Torque	85 gcm min	200 pps Full-Step
2.6	Dynamic Pull-in Torque	60 gcm min.	300 pps Full-Step
2.7	Dynamic Pull-out Torque	100 gcm min.	500 pps Full-Step
2.8	Dynamic Pull-out Torque	80 gcm min.	1200 pps Full-Step
2.9	Pull-in Pulse Rate	500 pps min.	No Load Full-Step
2.10	Step Angle Accuracy	$15^\circ \pm 7\%$	@1 pps Full-Step
2.11	Insulation Resistance	100 M Ω min.	Case-lead DC500V
2.12	Dielectric Strength	Leak Current 3mA max.	Case-lead AC600V 1 sec.
2.13	Temperature Rise	80K max. Two phase on	On 105x105x2t Al Plate
2.14	Direction of Rotation	CW & CCW	Seen from Flange Side

3. MECHANICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION	REMARK
3.1	Radial Shaft Loading	7.5N Max.	
3.2	Axial Shaft Loading	1N Max.	
3.3	Radial Shaft Play	0.05 mm Max.	@500G
3.4	Axial Shaft Play	0.6 mm Max.	@500G
3.5	Mass	Approximate 70g	
3.6	Rotor Inertia	Approximate 2.8gcm ²	

4. OPERATING CONDITIONS

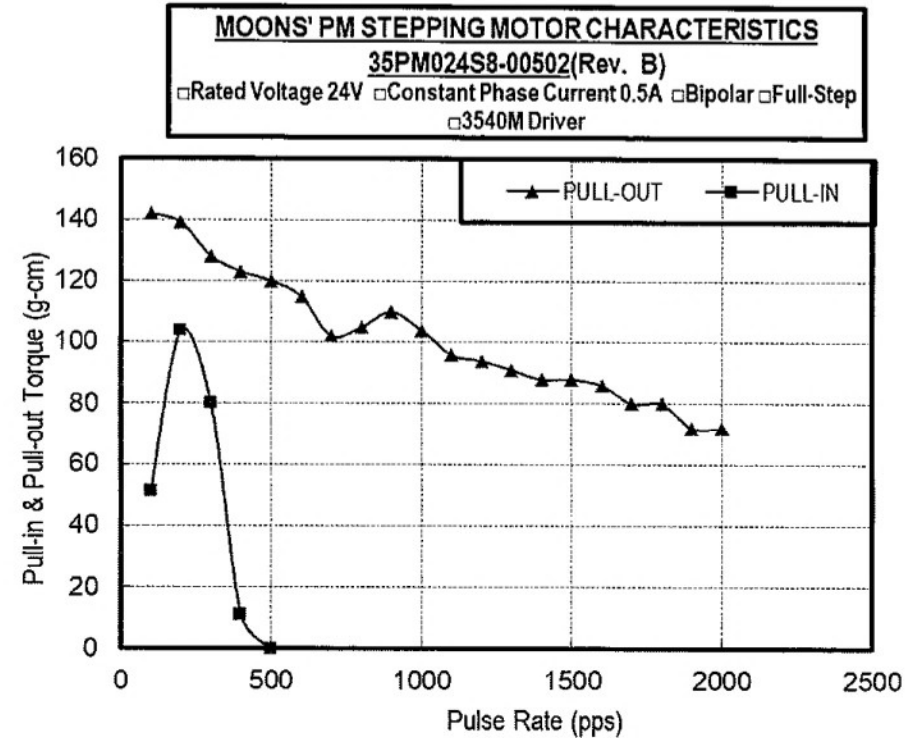
NO.	ITEM	SPECIFICATION	REMARK
4.1	Operating Temperature	-20°C ~ +50°C	
4.2	Operating Humidity	15 ~ 85% RH	No Condensation
4.3	Storage Temperature	-30°C ~ +70°C	
4.4	Storage Humidity	15~ 85% RH	No Condensation

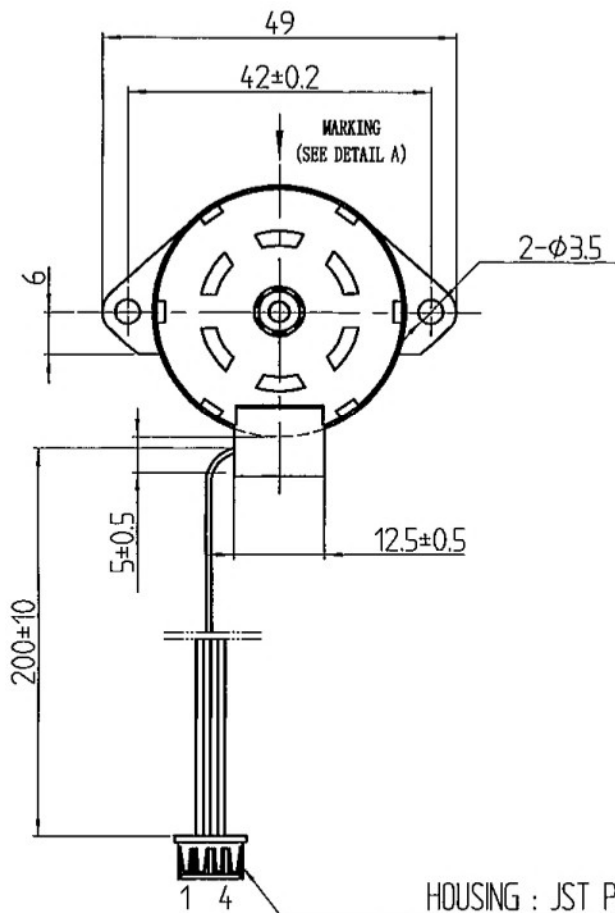
5. RELIABILITY AND WARRANTY

NO.	SPECIFICATION	REMARKS
5.1	3,000 Hours min.	1. Normal Operating Conditions 2. Full-Step @600RPM, CW, Rated voltage, Rated current and Rated load 3. No Unusual Vibration & Noise 4. Satisfactory Electrical & Mechanical Characteristics
5.2	Satisfactory Electrical & Mechanical Characteristics	1. Vibration Test at Motor 2. 0 ~ 100 Hz Sweep for 5 Minutes 3. 1.5 mm, 3 Directional Amplitude for 30 Minutes
5.3	Satisfactory Electrical & Mechanical Characteristics	1. Shock Test at Package 2. 30 G, 3 Directions each for 1 time

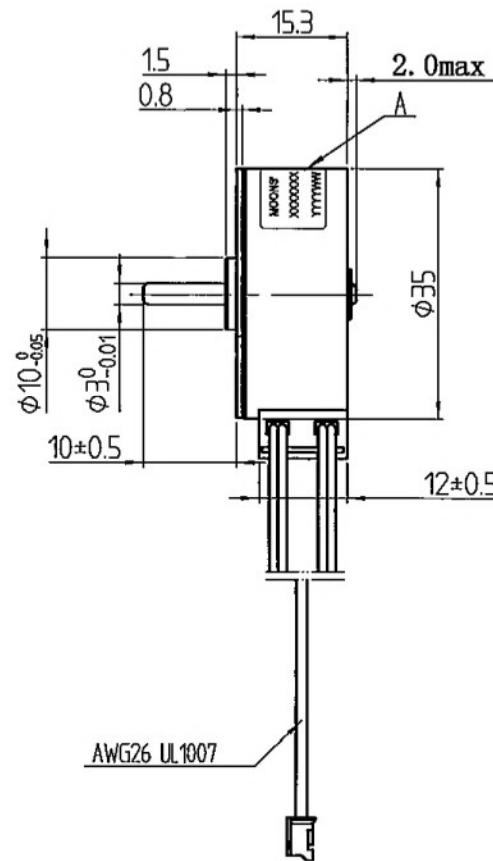
6. REMARKS

6.1	An abnormal operation may extremely shorten the performance or service life.
6.2	Do not hold the motor by lead wire or PCB.
6.3	The motor is subject to change for improving the performance within the range satisfying its specification.



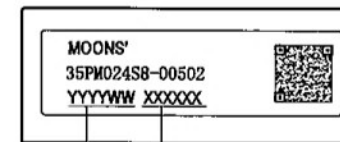


HOUSING: JST PHR-4
CONTACT: JST SPH-002-P0.5S



AWG26 UL1007

DETAIL A:



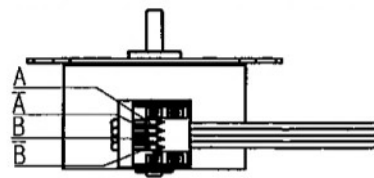
MOONS' 型号与第三行内容
Data Matrix ECC 200

Serial No.

Year, Week

CONNECTOR PIN LOCATION

PIN NO.	COLOR	CCW ← → CW (SEEN FROM FLANGE SIDE)				PHASE
		ON	ON		ON	
1	BLACK	ON	ON		ON	A
2	BROWN			ON	ON	$\bar{A}$
3	ORANGE		ON	ON		B
4	YELLOW	ON			ON	$\bar{B}$



电机接线图

备注 Remarks

B Inductance changed

20.08.12

A 原始版本Original revision

19.03.04

Rev. 更改记录 Record for Changing

Date

单位 Unit: 毫米 mm 比例 Scale: 1:1

第一角画法
First angle method

未注线性与角度尺寸公差
Tolerances for linear and angular dimensions
without individual tolerance indications
GB/T 1804-m eqv ISO 2768-1:m

未注形状与位置尺寸公差
Geometrical tolerance for features without
individual tolerance indications
GB/T 1184-K eqv ISO 2768-2:K

Approve

Standard

Technology

Check

Design

UNLESS OTHERWISE SPECIFIED

TYPE 35PM024S8-00502