

MOONS'

STEPPING MOTOR SPECIFICATION

MOONS' MODEL
25PM024L6-00801 △
4611120001915



REV	DESCRIPTION	DATE
A	FIRST ISSUED	2017.01.03
B	Inductance, Pull-in Pulse Rate And Rear Panel Changed △	2017.11.20
C	Cover and motor PN changed △	2019.02.27
D	Electrical characteristics changed △	2019.05.28

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	12V DC	
1.2	Constant Current	0.47A/Phase	Chopper Drive 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	8 Ω ±10%	@ 25°C
2.2	Inductance per Phase	6mH ±20% △	1 kHz 1V rms
2.3	Holding Torque	170gcm min.	Two-Phase On
2.4	Detent Torque	25 gcm max	
2.5	Dynamic Pull-in Torque	85gcm min.	300 pps Full-Step
2.6	Dynamic Pull-out Torque	95gcm min.	800 pps Full-Step
2.7	Pull-in Pulse Rate	900 pps min. △	No Load Full-Step
2.8	Step Angle Accuracy	15° ± 7%	@1 pps Full-Step
2.9	Insulation Resistance	100 MΩ min.	Case-lead DC500V
2.10	Dielectric Strength	Leak Current 3mA max.	Case-lead AC600V 1 sec.
2.11	Temperature Rise	80K max. Two phase on	On75x75x2T Plate
2.12	Direction of Rotation	CW & CCW	Seen from Flange Side

3. MECHANICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION	REMARK
3.1	Radial Shaft Loading	5N Max	
3.2	Axial Shaft Loading	1N Max	
3.3	Radial Shaft Play	0.05mm Max	
3.4	Axial Shaft Play	0.6mm Max	
3.5	Mass	Approximate 39g	
3.6	Rotor Inertia	Approximate 0.88gcm 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

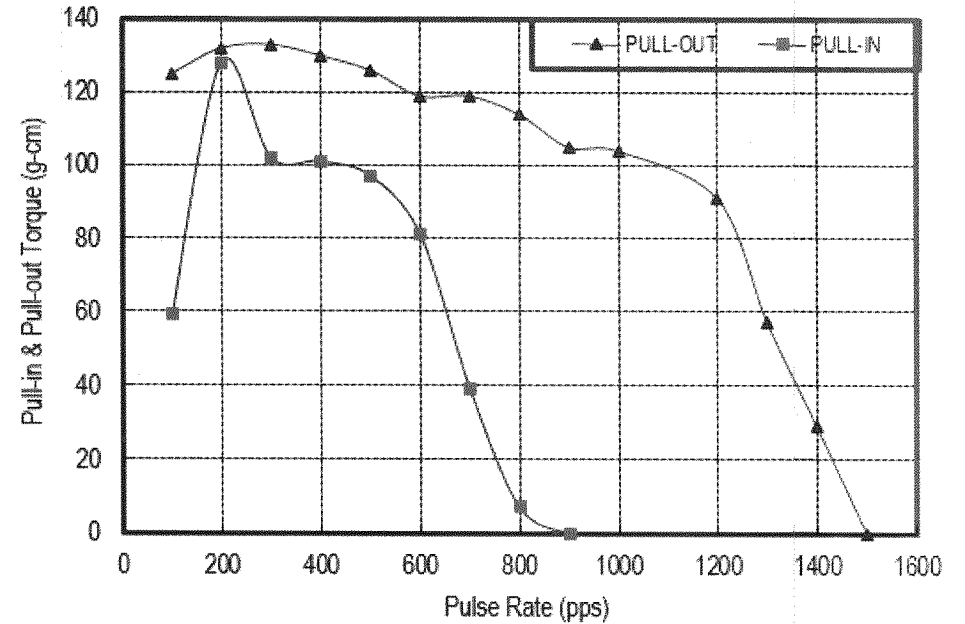
5. RELIABILITY AND WARRANTY

NO.	SPECIFICATION	REMARKS
5.1	3,000 Hours min.	<ol style="list-style-type: none"> Normal Operating Conditions Full-Step @600RPM, Rated voltage, Rated current and Rated load. No Unusual Vibration & Noise Satisfactory Electrical & Mechanical Characteristics
5.2	Satisfactory Electrical & Mechanical Characteristics	<ol style="list-style-type: none"> Vibration Test at Motor 0 ~ 100 Hz Sweep for 5 Minutes 1.5 mm, 3 Directional Amplitude for 30 Minutes
5.3	Satisfactory Electrical & Mechanical Characteristics	<ol style="list-style-type: none"> Shock Test at Package 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.

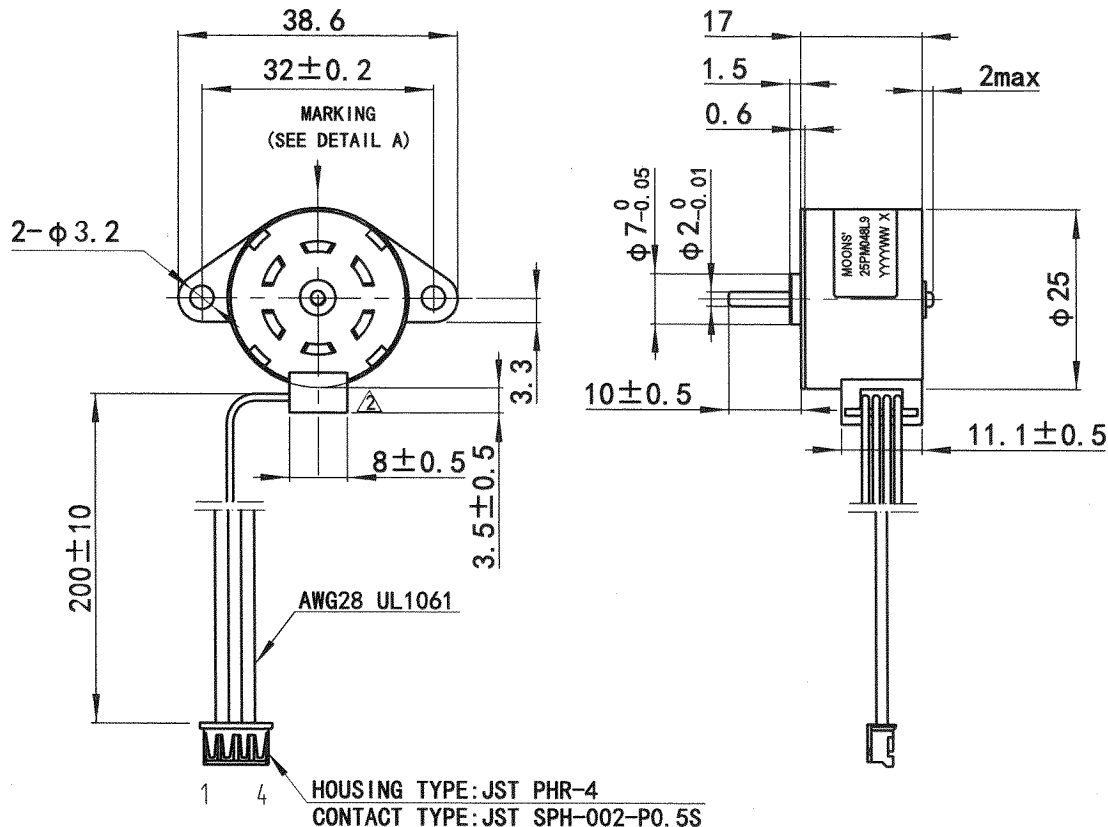
MOONS' PM STEPPING MOTOR CHARACTERISTICS
25PM024L4-00801 (Rev. D)
 Rated Voltage 12V Constant Current 0.47A Bipolar Full-Step
 3540M Driver



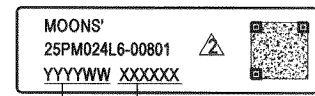
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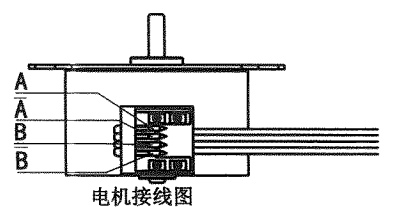
DETAIL A:



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
		1	BLACK	ON		
2	BROWN		ON	ON		\bar{A}
3	ORANGE	ON	ON		ON	B
4	YELLOW			ON	ON	\bar{B}



电机接线图
备注 Remarks

Rev.	更改记录 Record for Changing	Date
D	Electrical characteristics changed	19.05.28
C	Cover and motor PN changed	19.02.27
B	Inductance, Pull-in Rate and Rear panel changed	17.11.20
A	原始版本 Original revision	17.01.03

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
未注形状与位置尺寸公差 Geometrical tolerance for features without individual tolerance indications

Approve	Standard	Technology	Check	Design
[Signature]	[Signature]	[Signature]	[Signature]	韩展 19.05.28

TYPE: 25PM024L6-00801