



## STEPPING MOTOR SPECIFICATION

MOONS' MODEL  
**25P024L8-01009**  
4611120000980

CUSTOMER	WISECUBE
CUSTOMER MODEL	MOT-FS01B
CUSTOMER APPROVAL	

REV	DESCRIPTION	DATE
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### 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	12 V DC	
1.2	Constant Current	0.5 A/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 E	

### 2. ELECTRICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION	REMARK
2.1	Resistance per Phase	10 Ω ± 7%	@ 25°C
2.2	Inductance per Phase A/B	(8.6/8.0 mH ± 15%) <small>reference</small>	1 kHz 1V rms
2.3	Holding Torque	220 g-cm min.	Two-Phase On
2.4	Detent Torque	(60 g-cm ± 15%) <small>reference</small>	
2.5	Dynamic Pull-in Torque	100 g-cm min.	400 pps Full-Step
2.6	Dynamic Pull-out Torque	110 g-cm min.	600 pps Full-Step
2.7	Pull-in Pulse Rate	900 pps min.	No Load Full-Step
2.8	Step Angle Accuracy	15° ± 6%	@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	65°C max. 600 pps Full-Step	On 100x200x2t Al Plate
2.12	Direction of Rotation	CW & CCW	Seen from Flange Side

Safety Standard: Conform to EA&MSL (Japan), UL, CSA, TUV, RoHS

### 3. MECHANICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION	REMARK
3.1	Outline Dimension	As Attached Outline Drawing	
3.2	Rated Axial Loading	(10 kgf) <sub>reference</sub>	
3.3	Rated Net Weight	(36 g) <sub>reference</sub>	
3.4	Radial Shaft Play	0.05 mm max.	
3.5	Rotor Inertia	(8 g·cm <sup>2</sup> ) <sub>reference</sub>	

### 4. OPERATING CONDITIONS

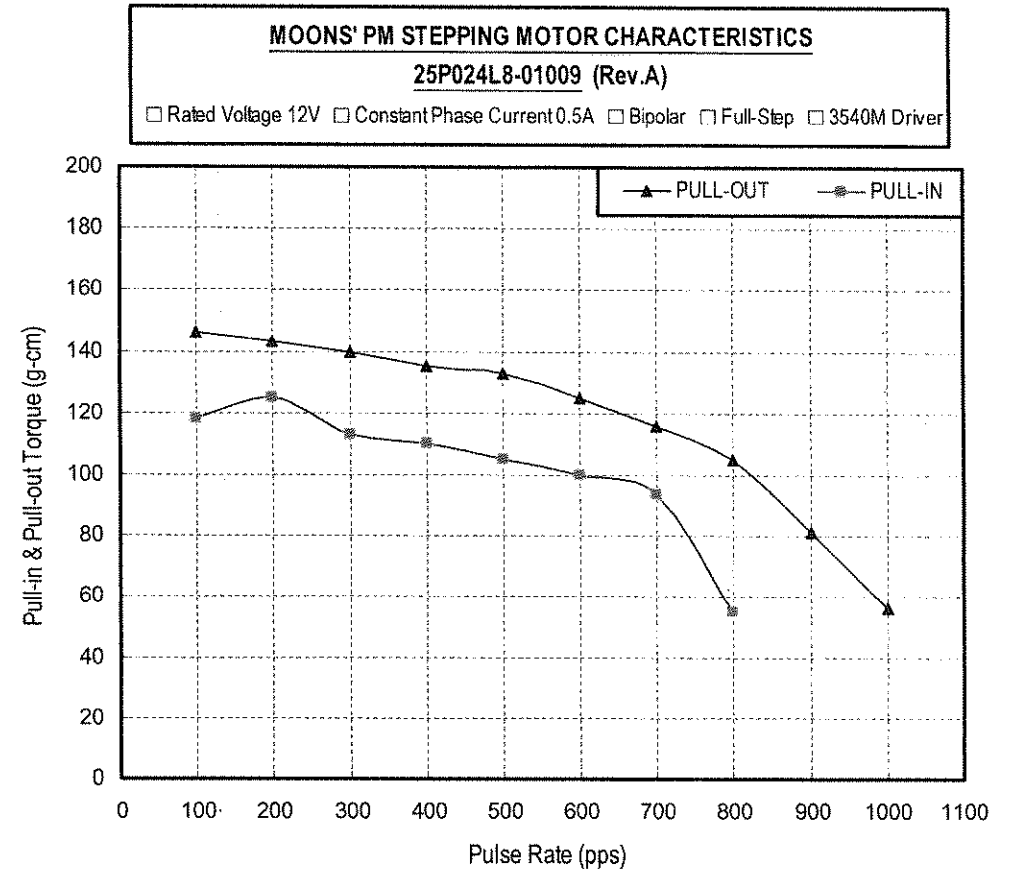
NO.	ITEM	SPECIFICATION	REMARK
4.1	Ambient Temperature	-20°C ~ +50°C	
4.2	Ambient Humidity	15 ~ 85% RH	No Condensation
4.3	Storage Temperature	-30°C ~ +80°C	
4.4	Storage Humidity	15 ~ 85% RH	No Condensation

### 5. RELIABILITY AND WARRANTY

NO.	SPECIFICATION	REMARKS
5.1	3,000 Hours min.	<ol style="list-style-type: none"> <li>Normal Operating Conditions</li> <li>Full-Step @200 pps, CW, No Load</li> <li>No Unusual Vibration &amp; Noise</li> <li>Satisfactory Electrical &amp; Mechanical Characteristics</li> </ol>
5.2	Satisfactory Electrical & Mechanical Characteristics	<ol style="list-style-type: none"> <li>Vibration Test at Package</li> <li>0 ~ 100 Hz Sweep for 5 Minutes</li> <li>1.5 mm, 3 Directional Amplitude for 30 Minutes</li> </ol>
5.3	Satisfactory Electrical & Mechanical Characteristics	<ol style="list-style-type: none"> <li>Shock Test at Package</li> <li>30 G, 3 Directions each for 1 time</li> </ol>

### 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.



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