

STEPPING MOTOR SPECIFICATION

MOONS' MODEL 20PM020S0-02501 4611120001906



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В	Cover changed	
С	Electrical characteristics changed 🙎	2019.04.29
	10.4	

SHANGHAI MOONS' ELECTRIC CO., LTD.

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1. RATED CHARACTERISTICS AND CONDITIONS

NO.	ITEM	SPECIFICATION	REMARK
1.1	Rated Voltage	12V DC	
1.2	Constant Current	0.21 A/Phase	Chopper Driver IC
1.3	Phase Number	Two (2)	Phases A&B
1.4	Step Angle	18°	Full-Step
1.5	Excitation Method	Bipolar Full-Step	
1.6	Insulation Class	Class B	
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2. ELECTRICAL CHARACTERISTICS &

NO.	ITEM	SPECIFICATION	REMARK
2.1	Resistance per Phase	25Ω ± 10%	@ 25°C
2.2	Inductance per Phase A/B	11.7mH ±20%	1 kHz 1V rms
2.3	Holding Torque	85 gcm min.	Two-Phase On
2.4	Detent Torque	18gcm max.	
2.5	Dynamic Pull-in Torque	35gcm min.	300 pps Full-Step
2.6	Dynamic Pull-inTorque	27 gcm min.	500 pps Full-Step
2.7	Dynamic Pull-out Torque	45gcm min.	300 pps Full-Step
2.8	Dynamic Pull-out Torque	40 gcm min.	800 pps Full-Step
2.9	Pull-in Pulse Rate	950pps min.	No Load Full-Step
2.10	Step Angle Accuracy	18°± 7%	@1 pps Full-Step
2.11	Insulation Resistance	100 MΩ 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 60x60x2t Al Plate
2.14	Direction of Rotation	CW & CCW	Seen from Flange Side
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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	0.05 mm Max.	@500G
3.4	Axial Shaft Play	0.6 mm Max.	@500G
3.5	Mass	Approximate 21g	
3.6	Rotor Inertia	Approximate 0.25gcm 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

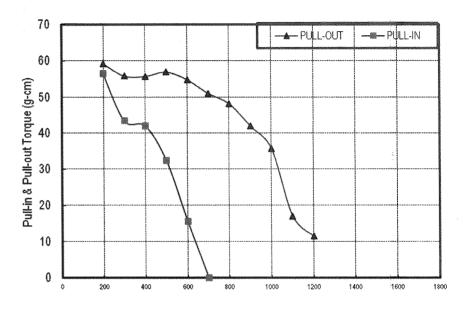
NO.	SPECIFICATION	REMARKS	
5.1	3,000 Hours min.	 Normal Operating Conditions Full-Step @600RPM, Rated voltage, Rated current and Rated load. No Unusual Vibration & Noise Satisfactory Electrical & Mechanical Characteristics 	
5.2	Satisfactory Electrical & Mechanical Characteristics	 Vibration Test at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

20PM020S0-02501 (Rev. C)
□Constant Voltage 12V □Rated Current 0.21 A □ Bipolar □Full-Step □3540M Driver



Pulse Rate (pps)



