

# MOONS'

## LINEAR NON-CAPTIVE STEPPING MOTOR SPECIFICATION

MOONS' MODEL  
**25LN024L8-00803**  
4611120001683



| REV | DESCRIPTION  | DATE      |
|-----|--------------|-----------|
| A   | FIRST ISSUED | 2016.3.21 |
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**SHANGHAI MOONS' ELECTRIC CO., LTD.**

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168 Mingjia Rd.  
Shanghai, China

### 1. RATED CHARACTERISTICS AND CONDITIONS

| NO. | ITEM               | SPECIFICATION        | REMARK            |
|-----|--------------------|----------------------|-------------------|
| 1.1 | Rated Voltage      | 24 V DC              |                   |
| 1.2 | Constant Current   | 0.5 A/Phase          | Chopper Driver IC |
| 1.3 | Phase Number       | Two (2)              | Phases A&B        |
| 1.4 | Excitation Method  | Bipolar Full-Step    |                   |
| 1.5 | Step Angle         | 15°                  | Full-Step         |
| 1.6 | Bearing System     | Two(2) Ball Bearings |                   |
| 1.7 | Insulation Class   | Class B              |                   |
| 1.8 | Linear Step Travel | 0.0508 mm            | Full-Step         |
| 1.9 | Shaft Stroke       | 20 mm min.           |                   |

### 2. ELECTRICAL CHARACTERISTICS

| NO. | ITEM                     | SPECIFICATION               | REMARK                  |
|-----|--------------------------|-----------------------------|-------------------------|
| 2.1 | Resistance per Phase     | 8.5Ω ± 7%                   | @ 25°C                  |
| 2.2 | Inductance per Phase A/B | 6.0 mH ±20%                 | 1 kHz 1V rms            |
| 2.3 | Pull/Push Force          | 20 N min.                   | 600 pps Full-Step@ 25°C |
| 2.4 | Holding Force            | 40 N min.                   | Two Phases On@0.125A    |
| 2.5 | Step Accuracy            | ± 7%(As Of Motor)           | @1 pps Full-Step        |
| 2.6 | Insulation Resistance    | 100MΩ min.                  | Case-lead DC500V        |
| 2.7 | Dielectric Strength      | Leak Current 3mA max.       | Case-lead AC600V 1 sec. |
| 2.8 | Temperature Rise         | 45°C max. 300 pps Full-Step | On 100x200x2t Al Plate  |
|     |                          |                             |                         |
|     |                          |                             |                         |
|     |                          |                             |                         |
|     |                          |                             |                         |

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 Net Weight         | (45g) <sub>reference</sub>  |                        |
| 3.3 | Uni-directional Accuracy | 0.12 mm max                 | With 35N Shaft-in Load |
| 3.4 | Axial Shaft Play         | 0.15 mm max.                |                        |
|     |                          |                             |                        |
|     |                          |                             |                        |

### 4. OPERATING CONDITIONS

| NO. | ITEM                  | SPECIFICATION  | REMARK          |
|-----|-----------------------|----------------|-----------------|
| 4.1 | Operating Temperature | -20°C ~ + 65°C |                 |
| 4.2 | Operating Humidity    | 20 ~ 90%RH     | No Condensation |
| 4.3 | Storage Temperature   | -40°C ~ + 85°C |                 |
| 4.4 | Storage Humidity      | 20 ~ 90%RH     | No Condensation |

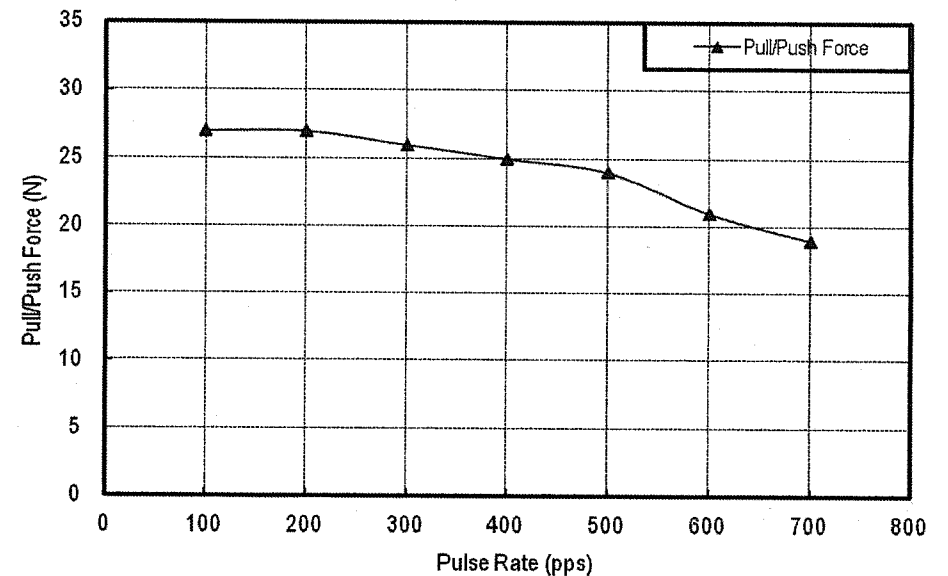
### 5. RELIABILITY AND WARRANTY

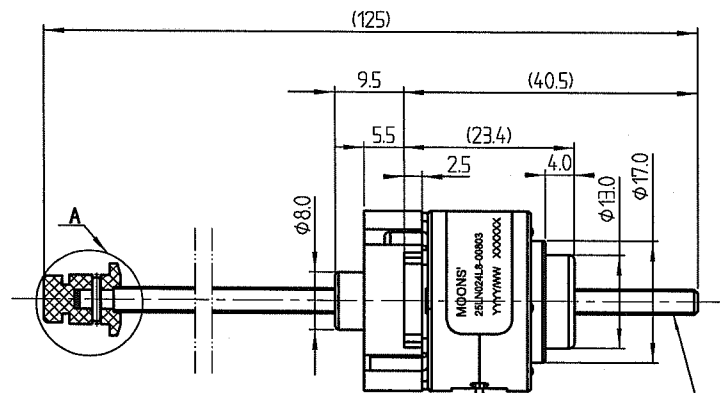
| NO. | SPECIFICATION                                              | REMARKS                                                                                                                |
|-----|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 5.1 | Satisfactory<br>Electrical & Mechanical<br>Characteristics | 1. Vibration Test at Package<br>2. 0 ~ 100 Hz Sweep for 5 Minutes<br>3. 1.5 mm, 3 Directional Amplitude for 30 Minutes |
| 5.2 | Satisfactory<br>Electrical & Mechanical<br>Characteristics | 1. Shock Test at Package<br>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.                                                                              |
| 6.3 | The motor is subject to change for improving the performance within the range satisfying its specification. |

| MOONS' PM STEPPING MOTOR CHARACTERISTICS   |                                                      |                                  |                                                                          |
|--------------------------------------------|------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------|
| 25LN024L8-00803 (Rev.A)                    |                                                      |                                  |                                                                          |
| <input type="checkbox"/> Rated Voltage 24V | <input type="checkbox"/> Constant Phase Current 0.5A | <input type="checkbox"/> Bipolar | <input type="checkbox"/> Full-Step <input type="checkbox"/> 3540M Driver |

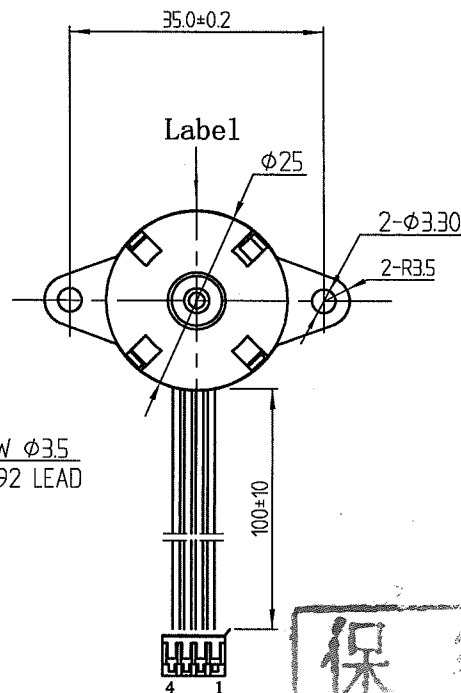
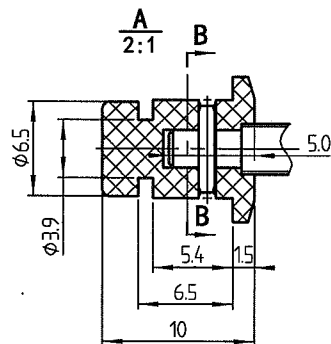




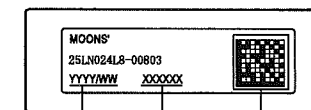
ACME LEADSCREW  $\phi 3.5$   
0.6096 PITCH 1.2192 LEAD

AWG28 UL1569

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



Label Detail



MOONS' 型号和第三行内容  
Data Matrix ECC200

Serial Number

Year/Week

保 密

CONNECTOR PIN LOCATION

| PIN NO. | COLOR  | EXTEND ← → RETRACT<br>(SEEN FROM FLANGE SIDE) |    |    |    | PHASE     |
|---------|--------|-----------------------------------------------|----|----|----|-----------|
|         |        |                                               |    |    |    |           |
| 1       | BLACK  |                                               |    | ON | ON | $\bar{A}$ |
| 2       | BROWN  | ON                                            | ON |    |    | A         |
| 3       | RED    | ON                                            |    |    | ON | $\bar{B}$ |
| 4       | ORANGE |                                               | ON | ON |    | B         |

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    | 吴艺 | 3.12     |
| Standard   | 吴艺 | 3.22     |
| Technology | 吴艺 | 3.22     |
| Check      | 吴艺 | 3.22     |
| Design     | 吴艺 | 16.03.21 |

A 原始版本 Original revision

16.03.21

备注 Remarks

Rev.

更改记录 Record for Changing

Date

UNLESS OTHERWISE SPECIFIED

TYPE 25LN024L8-00803