

# ERM 1003C A

## ECCENTRIC ROTATING MASS

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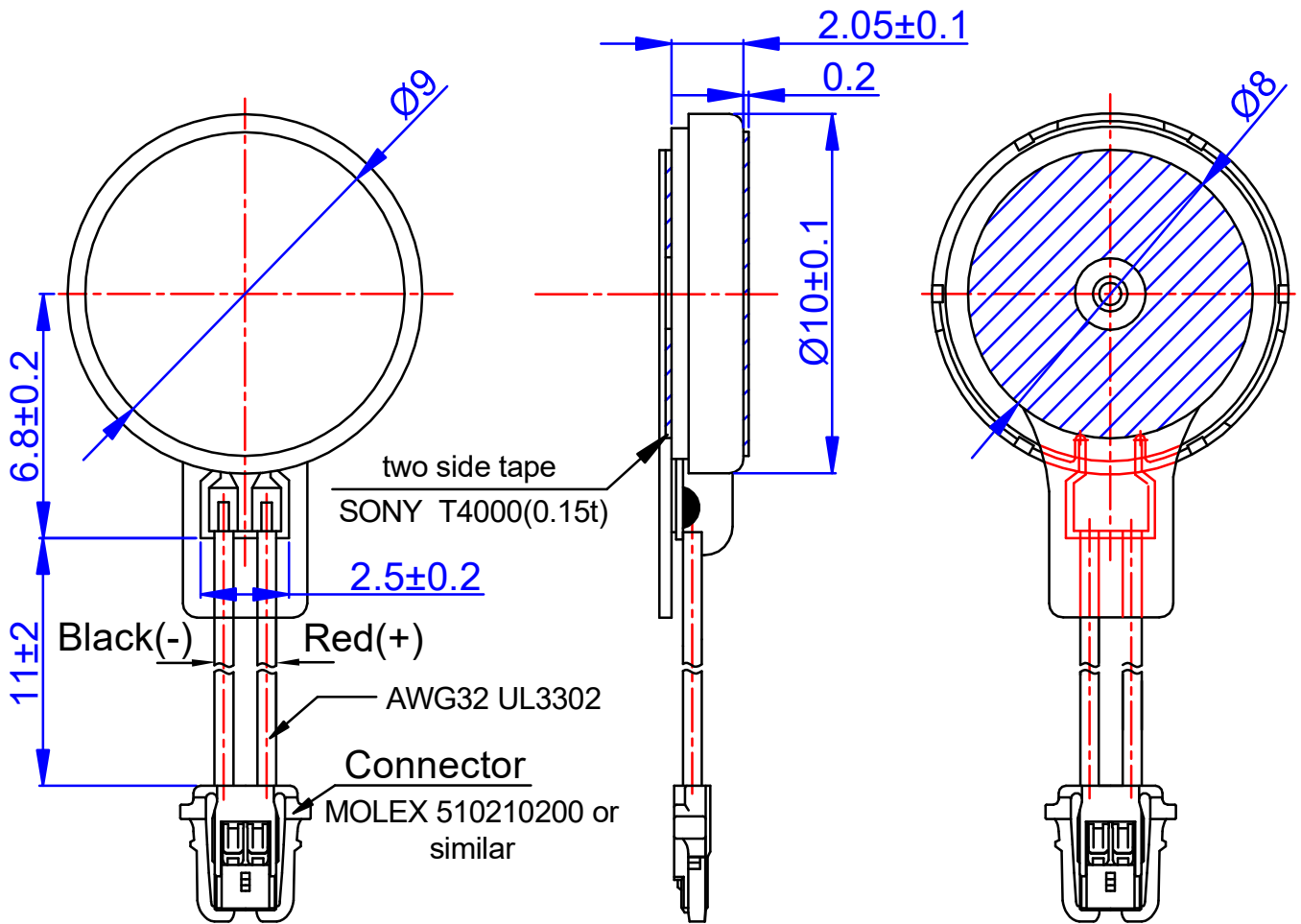


### 1. SPECIFICATIONS

| Parameter                   | Unit  | Conditions / Description                    | MIN  | TYP       | MAX  |
|-----------------------------|-------|---|------|-----------|------|
| Rated Voltage               | VDC   |   |      | 3         |      |
| Operating Voltage           | VDC   |   | 2.7  |           | 3.3  |
| Rotation                    |       | CW (clockwise) or<br>CCW (counterclockwise) |      |           |      |
| Rated Speed                 | r/min | Value applying 3VDC                         |      | 10 000    |      |
| Rated Current               | mA    | Value applying 3VDC, at 25°C                |      |           | 80   |
| Starting Current            | mA    |   |      |           | 120  |
| Starting Voltage            | VDC   |   |      |           | 2.3  |
| Terminal Resistance         | Ω     | At 25°C Single Phase                        | 25.5 | 30        | 34.5 |
|                             |       | At 25°C Double Phase                        | 51   | 60        | 69   |
| Insulation Resistance       | MΩ    | At 100VDC between lead wire and case        | 10   |           |      |
| Bracket Deflection Strength | N     |   | 9.8  |           |      |
| Mechanical Noise            | dB    |   |      |           | 50   |
| Contact                     |       |   |      | CONNECTOR |      |
| Packaging                   |       |   |      | TRAY      |      |
| Operating Temperature       | °C    |   | -20  |           | +60  |
| Storage Temperature         | °C    |   | -30  |           | +70  |
| Weight                      | g     |   |      | 0,94      |      |

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| CHANGED BY  | Rabea Richter     | DATE | 2024.07.19 |          |             |       |   |
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### 2. DRAWING



Unit: mm

Tolerance: ± 0.3mm

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### 3. RELIABILITY TEST

#### 3.1 Life Test

Power Rated Voltage  
 Duration 1 second on, 2 seconds off  
 As one cycle  
 Cycles 50 000  
 Motors shall be approved as specified in item A.

#### 3.2 High Temperature Test

Temperature +70°C  
 Duration 96 hours  
 Motors shall be approved as specified in item B.

#### 3.3 Low Temperature Test

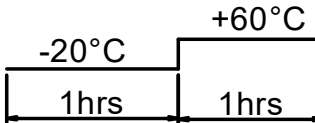
Temperature -30°C  
 Duration 96 hours  
 Motors shall be approved as specified in item B.

#### 3.4 Humidity Test

Temperature +40°C  
 Relative Humidity 95% RH  
 Duration 96 hours  
 Motors shall be approved as specified in item B.

#### 3.5 Temperature Cycle Test

Cycles 15



Motors shall be approved as specified in item B.

All these tests above should be measured after leaving normal temperature for 4 hours.

#### 3.6 Vibration Test

Vibration Frequency 10~55Hz  
 Amplitude 1.5mm  
 Duration x, y, z directions 30 minutes  
 Motors shall be approved as specified in item B.

#### 3.7 Drop Test

Height 1.5m (free falling on concrete floor)  
 Times 2 times in each of 6 planes  
 Motors shall be approved as specified in item B.

### JUDGMENTS AFTER RELIABILITY TEST:

| Item | Requirements   |
|------|--|
| A    | 1) Rated Speed: Not lower than -30% of initial data<br>Not more than +50% of initial data<br>2) Rated Current: Not lower than -30% of initial data<br>Not more than +50% of initial data<br>3) Terminal Resistance: Not lower than -15% of initial data<br>Not more than +15% of initial data<br>4) Starting Voltage: Max. 2.5DC<br>5) Insulation Resistance: Min. 10M Ω |
| B    | 1) Rated Speed: Not lower than -20% of initial data<br>Not more than +20% of initial data<br>2) Rated Current: Not lower than -20% of initial data<br>Not more than +20% of initial data<br>3) Terminal Resistance: Not lower than -15% of initial data<br>Not more than +15% of initial data<br>4) Starting Voltage: Max. 2.5DC   |

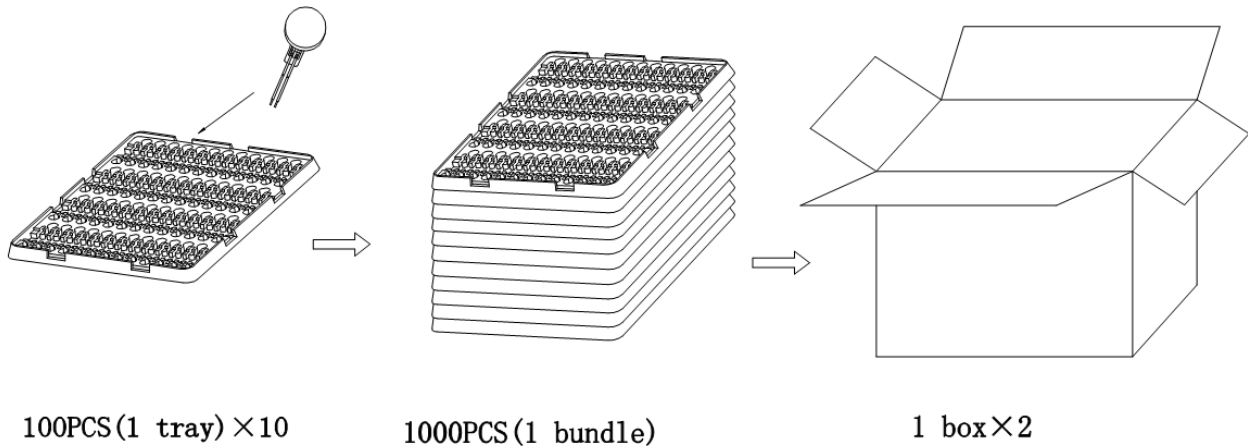
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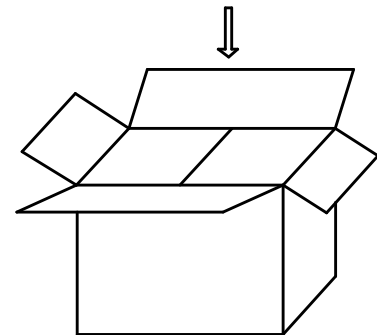
### 4. PACKING

#### 4.1 PACKING DRAWING



#### 4.2 PACKING QUANTITY

100pcs per tray  
 10 trays per bundle  
 1000pcs per bundle in total  
 4000pcs or 6000pcs per carton  
 Carton Size 45x28x20cm or 45x28x30cm



### 5. NOTICE

5.1 The products mustn't be washed

#### 5.2 Storage Condition

The products should be stored in the room, where the temperature/humidity is stable. And avoid such places where there are large temperature changes. Please store the products at the following conditions:  
 Temperature: -10 to + 40 °C Humidity: 15 to 85% R.H.

#### 5.3 Expire Date on Storage

Expire date (Shelf life) of the products is six months after delivery under the conditions of a sealed and an unopened package. Please use the products within six months after delivery. If you store the products for a long time (more than six months), use carefully because the products may be degraded in the solderability and/or rusty. Please confirm solderability and characteristics for the products regularly.

#### 5.4 Notice on Product Storage

- (1) Please do not store the products in a chemical atmosphere (Acids, Alkali, Bases, Organic gas, Sulfides and so on), because the characteristics may be reduced in quality, and/or be degraded in the solderability due to the storage in a chemical atmosphere.
- (2) Please use the products immediately after the package is opened, because the characteristics may be reduced in quality, and/or be degraded in the solderability due to storage under the poor condition.

|             |                   |      |            |          |             |       |   |
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## 6. HISTORY CHANGE RECORD

| REV | CHANGE ITEMS   |  | DATE       |
|-----|--|--|------------|
|     | BEFORE CHANGE  | AFTER CHANGE   |            |
| A1  | Connector: Molex 503764-0201   | Connector: Molex 78172-0002  | 2017.07.26 |
| A2  | Old layout   | New layout   | 2019.08.22 |
| A3  | Part Name: LRA 1003C A   | Part Name: ERM 1003C A   | 2019.08.26 |
| A4  | Connector: Molex 78172-0002  | Connector: Molex 503764-0201   | 2020.01.14 |
| A5  |  | Update Drawing: Add printing   | 2020.01.14 |
| A6  | Rated Current Max. 90mA<br>Rated Speed min. 9000 r/min<br>Terminal Resistance $31 \pm 15\% \Omega$ (Single phase)<br>$59 \pm 15\% \Omega$ (Double phase)<br>Connector: Molex 503764-0201 | Rated Current Max. 90mA<br>Rated Speed 10000 r/min<br>Terminal Resistance $30 \pm 15\% \Omega$ (Single phase)<br>$60 \pm 15\% \Omega$ (Double phase)<br>Connector: LH1250H-02P | 2024.06.14 |
| A7  | Connector: LH1250H-02P   | Connector: Molex 510210200 or similar  | 2024.07.19 |
|     |  |  |            |
|     |  |  |            |
|     |  |  |            |
|     |  |  |            |

|             |                   |      |            |          |             |       |   |
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