



JinLong Machinery

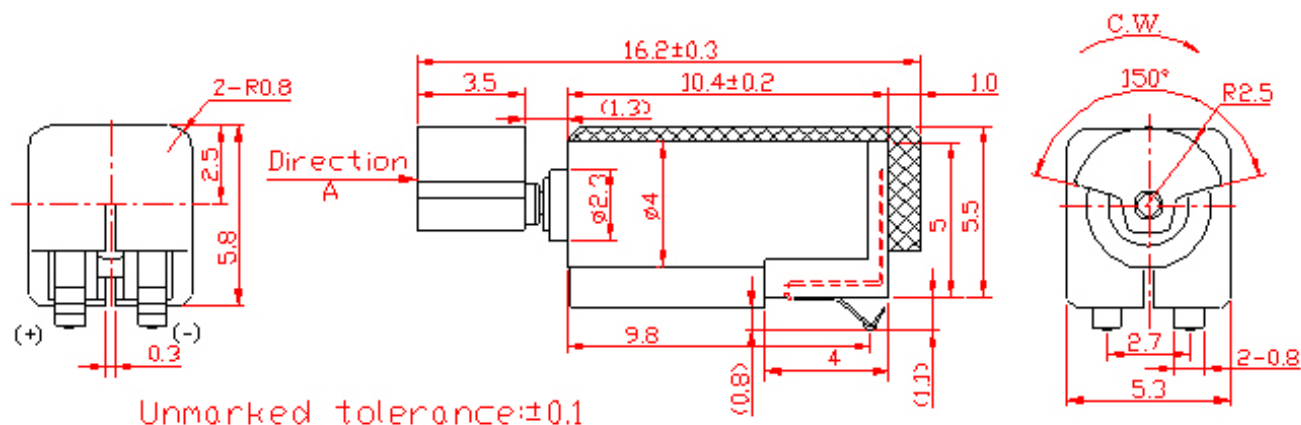
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Part No. Z4SH3B0030841

(Old Part Number : 4SH3-0384B41)



1. General scope

1-1 The specifications apply to the coreless cylindrical permanent magnetic micro vibration motor

DC model **Z4SH3B0030841**.

2. Operating conditions

Items	Specifications	Condition & Remarks
2-1	Rated voltage	3.0V DC
2-2	Rated load	Counter weight
2-3	Rated speed	C.W. (Clockwise)
2-4	Motor position	All positions
2-5	Operating voltage	2.2~3.6V DC
2-6	Operating conditions	-30 ~ 70°C, ordinary humidity
2-7	Storage conditions	-40 ~ 80°C, ordinary humidity

3. Measuring conditions

Items	Specifications	Condition & Remarks
3-1	Temperature	20±2°C
3-2	Humidity	(63 ~ 67%) RH

3-3	Motor position	Shaft horizontal	Lock the motor in a test fixture.
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3-4 All data are based on the measuring conditions: Temperature, 20°C; Humidity, 65% RH. If any disagreement occurs, such test conditions are available: Temperature, 5~35°C; Humidity, 45 ~ 85% RH.

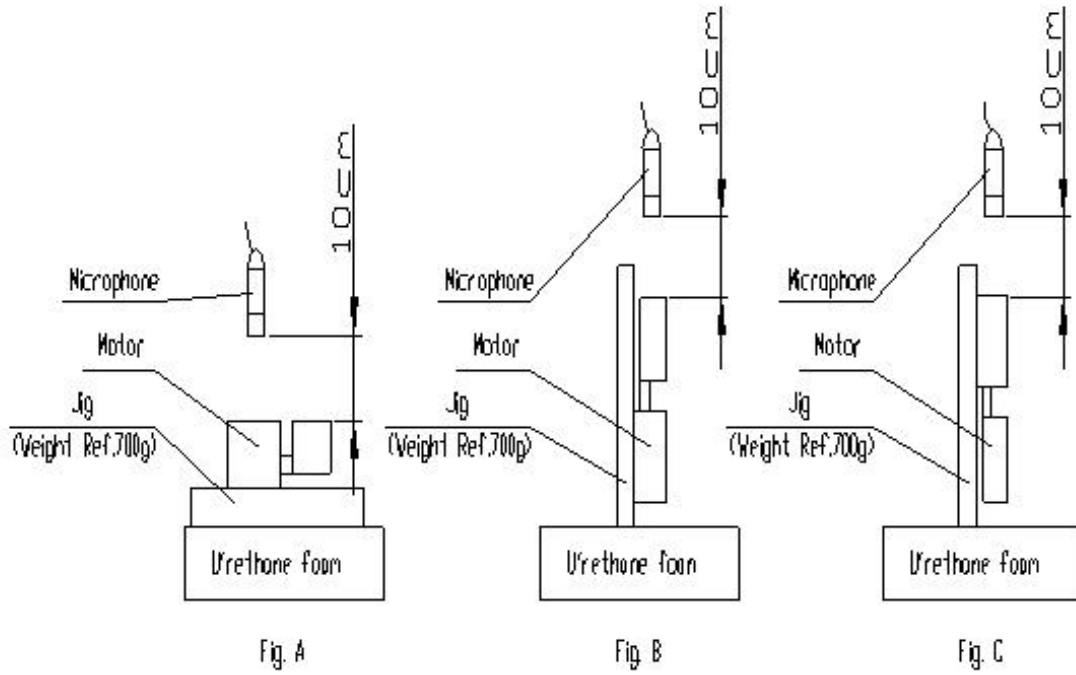
4. Mechanical specifications

Items	Specifications	Condition & Remarks
4-1	Configuration	As specified in outline drawing
		Outline drawing No: Z4SH3B0030841 .
4-2	Appearance	There shall be no evidence of mechanical damage and shall not have inadequate corrosion, etc.
		Visual examination: Inspection carried out on samples.
4-3	Shaft end play	0.05 ~ 0.2mm
4-4	Weight of motor	1.11g approx.
		Body + Vibration weight: 0.73+0.51
4-5	Holding strength of vibration weight	49N (5kgf)

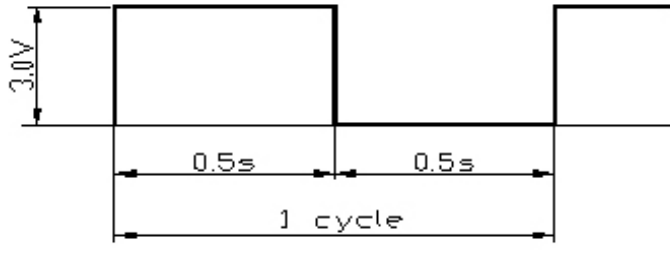
5. Performance and characteristics

Items	Specifications	Condition & Remarks
5-1	Rated speed	9,500±2000rpm
		At rated voltage and rated load (vibration weight).
5-2	Rated current	75mA max
5-3	Stall current	90mA max
		At rated voltage.
5-4	Starting voltage	1.7V DC max
		At rated load (vibration weight) any position of rotor.
5-5	Insulation resistance	1M• min
		At DC 100V between the lead wires and motor body.
5-6	Terminal resistance	41• approx.
		At 20°C.
	Mechanical noise	50db (A) max
<p>Measured at rated voltage and rated load (vibration weight). Background noise: 28db (A) max. @ 10cm. Measuring instruments: B & K. The weight of jig: 700g.</p>		

5-7



6. Reliability Test

Items	Standard test conditions	Condition & Remarks															
6-1 Life test	 <table border="1" data-bbox="357 1470 1315 1585"> <thead> <tr> <th>Position</th> <th>Voltage</th> <th>Load</th> <th>Temperature</th> <th>Humidity</th> <th>Life</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Horizontal</td> <td rowspan="2">Rated</td> <td rowspan="2">Counter weight</td> <td>20 °C</td> <td>65 %</td> <td>200,000 cycles</td> </tr> <tr> <td>40 °C</td> <td>90 %</td> <td>40,000 cycles</td> </tr> </tbody> </table>	Position	Voltage	Load	Temperature	Humidity	Life	Horizontal	Rated	Counter weight	20 °C	65 %	200,000 cycles	40 °C	90 %	40,000 cycles	After 2 hours exposure in ordinary Motors shall be approved as specified in item 7-1.
Position	Voltage	Load	Temperature	Humidity	Life												
Horizontal	Rated	Counter weight	20 °C	65 %	200,000 cycles												
			40 °C	90 %	40,000 cycles												
6-2 Low temperature exposure test	Temperature: $-40 \pm 2^{\circ}\text{C}$ Time: 96hrs																
6-3 High temperature exposure test	Temperature: $80 \pm 2^{\circ}\text{C}$ Time: 96hrs	After the test motors shall be approved as specified in item 7-2.															

6-4	High humidity exposure test	Temperature: $40 \pm 2^{\circ}\text{C}$ Humidity: 96 ~ 95% RH Exposure time: 96hrs Dry time: 4hrs No condensation of moisture	
6-5	Vibration test	Displacement: 1.5mm (p-p) Frequency: 10 ~ 55Hz Period: 20 Mins log sweep (10 ~ 55 ~ 10Hz) Direction: x, y, z Time: Every 2 hours	After the test motors shall be approved as specified in item 7-2.
6-6	Free Fall	Test state: Set the motor to the approximately 100 g (include the motor) weight of block drop the motor on the concrete floor. Height: 1.5 meters Direction: $\pm x, \pm y, \pm z$ Times: Twice each	After the test motors shall be approved as specified in item 7-2.
6-7	Heat stock	Test cycle: 5 cycles 	After the test motors shall be approved as specified in item 7-2.

7. Post environmental

Items	Requirements
7-1 Table A	1) Rated speed: Initial data -30% min./ +60% max. 2) Rated current: Initial data $\pm 30\%$ max 3) Insulation resistance: $1\text{M}\cdot \text{min}$ 4) Starting voltage: 2.0V DC max 5) Wave of current: No blot wave.
7-2 Table B	1) Rated speed: Initial data -30% min./ +60% max. 2) Rated current: Initial data $\pm 30\%$ max 3) Starting voltage: 2.0V DC max

8. Matters to be paid attention to when using motor

8-1 Lay the motors carefully in transportation to avoid any damage to the motor body or its electric function because of collision.

8-2 Storage temperature: $20\pm 10^{\circ}$. Do not leave the motors in the environment of high temperature, high humidity and gas that will cause rust and corrosion. Do not store the motors for over 6 months.

8-3 Do not lock the motor shaft when the electric power is supplied.

8-4 Do not touch the weights when motor is rotating.

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