

Wenzhou Super Co M&E CO., LTD

产品规格书

PRODUCT SPECIFICATION

客户名称Buyer Name	
客户料号Buyer Part No.	
客户承认签章 Buyers Approval & Signatures	

文件编号Spec No.		版本	A/0
品名描述 Product Description	无刷直流振动马达 BLDC Vibration Motor		
型号Part No.	C0825X27-WS		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
王生	蓝羽	林天癸	
2023.04.05	2023.04.05	2023.04.05	

[illegible]

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NO: 3/11

1. Revision History

[illegible]

2. Application

This specification applies to 0825 brushless type vibration motor.

3. Standard Operating Condition

No.	Item	Specification
3-1	Operating Voltage Range	DC 2.7V ~ 3.3V
3-2	Storage Temperature Range	-30~+70℃
3-3	Operating Temperature	-20~+60℃ However, there is decrease of rated load speed of the section 7-3 at -20℃ compared to +25℃.
3-4	Operating Position	All Direction

4. Standard Measurement Condition

No.	Item	Specification
4-1	Temperature	20±5℃
4-2	Humidity	65%±15% RH
4-3	Measurement Voltage	DC3.0V
4-4	Measuring Method	<div><div><p>Testing Jig(80g)</p><p>Motor</p><p>Acceleration Sensor</p><p>Vibration Meter</p><p>Standard Measurement State</p></div><div><p>DC3.0V</p><p>mA</p><p>Condensor</p><p>Switch</p><p>Moto</p><p>Oscilloscope</p><p>Current Probe Amp.</p><p>Inspection Circuit Diagram</p></div></div>

5. Judgment Environmental Condition

No.	Item	Specification
5-1	Temperature	20±5°C
5-2	Humidity	65%±15%RH

6. Test Tolerance

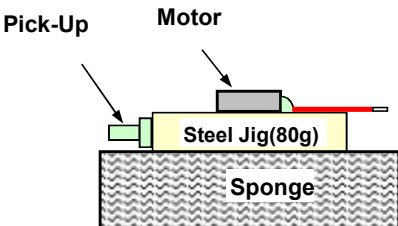
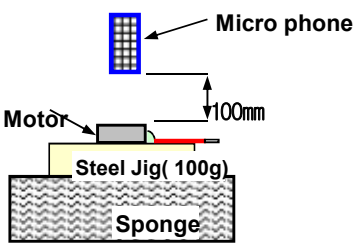
Test set-ups and equipment shall be capable of maintaining following condition, unless otherwise specified.

No.	Item	Specification
6-1	Room Temperature & Humid	20±15°C/65±20%RH
6-2	Test Chamber Temperature	Limits ±3°C
6-3	Voltage	Limits ±0.15V

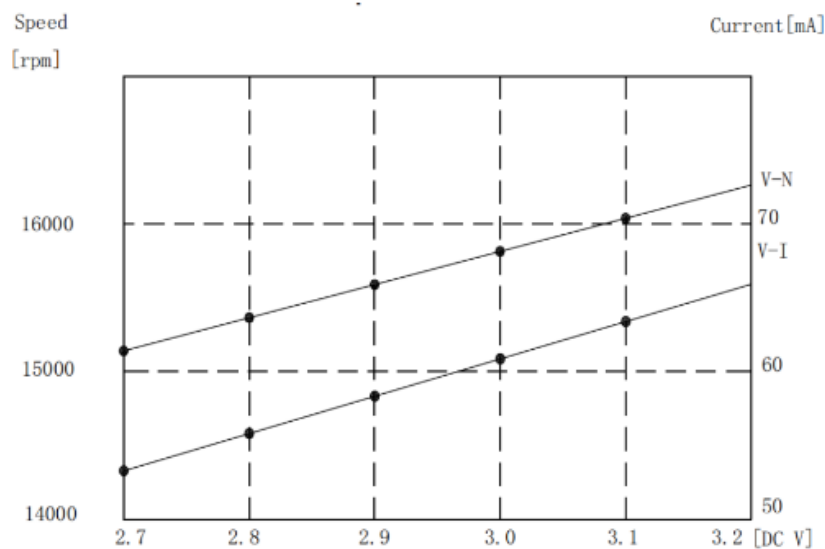
7. Electrical Characteristics

No.	Item	Test Condition	Specification
7-1	Rated Voltage		DC 3.0V
7-2	Rotating Direction	[Red Wire (+), Black Wire(-)]	CW
7-3	Rated Load Speed	It is based on the standard measurement condition of the section 4.	14,000 ± 3,500 rpm
7-4	Rated Load Current	It is based on the standard measurement condition of the section 4.	90 mA max
7-5	Starting Current	It is based on the standard measurement condition of the section 4.	175 mA max
7-6	Starting Voltage	Motor On/Off test based on the standard measurement condition of the section 4-1, 4-2, and 4-4.	DC 2.5 V max
7-7	Insulation Voltage	Measured between terminal and case with DC100V Megger.	

8. Mechanical Characteristics

No.	Item	Test Condition	Specification
8-1	Vibration Force	 <p>- Motor shall be fixed on Jig by adhesive tape.</p>	It is referred to the rated load speed of the section 7-3 (reference) (0.4 G MIN)
8-2	Mechanical Noise	 <p>- Background Noise : 24dB MAX - Motor shall be fixed on Jig by adhesive tape.</p>	50dB MAX
8-3	Weight		about 0.95g

9.Characteristic Graph



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产品规格书

NO: 7/11

10. Reliability Test

No.	Item	Test Condition	Specification														
10-1	Room Temperature & Humidity Life Test	<table><tr><td>Item</td><td></td></tr><tr><td></td><td>Room Temp. & Humi. L/T</td></tr><tr><td>Voltage</td><td>DC 3.0V</td></tr><tr><td>Temperature</td><td>20±5℃</td></tr><tr><td>Humidity</td><td>65±15% RH</td></tr><tr><td>Life cycles</td><td>1,000,000 cycles</td></tr><tr><td>Duty Cycle</td><td>0.5 sec ON /0.5 sec OFF</td></tr></table> <p>Motor shall be fixed on Jig by adhesive tape. (Refer to the section 4-4)</p>	Item			Room Temp. & Humi. L/T	Voltage	DC 3.0V	Temperature	20±5℃	Humidity	65±15% RH	Life cycles	1,000,000 cycles	Duty Cycle	0.5 sec ON /0.5 sec OFF	<p>-Rated Load Speed: Initial value +40, -20%</p> <p>-Rated Load Current: Initial value±30%</p> <p>-The others:</p> <p>Conform to the section 7-6 and 7-7.</p>
Item																	
	Room Temp. & Humi. L/T																
Voltage	DC 3.0V																
Temperature	20±5℃																
Humidity	65±15% RH																
Life cycles	1,000,000 cycles																
Duty Cycle	0.5 sec ON /0.5 sec OFF																
10-2	Low Temperature Storage Performance	Exposed to -40℃ for 96 hours and then room temperature for 4 hours.	<p>-Rated Load Speed: Initial value±30%</p> <p>-Rated Load Current: Initial value ±30%</p> <p>-The others:</p> <p>-Conform to the section</p>														
10-3	High Temperature Storage Performance	Exposed to +85℃ for 96 hours and then room temperature for 4 hours.	<p>7-6 and 7-7.</p>														
10-4	High Temperature and Humidity Storage Performance	Exposed to +60℃, 95%RH for 96 hours and then room temperature for 4 hours.	<p>-No scar, rust, stain, or deformation by visual inspection.</p>														
10-5	Thermal Shock Test	<p>Total 100cycles at -40℃ and +85℃ for 30 minutes each (1cycle=1 H)</p> <p>Temperature Change Time < 5min</p> <p>Motor shall be measured after exposure at room temperature for 4 hours.</p>															

10. Reliability Test

No.	Item	Test Condition	Specification
10-6	Drop Test	Dummy set (about 150g) motor shall be dropped onto concrete plate . 3 times each side of 6 directions from a height of 150 cm, total 18 times.	-Rated Load Speed: Initial value \pm 30% -Rated Load Current: Initial value \pm 30% -The others: -Conform to the section
10-7	Vibration Test	1) Dummy set motor shall be subjected to sine wave of 10Hz~500Hz each of 2 hours. acceleration : 1 . 5 mm or 1 4 . 7 m/s ² Direction : x,y,z (each 15 minutes) 2) Dummy set motor shall be subjected to sine wave of 33.2Hz each of 3 hours. acceleration : 43.2m/s ² Direction : x,y,z (each 15 minutes)	7-6 and 7-7. -No scar, rust, stain, or deformation by visual inspection.

11. Caution

No.	Item	Specification
11-1	Operating Range	- When using on the operating condition different from a standard, a problem can be generated to the performance and the life of a product.
11-2	Storage	- Temperature 5~30℃, Humidity 60% Max.
11-3	Motor Handling	<ul style="list-style-type: none">- To handle the motor, hold the case softly.- Do not bring a magnetized object or attracted object by the magnet of motor, or such object may deteriorate a performance of motor.- At the time of power input short to the motor due to mis-operating, Drive IC of the motor inside can be damaged. To avoid this problem, please add capacitor of 2uF or more between the power line in parallel with the motor.- Supplying voltage more than DC4.5V can make IC out of function.
11-4	Motor Usage	- Motor must be installed in device within 6 months of our ship date. For best reliability, it is recommended that the motor be exercised by powering it up for 3 seconds when the device is powered on.

12. Specificification Change

Even when there is any change to this specification, change application report which has the information of details of the change, lot of product, and etc shall be presented to customer before that change being carried out. And mutal discussion may be necessary before the change being corried out. Revision history shall be recorded on to the specification sheet when the change record and approval may be required.

13. Safety standard

Not applicable

Technical drawing of a circular component with three leads, showing top, side, and bottom views with dimensions and labels.

Top View:

- Overall diameter: 20 ± 2
- Lead diameter: 1.5 ± 0.3
- Lead length: 6 ± 0.05
- Lead thickness: 2.5 ± 0.1
- Labels: Blue(-), Red(+)

Side View:

- Overall height: 2.5 ± 0.1
- Lead height: 0.15
- Lead diameter: $\phi 8 \pm 0.05$
- Labels: ADHESIVE, UV, MAX 2.0

Bottom View:

- Overall diameter: $\phi 7$

技术要求/	Technical requirements:
1. 额定电压	Rated voltage: 3.0V
2. 额定电流	Rated current: 90 mA Max
3. 额定转速	Rated speed: 14000±3500rpm
4. 启动电压	Starting voltage: 2.5V Max
5. 绝缘电阻	Insulation resistance: ≥10MΩ
6. 导线规格	Wire SPEC: AWG#32 UL3302
7. 未注公差	Unmarked tolerance: ±0.2mm