



# 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/1
品名描述 Product Description	圆柱直流马达 Cylindrical DC motor		
型号Part No.	VZ32TL2B2882008D		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
2020.07.01	2020.07.01	2020.07.01	

[www.vybronic.com](http://www.vybronic.com)

[sales@vybronic.com](mailto:sales@vybronic.com)

## CONTENTS

1. Scope

2. Standard Operating Condition

3. Construction

4. Electrical Characteristics

5. Mechanical Characteristics

6. Reliability Test Conditions

7. Reliability Test

8. Cautions

9. Drawing

**1. Scope**

These specification are applied to VZ32TL2B2882008D vibration motors to be used for cellular and PDA phone.

**2. Standard Operating Condition**

NO	ITEM	SPECIFICATION
2-1	Rated Voltage	DC 3.0V
2-2	Direction of rotation	CW/CCW (Both directions)
2-3	Operating voltage range	DC 2.4V~3.6V
2-4	Operating temperature range	-30℃ ~ +70 ℃
2-5	Storage temperature range	-40℃ ~ +80℃

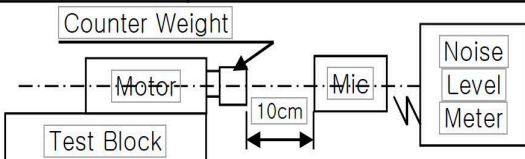
**3. Construction**

NO	ITEM	SPECIFICATION
3-1	Motor Construction	Ø4 cylindrical DC coreless motor
3-2	Number of phases	3-phases ( Δ - Connection )
3-3	Number of magnet poles	2 - poles ( Inner magnet type)
3-4	Rectifying method	Precious brush and commutator

**4. Electrical Characteristics**

No.	ITEM	Specification	Measuring condition
4-1	Rated speed	13,000 ± 3,000 rpm	Measure at rated voltage
4-2	Rated current	90 mA Max	Measure at rated voltage
4-3	Locked current	120 mA Max	Minimum voltage for starting (Voltage should be applied instantaneously)
4-4	Starting voltage	2.4 V Max	Measure at rated voltage
4-5	Terminal resistance	30Ω ± 20%	Measure between terminals
4-6	Dielectric voltage	1mA Max Cut off current	Supply with Ac 250V between a lead wire and motor case during one minute

**5. Mechanical Characteristics**

No.	ITEM	Specification	Measuring condition
5-1	C/weight pull strength	3Kg min.	shaft axial direction
5-2	Shaft pull strength	3Kg min.	Shaft axial direction
5-3	Shaft end play	0.3mm Max	Distance of axial play on shaft
5-4	Mechanical noise	50dB(A) Max	Back ground noise : 23dB(A) Max
			

**5. Mechanical Characteristics**

No.	ITEM	Specification	Measuring condition
5-5	Dimensions	As specified in outline drawing	shaft axial direction
5-6	Appearance	No mechanical trauma or corrosion	Visual examination
5-7	Weight	( APPROX ) 1.0g	Distance of axial play on shaft

**6. Reliability test conditions**

Table1 : RELIABILITY TEST CONDITIONS

No	Items	Test Condition
6-1	High temperature Storage test	Expose to 85℃ for 96 hours and then return to normal temperature and humidity for 12hours before test.
6-2	Low temperature Storage test	Expose to -40℃ for 96 hours and then return to normal temperature and humidity for 12hours before test.
6-3	Humidity test	Expose to 70℃,90%RH for 96 hours and then return to normal temperature and humidity for 12hours before test.

## 6. Reliability test conditions

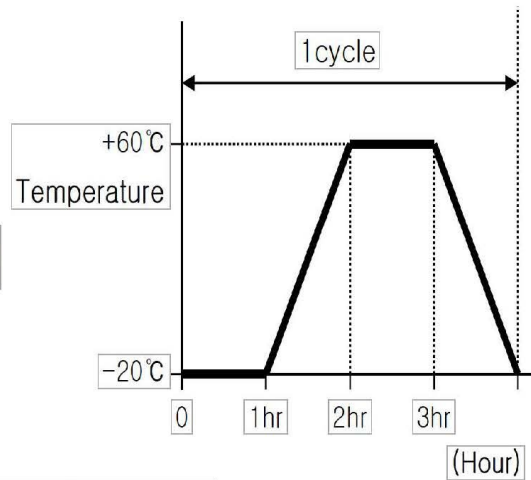
No	Items	Test Condition
6-4	Thermal shock test	Expose to $-20^{\circ}\text{C}/+70^{\circ}\text{C}$ during 15 cycles for each 1 hour and then return to normal temperature and humidity for 12 hours before test.
6-5	Heat cycle test	Confirmed to operating of motor during 2 cycles as following test condition and then return to normal temperature and humidity for 12 hours before test. (Test condition : Refer to Note)
6-6	Vibration test	Vibration with 3mm,1000cpm,X-Y-Z each direction for 10 minutes(Total 30 minutes) at standard packing condition.
6-7	Shock test	Free-drop 3times for each side from 1.5m above iron plate surface (Total 18 times) at set weight 100g.

6-8	Life test	Should be satisfied with the evaluation items of table1. After 200,000 cycles as following operating condition.
1 cycle test condition : 0.5sec. On / 0.5sec. Off		

Note.) Heat cycle test condition.

1) Motor Input : Rated Voltage

Motor driving condition : 2 sec. On,  
2 sec. Off



7. Reliability Test

1) Should be satisfied with the requirements of table 2 after test.

2) Refer the table 1 for reliability test conditions.

2 : (Table2: REQUIREMENT ITEM)

NO	ITEM	SPECIFICATION
7-1	RATED CURRENT	INITIAL DATA: ±30% Max
7-2	RATED SPEED	INITIAL DATA: ±50% Max
7-3	STARTING VOLTAGE	2.4 V DC Max.
7-4	OTHERS	1) SHOULD NOT FAIL IN STARTING 2) SHOULD NOT BE UNUSUAL MECHANICAL NOISE

**8. Cautions****(1) Allowable range for use**

Unless it is used in accordance with the specifications, the performance and life may be considerably reduced. Due attention should be paid to voltage and current ranges for use.

**(2) Storage**

Avoid storing in high temperature, high humidity or corrosive gas environment.

**(3) Handling of motor**

- To handle the motor, hold the motor case softly.
- Do not bring a magnetized object near or into contact with the surface because there is a fear of performance being deteriorated.
- Due attention must be paid to the handling and working environments because such objects.



9. Drawing

### SPECIFICATION

1. RATED VOLTAGE : DC 3.0V
2. RATED CURRENT : 90 mA Max
3. SPEED : 13,000±3,000 RPM
4. STARTING VOLTAGE : DC 2.4V Max
5. DIRECTION OF ROTATION : CW, CCW

REV NO.	CONTENTS	ENGINEER	APPROVER	DATE(Y/M/D)

UNLESS OTHERWISE SPECIFIED

NO.	PART NO.	PART NAME	UNIT	SIZE	SCALE	QTY	FINISH	REMARK
1		Vibrator	mm	M	10/1	1		
2		RUBBER				1		
3		LEAD WIRE				1		

DESIGNED: \_\_\_\_\_ DATE (Y/M/D): 2018-11-18  
 CHECKED: \_\_\_\_\_ DATE (Y/M/D): \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE (Y/M/D): \_\_\_\_\_  
 VYBRONIC TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ± 0.1°  
 UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS.  
 AND TOLERANCE ARE AS FOLLOWS:

mm	0.2
----	-----

VYBRONICS  
 R & D CENTER

DRAWING NO. VZ32TL2B2882008D

DO NOT SCALE DRAWING

**Records of Revision**

Rev. No.	Rev. Date	Page No.	Revised Item	Reason
A/0	2018.11.18	/	产品颁布/ Release for Production	
A/1	2020.07.01	/	changed company name from JINLONG MACHINERY to VYBRONICS, changed part # from Z32TL2B2882008D to VZ32TL2B2882008D	Rebranding