



# 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.	VZ32TH7B2882001D		
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	

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**1. Scope**

These specification are applied to VZ32TH7B2882001D 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℃

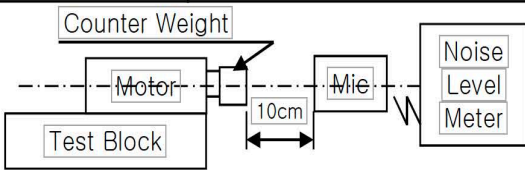
**3. Construction**

NO	ITEM	SPECIFICATION
3-1	Motor Construction	∅3 cylindrical DC coreless motor
3-2	Number of phases	3-phases ( $\Delta$ - 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

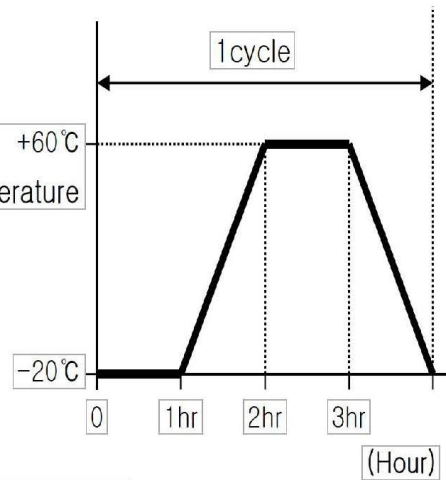
No	Items	Test Condition
6-4	Thermal shock test	Expose to $-20^{\circ}\text{C}/+70^{\circ}\text{C}$ during 15 cycles for each 1 hour and then return to normal temperature and humidity for 12 hours before test.
6-5	Heat cycle test	Confirmed to operating of motor during 2 cycles as following test condition 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	<p>Should be satisfied with the evaluation items of table1. After 200,000 cycles as following operating condition.</p> <p>1cycle test condition : 0.5sec. On / 0.5sec. Off</p>
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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	<p>1) SHOULD NOT FAIL IN STARTING</p> <p>2) SHOULD NOT BE UNUSUAL MECHANICAL NOISE</p>



#### 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.

