



Part No. **Q7AL2BX180003**

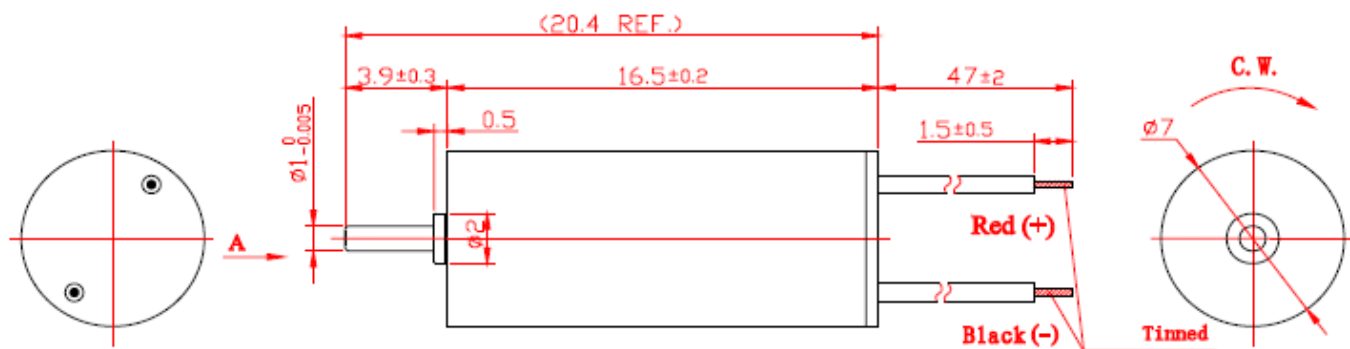
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Technical requirement

1. Rated voltage:3.0V
2. Non load current:40mA Max
3. Non load speed:18,000 ± 2500rpm
4. Stall current:680mA Max
5. Terminal resistance:5.5Ω(±20%)
6. Starting voltage:1.7V Max
7. Lead wire spec: AWG30 UL1571
8. Unmarked tolerance: ± 0.1mm
9. A Pressure along A direction:20N Max



1. General scope

1-1 The specifications apply to the coreless cylindrical permanent magnet motor DC model **Q7AL2BX180003**.

2. Operating conditions

Items	Specifications	Condition & Remarks
2-1	Rated voltage	3.0V DC
2-2	Direction of rotation	C.W. (clockwise)
2-3	Motor posture	All positions
2-4	Operating voltage	2.2 ~ 3.6V DC

2-5	Operating Environment	-20 ~ 60°C, 10 ~ 90% RH	
2-6	Storage Environment	-40 ~ 80°C, 5 ~ 95% RH	No condensation of moisture.

3. Measuring conditions

Items		Specifications	Condition & Remarks
3-1	Temperature	20±2°C	
3-2	Humidity	(65±5%) RH	
3-3	Motor posture	Motor shaft horizontal	Lock the motor in a test fixture.

3-4 The measurement at 20°C & 65% RH is standard. If the judgment is not questionable, recognize measurement at 5°C to 35°C & relative humidity 45% to 85%. Direction of motor is shaft horizontal.

4. Mechanical specifications

Items		Specifications	Condition Remarks
4-1	Configuration	As specification outline Drawing	Outline drawing No: Q7AL2BX180003
4-2	Appearance	There shall be no mechanical Damage And inadequate corrosion and so on	Visual examination (allowable extent is based on boundary sample)
4-3	Shaft play	0.05 ~ 0.3mm	

5. Performance and characteristics

Items		Specifications	Condition & Remarks
5-1	No load speed	18,000±2500 rpm	At rated voltage
5-2	No load current	40 mA Max	At rated voltage
5-3	Stall current	680 mA Max	At rated voltage

5-4	Starting voltage	1.7V DC Max	At rated load (non vibration weight) any position of rotor.
5-5	Terminal resistance	5.5Ω (±20%)	At 20°C
5-5	Insulation resistance	1MΩ Min	At DC 100V between
5-6	Mechanical noise	50db (A) max	<p>At rated voltage.</p> <p>Back ground noise 28db(A) Max.</p> <p>Measuring instruments: B&k</p> <p>Weight of jig: 700g</p>

6. Reliability

Items	Standard test conditions	Condition & Remarks
6-1 Low temp exposure	Temperature: -40±2° C Time: 96hrs	After 2 hours exposure in ordinary Motors shall be approved as specified in item 7.
6-2 High temp exposure	Temperature: 60±2° C Time: 96hrs	
6-3 Humidity exposure	Temperature: 40±2° C Humidity: 90±5% RH Exposure time: 96hrs No condensation of moisture	
6-4 Vibration	Displacement : 1.5mm (p-p) Frequency: 10 • 55Hz Acceleration: 22m/s2 Period: 20min 10•55•10Hz 20 Minutes log sweep10•55•10Hz Direction: x, y, z Time: Each 2 hours	After the test motors shall be approved as specified in item 7.

6-5	Free fall	Set the motor to the approximately 75g (include the motor) weight of block drop the motor on the concrete floor. Height: 1.5 meters Direction: ± x, ± y, ± z Times: Each 2 times	After the test motors shall be approved as specified in item 7.
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7. Post environmental

Items	Requirements
7-1 Rated Speed	-30% min./ +30% max
7-2 Rated current	-30% min./ +30% max
7-3 Starting voltage	2.0V DC Max

8. Matters to be paid attention to when using motor

8-1 (Please lay the motors carefully in transportation to avoid any serious damage to the motor body or its electric function because of collision.)

8-2 (Please use and storage motors according to N0.2 item (Operating Conditions) in specification, or else motor characteristics would be affected.)

8-3 (Make arrangement to limit the storage period to 6 months or less. Condensation of atmosphere must be avoided in motor usage or opening the packaging of the motor.)

8-4 (For proper operation. storage and operating environment must not contain corrosive gases. For example H₂S. SO₂. NO₂. Cl₂. etc. In addition storage environment must not have materials that emit corrosive gases especially from silicon. cyanic. formalin and phenol group. In the mechanism or the set. existence of corrosive gases may cause no rotation in motor.)

8-5 (Please don't stall the shaft for a long time after powering.)

8-6 (There should be no sundries (such as grain, fibre, hair, small tape, glue etc.) in the shaft end play.)



Spot-test Report of Quality Inspection for Vibration Motors

