



Model No.
NFP-FLAT-0720-PCB



1. Application

This specification applies to NFP-FLAT-0720-PCB Coin Vibration Motors.

2. Operating condition

No.	Item	Specification
2-1	Rated voltage	3.0V DC
2-2	Operating voltage	2.3~3.3V DC
2-3	Rotation	CM(clockwise) or CCW(Contrary clockwise)
2-4	Operating environment	-20~+60°C, Ordinary Humidity
2-5	Storage environment	-30~+70°C, Ordinary Humidity

3. Measuring condition

No.	Item	Specification
3-1	Temperature	25±3°C
3-2	Humidity	62±20% RH
3-3	Air pressure	1011±40 hPa
3-4	Current	Stabilized current

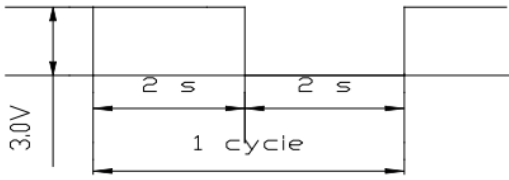
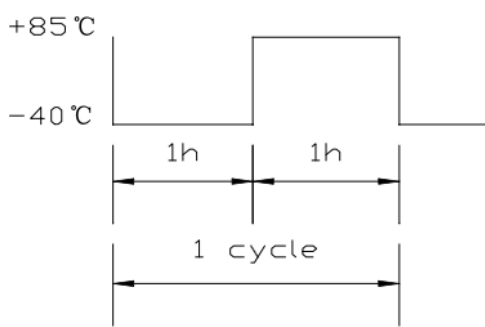
4. Electrical initial characteristics

No.	Item	Specification	Condition
4-1	Rated speed	10000rpm min	At rated voltage
4-2	Rated current	90mA Max	
4-3	Starting current	150mA Max	
4-4	Starting voltage	2.3V DC Max	Motor is rotating at min starting voltage
4-5	Insulation resistance	10MΩ Min	At DC 50V between lead wire and case.
4-6	Terminal resistance	28Ω±15%(sigle posture) 56Ω±15%(double posture)	At 25°C

5. Mechanical characteristics

No.	Item	Specification
5-1	Bracket deflection strength	9.8N or more
5-2	Mechanical noise	50dB(A)Max
	At rated voltage Back ground noise 28dB(A)Max	

6. Durability characteristics

No.	Item	Specification	Judgment
6-1	Life	Test cycle: 50,000 cycles 	After the test, motors shall be approved as specified in item 7-1.
6-2	Low temp exposure	Temperature: -30 Time: 96h	After 4 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item7-2.
6-3	High temp exposure	Temperature: +70 Time: 96h	
6-4	Humidity exposure	Temperature: +40 Humidity: 95%RH Exposure time: 96h NO condensation of moisture	
6-5	Vibration	Displacement: 1.5mm (p-p) Frequency: 10~54Hz Acceleration: 22m/s Period: 10 Minutes log sweep(10~55~10Hz) Condition: This motion shall be applied for a period of 10 minutes in each of 3 mutuallyperpend axis	After the test motors shall be approved in item7-2.
6-6	Free fall	Test state: Set the motor to the approximately 100g (includethe motor), weight of block drop the motor on the concrete floor. Height: 1.5m Direction: ±x. ±y ±z. Number of times:Each direction 3 times Shock: 29420m/s Equivalent(3000G)	After the test motors shall be approved as specified in item7-2.
6-7	Heat stock test		After the test motors shall be approved as specified in item7-2.

7. Requires

No.	Item	Judgment
7-1	Table A	1. Rated speed: data+30% Initial Min : data+50% Initial Max 2. Rated current: data+30% Initial Min : data+50% Initial Max 3. Starting voltage: 2.5V DC Max 4. Insulation resistance: 10M Ω Min 5. Terminal resistance: Initial data±15% Max
7-2	Table B	1. Rated speed: Initial data±20% Max 2. Rated current: Initial data±20% Max 3. Starting voltage: 2.5V DC Max 4. Terminal resistance: Initial data±15% Max

8. Matters to be paid attention to when using motor

8-1	Please apply motors in accordance with specifications ,especially aware of ranges of operation voltage ,or its performance and life durability may be consider ably reduced.
8-2	Advice use this motor within 6 month as avoiding as possible. Avoid use or save the motors in the following environment. <ol style="list-style-type: none"> 1. High temperature and high humidity area 2. Corrosive gas such as H₂S, SO₂, NO₂, Cl₂, 3. Dusty area
8-3	Please pay much attention to the working environment to avoid iron sundries from being sucked in the motors, possible to trigger noise, reduce performance, and decrease reliability.
8-4	Please confirm enough no problem of standards and laws and ordinances on your cellular.
8-5	TO handle the motor, hold the motor case softly
8-6	Rust of plate (steel) ad similar edge should be OK.

9. Outline Drawing

