



維盟科技有限公司
Evowave Technology Co., Ltd.

規格書 / Specification

Description:	Lead Wire Type Vibrator
Part No.:	VG3281C20XX
Date:	2015/04/16

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1. Scope

These specification are applied to VG328120CXX 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 –form

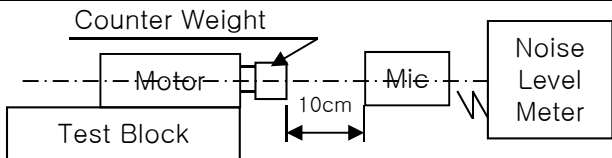
NO	ITEM	SPECIFICATION
3-1	Motor Construction	Ø4 cylindrical DC coreless motor
3-2	Number of phases	3-phases (△ – Connection)
3-3	Number of magnet poles	2 – poles (Inner magnet type)
3-4	Rectifying method	Precious brush and commutator

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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	5Kg min.	shaft axial direction
5-2	Shaft pull strength	5Kg 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
			

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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.

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6. Reliability test conditions

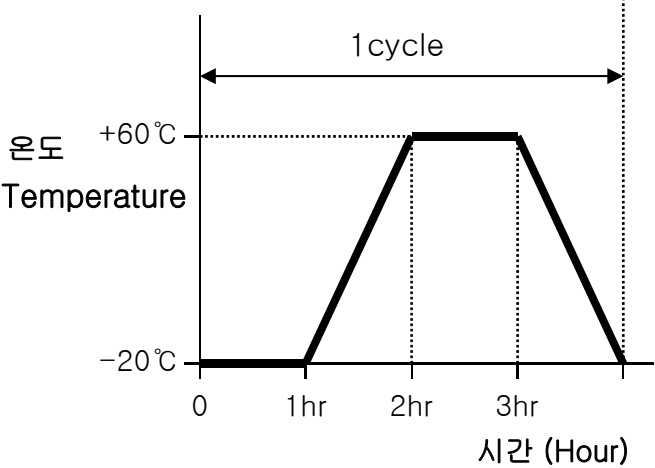
No	Items	Test Condition
6-4	Thermal shock test	Expose to -20℃/+70℃ during 15cycles for each 1hour and then return to normal temperature and humidity for 12hours before test.
6-5	Heat cycle test	Confirmed to operating of motor during 2 cycles as following test condition and then return to normal temperature and humidity for 12hours 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.

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6-8	Life test	<p>Should be satisfied with the evaluation items of table1.</p> <p>After 200,000 cycles as following operating condition.</p> <p>1cycle test condition : 2sec. On / 1sec. Off</p>
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Note.) Heat cycle test condition.

- 1) Motor Input : Rated Voltage
- 2) 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.

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

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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.

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Technical drawing of the ACES 50375-002T1-001 connector. The drawing includes a side view showing a length of 12.4±0.3 mm, a central section of 8.1±0.2 mm, and a cable length of 20±2.0 mm. The cable has a diameter of 5±2.0 mm and is color-coded: RED for the outer jacket and BLACK for the inner conductors. The side view also shows a 2.8 mm wide top section and a 1.5 mm wide bottom section. A top view shows a square footprint with a 3.9±0.2 mm side length and a central circular feature with a radius of R2.0 mm. The connector model name is ACES 50375-002T1-001.

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

[illegible]