



力臻股份有限公司
LJ DEVICE CO., LTD.

零件規格書 / 承認書
SPECIFICATION FOR APPROVAL

CUSTOMER : _____

DESCRIPTION : _____ VIBRATOR _____

MODEL : _____ :: !NMP/8% @&, 8 _____

CUSTOMER PART NO : _____

APPROVED SIGNATURES

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Rev	Date	Description	Designed	Checked	Approved
A	208' /1/(Release		Dc '7\ Yb	

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REV: A
 FUGE-298D

技术标准

1. 适用范围 (Scope):

本文规定FG-ZY1215K298D直流永磁电动机有关技术要求和试验方法。

(This spec specifies the related technical data and test methods of FG-ZY1215L298D DC motor.)

2. 标准使用条件 (STANDARD OPERATING CONDITIONS)

NO:	项目: ITEMS	规格: SPECIFICATIONS
2-1	额定电压 Rated Voltage	6.0 V DC CONSTANT between motor terminals 马达端子间电压.
2-2	使用电压范围 Operation Voltage	3.5 to 7.2 V DC.
2-3	额定负载 Rated Load	500 gf.cm(49 mN.m)
2-4	旋转方向 Rotation Direction	逆时针方向(从出轴端看) CCW:View from shaft output end
2-5	马达姿势 Operation of Motor	出力轴水平 Motor shaft horizontal
2-6	使用温度范围 Operation Temperature	-10 to +60°C .
2-7	使用湿度范围 Operating Humidity Range	10% to + 90%RH

3. 结构 (CONSTRUCTION)

NO:	项目: Items	测试条件: Test Conditions	规格: Specification
3-1	外观 Appearance	目视 Visual	无明显刮伤, 凹陷或变形 No excessive scratches, dents or Deformation.
3-2	外形尺寸 Dimension	卡尺或千分尺 Caliper or micrometer	参见附图 Conform to drawing.
3-3	轴向间隙 End Gap	百分表 dial indicator	0.05-0.25mm
3-4	重量 Weight	电子秤 Electronic scale	约10g Approx. 10g.

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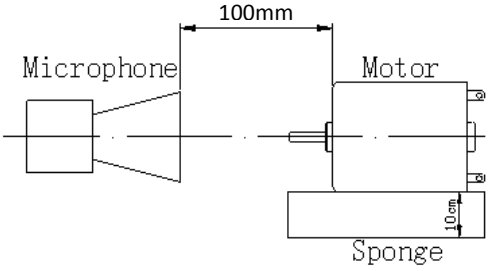
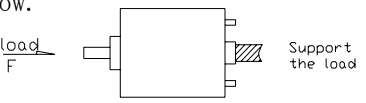
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4. 电气特性 (Electrical Characteristics)

标准测试状态为温度+15℃至+30℃，湿度30%至70%，如有疑问，则按温度+18℃至+22℃，湿度60%至70%RH进行测试。

In standard test ,measurement is to be made at +15℃to +30℃& relative humidity 30% to 70%

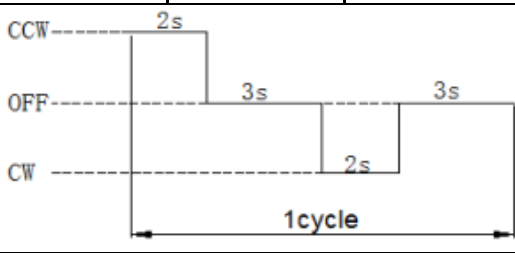
If the judgment is questionable,the measurement is to be made at+18℃to+22℃ and 60% to 70% RH.

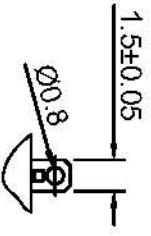
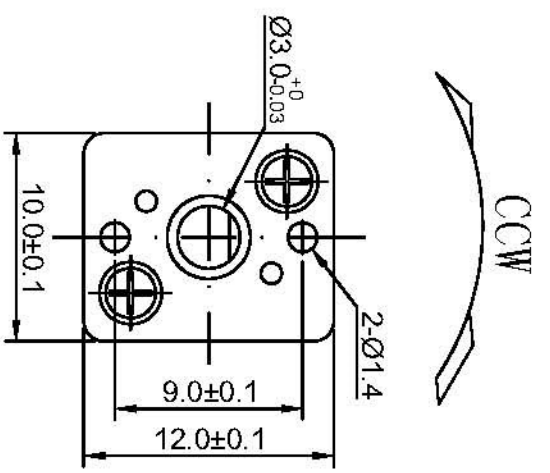
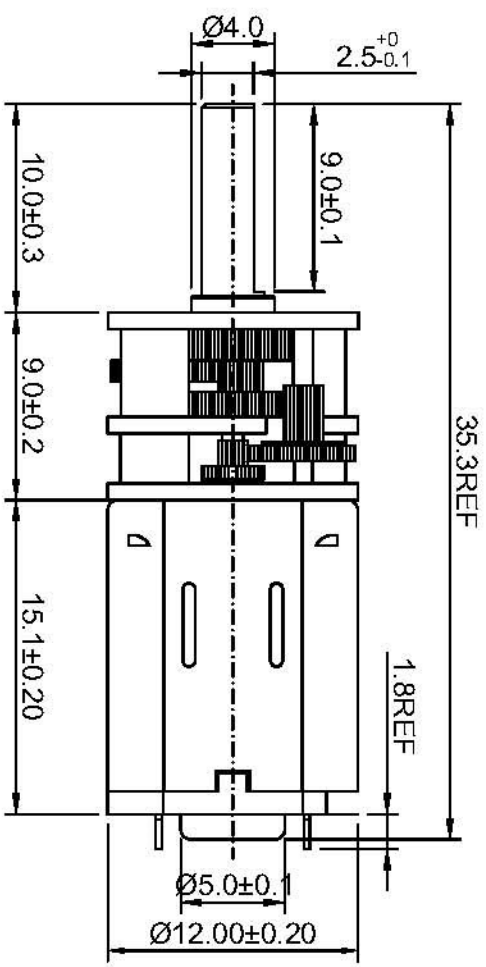
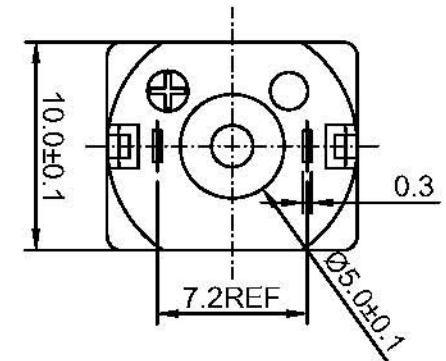
NO:	项目 Item	测定条件 Test Conditions	规格 Specification
4-1	空载转速 No Load Speed	额定电压, 空载 At rated voltage, no load.	50±5%r. p. m
4-2	负载转速 On-load Speed	额定电压, 额定负载 At rated voltage, rated load.	40±4%r. p. m
4-3	空载电流 No Load Current	额定电压, 空载 At rated voltage no load.	40 mA MAX 40 mA or less
4-4	负载电流 On-load Current	额定电压, 额定负载 At rated voltage, rated load.	150 mA MAX 150 mA or less
4-5	起动电压 Starting Voltage	空载 No load.	1.5 V MAX 1.5 V or less
4-6	堵转力矩 Stall Torque	额定电压, 500g. cm 2点法计算. At rated voltage , 2 point Method i. e. 500	2000 gf. cm MIN
4-7	堵转电流 Stall current	额定电压 At rated voltage.	0.56 A MAX 0.56 A or less
4-8	端子间电阻 Terminal Resistance	20℃, 2R/3端子间 20℃, rotor at 2R/3 Position	12.0 Ω ±1.2 Ω
4-9	绝缘阻抗 Insulation Resistance	马达端子和机壳间加DC100V DC100V apply between motor casing & supply terminal	1.0MΩ MIN 1.0MΩ or more
4-10	机械噪音 Mechanical Noise	<p>额定电压, 空载状态, 在离马达100mm处测试 At rated voltage, no load, The distance between microphone and the mounting plate:100mm.</p> 	<p>55db MAX 背景噪音32 db 55db or less. Background Noise:32db</p>
4-11	最大轴向受力 Maximum axial load	<p>支撑点及受力如下图所示 Direction of static load and support of load as Shown below.</p> 	F≤10.0Kgf. (MAX)

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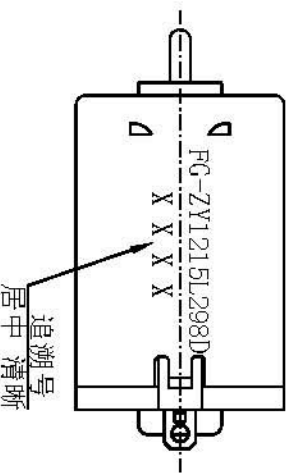
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5. 信赖性、特殊试验 (RELIABILITY & SPECIAL TEST)

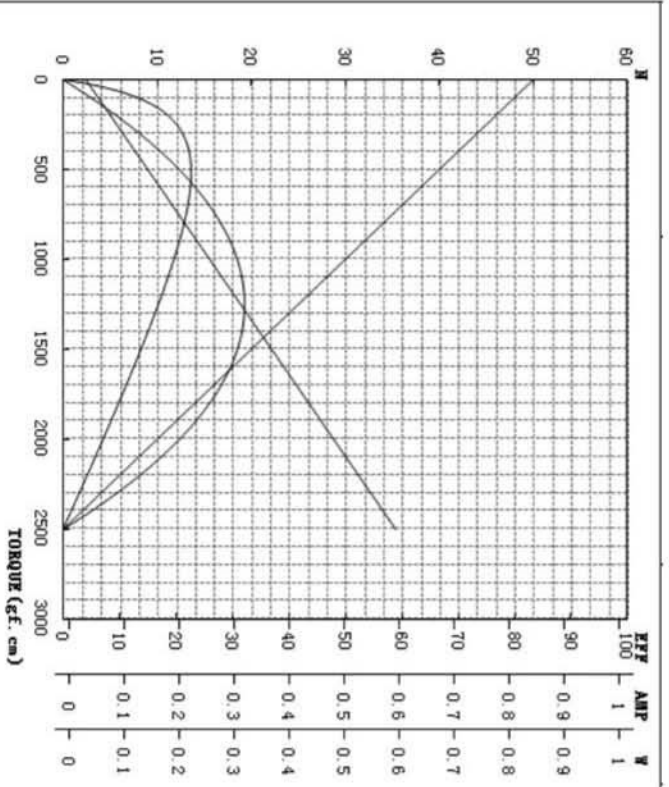
NO:	项目 Item	试验条件 Test conditions	规格 Specifications		
5-1	寿命试验 Life Test	马达试验条件如下, 并按以下的判断标准判断其寿命。 Motor test conditions are listed as below. A motor is considered as meeting lifeexpectation when either of the criteria described met.			
		试验方式 Test model	负载 Load	环境条件 Environment	目标规格 Target Lift Cycle
		如下 As below	500gf. cm	25°C ±5°C 65% ±20%RH	20000个周期
					
		寿命判断标准 Life test judgement standard			
		① 额定转速与初始值相比变化率在±30%以内。 Rated load speed varies within ±30% from the initial.			
② 额定电流与初始值相比变化率在±30%以内。 Rated load current varies within ±30% from the initial.					



端子剖视图



印字方向：马达弧面印字



VOLTAGE RATING:	6.0	V
DIRECTION:	0	
NO LOAD		
SPEED:	50	RPM
CURRENT:	0.040	AMP
AT STALL		
TORQUE:	2500.00	G.CM
CURRENT:	0.590	AMP
AT MAX EFFICIENCY		
EFFICIENCY:	22.70	%
SPEED:	40	RPM
TORQUE:	516.47	G.CM
CURRENT:	0.154	AMP
OUTPUT:	0.21	W
AT MAX POWER		
OUTPUT:	0.32	W
SPEED:	25	RPM
TORQUE:	1250.00	G.CM
CURRENT:	0.315	AMP

ISSUED: APPROVED:

仅供客户参考使用 ONLY USED FOR THE DRAWING OF CUSTOMER CONFIRMATION

REV		History	
马达型号 (Model)	FG-ZY1215L298D	客户 (CUSTOMER NO.)	
文件编号 (FILE NO.)	FUGE-298D	REV	A
		DWN	
		CHK	
		APP	
		DATE	
		NO.	

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马达使用时注意事项

Motor General Instructions & Notes

1. 对马达具有腐蚀性有害气体（例如：硫磺、瞬干胶、矽胶等），产生场所、环境应避免，以防止马达外壳、端子及其它金属零件被氧化腐蚀，特别是机构、工作环境使用了矽胶，矽胶的挥发容易形成SiO₂造成马达换向器接点障碍，接触阻抗急剧增大，接触开路不良。

To motor have corrosively harmful gas(for example:sulfur ,do glue,silica gel,etc.wink), produce place,environment should avoid,in order to prevent motor outer cover,end son and other metal part from is it corrode to oxidize, Especially organization,working environment use silica gel,to volatilize apt to form SiO₂ lead to the fact the reversing device contact obstacle of the motor silica gel,connect place impedance to increase sharply,keep in touch and open a way badly.

2. 马达端子焊接时应避免压入以免造成不良现象，焊接温度应在350℃内，时间2S内，防止端盖受热变形。

Avoid bending or wiggling motor terminal while soldering leads to hem.also,soldering time should be short(350℃, 2s max)as possible since prolonged soldering may damage the surrounding area, especially the plastic material.

3. 装配马达时，使用接著剂时，应避免流入轴承与轴心处，防止卡死不转动。

Motor mounting and in cause of using adhesives,please pay attention not to flow them into bearing. Avoid dead point.

4. 马达通电后，轴心锁住时间与施加负荷，须注意若超过规格书之条件，可能导致漆包线、电刷烧毁情形发生。

Do not stall or overload the motor,this will cause motor to be overheated and some parts(For example,wire,brush...etc.)will be damaged.

5. 压入齿轮或滚轮，与其他零件与轴心时，在另一侧，即后盖需用治具顶住支撑处，防止后盖变形与损坏并影响转子转动。

Press-fitting a gear,pully or adhesive agent etc,onto the motor output shaft,please support the shaft at the other end or its metal plate in a proper JIG, avoid influence rotor rotation.

6. 马达使用时之环境温度应注意，尤其是高温高湿应避免，若超出规格条件，对马达之特性、寿命，将会有影响。

The warm humidity of environment when the motor is used should be paid attention to,especially the high temperature is high and wet,should avoid,if go beyond the specification condition,to the characteristic,life-span of the motor,there is influence.

7. 马达保存环境25℃±10%、湿度70%以下，马达在未开包装箱情况下，保存期为180天，并且马达品质符合制品规格书的要求。

25℃ of ±10% of environment,under 70% of humidity that the motors are kept,the motor is in have not opened the packing box cases,storage date is 180 days,and motor quality accords with the demands for specification book of the products.

8. 使用适当之螺丝（例如：长度、螺距等），锁附马达时，螺丝与孔应平行，以防止螺纹损坏，若螺丝长度过长将对磁石造成破损，并影响转子运转。

Use suitable screw(for example,length,pitch etc)for motor mounting,screw and hole should straight if mounting screw length is too long,this will have a bad influence on the magnetic and rotor.

9. 若使用马达后有任何疑问或问题产生时，双方依承认之规格书检讨协议之。

If any trouble question occurs,both parties shall discuss base on this specification to the solve matters.

10. 为改善马达性能，在整体特性符合规格书内，敝司可对使用之部品、材料、治具、作业方法等作变更，但对重大变更时须知会贵司。

In order to improve the performance within the scope of the specification,parts or materials, tools and factures etc.notice can the your department at but to the great change.

11. 本规格书其内容有疑问时，应由使用者纳入者双方检讨协议之。

Any questions regarding the present specifications or related matters,should be decide by consultation between the user and supplier.

12. 输入电压与马达时，工作电压不可超出规格书之电压范围，否则可能马达有烧毁之情形发生。

Input voltage into motor,do not over the voltage which is exceeding than this standard specification. Otherwise,this will cause the motor to be overheated.

13. 马达螺丝锁附若使用电动起子，必须要有扭力调整器，其扭力控制在1.2kgf-cm (max)内，同时在锁附时，螺丝与孔必须在垂直方向受力。

If the screw has been fixed by auto-driver,it must has its torque-adjusted equipment and set the torque at1.2kgf-cm(max).

14. 当锁附螺丝时，其装配环境必须清洁干净，不能有磁性、塑胶粉末等异物，防止掉入孔内。

When lock the screw,the equipment of production line should be kept clean and has no other magnetic or plastic powder so that it can prevent those things falling into the position hole.

以上所述之事项，若有任何疑问或未详细之处，请仅速与我方联系，我方将会乐意地协助您。

For any further question or information,please don't hesitate to contact with us,We will be pleased to assist you.