

APPROVAL SHEET

CUSTOMER : WHITEFAN
DESCRIPTION : DC FAN
MODEL : MD1202512HHB
PART :
DATE : 2018-11-20
Edition :

CUSTOMER APPROVAL

MADE	CHECKED	APPROVAL
Fuang ji Ming	Huang Tiger	T.W.Shieh

PLEASE STAMP AND SIGNATURE AFTER APPROVAL

1. SCOPE

This specification sheet specifies MITACHI DC BRUSHLESS FAN

Model : MD1202512HHB

2. MECHANICAL PART

2-a Dimension	As per attached drawing No.
2-b Unit As per	attached sheet No.
2-c Bearing type	BALL BEARING

3. ELECTRICAL PART

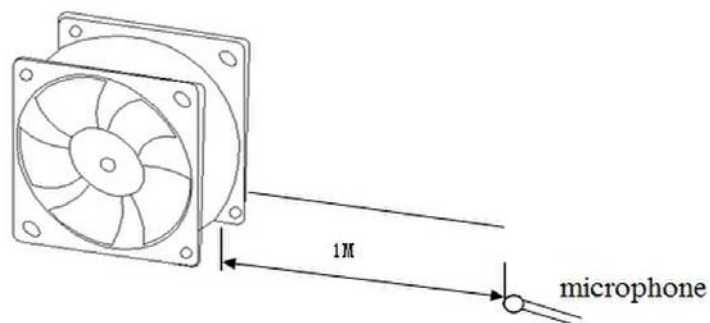
3-a Rated Voltage	12VDC
3-b Starting Voltage	< 6 VDC
3-c Rated Current	0.50A (+ - 10%)
3-d Operating Voltage	DC 6-14V
3-e Operating Temperature	-10°C ~ 70°C
3-f Storage Temperature	-30°C ~ 70°C
3-g Max . Air flow	100CFM
3-h Max . Air pressure	5.40mm-H ₂ O
3-i Speed	3000 R.P.M(±10%)
3-j Noise level	44db
3-k Insulation Resistance	Min 10M ohm (When a voltage of AC 500V is impressed between terminal (+) and frame)
3-l Withstand voltage	No abnormality shall not be occur (When a voltage of AC 500V is impressed 1 minute between terminal (+) and frame)
3-m Expected durability	50,000 hours

4. OTHER

- | | | |
|-----|-------------------------------|---|
| 4-a | Restriction Burn | Fan shall be free of damage when it is subjected to a 2 days locking the fan blade at the rated voltage |
| 4-b | Dielectric Strength | No damage can be occur at 500V DC 60 Sec or 600 V DC 2 sec between housing And plus end of lead wire |
| 4-c | Air flow & rotation direction | It is clearly marked on the flame |
| 4-d | Tachometer output | FG signal |
| 4-e | Weight | 120g |

5. CHARACTERISTICS

- | | | |
|-----|---------------------|--|
| 5-a | Rate current | shall be measured after 5 minutes continue rotate at rate voltage |
| 5-b | Rate speed | shall be measured after 5 minutes continue rotate at rate voltage |
| 5-c | Start voltage | 6 V enable to start when the fan be switch on |
| 5-d | Free drop shock | The fan no damage each one drop of three faces |
| 5-e | Vibration test | fan shall be free of damage after avibration of 2mm 1000 cpm is applied to each direction of x..y.z. for 30 minutes |
| 5-f | Noise level measure | In noise measuring the two method according JIS B8330 applying to a blower and JIS C9603 applying to a ventilator . a microphone 1 meter apart from the external surface |



5-g Unit for static pressure and air flow

Meter	Inch	Reduced Value
Static mmAq	IN Aq	1 IN Aq=25.4mmAq
Preaure(mmH2O) Air flow m3/min 1/sec	CFM	1CFM=0.028317m3/min =0.472 1/sec =1.699 m3/min

5-h Fan motor life caculation:

$$\text{Log}(L)=4.73-(T-17.2)*(0.0104+8.46n*10^{-7})-0.03 \frac{N.F^{1.6}}{C^{1.9}}$$

T : Temp

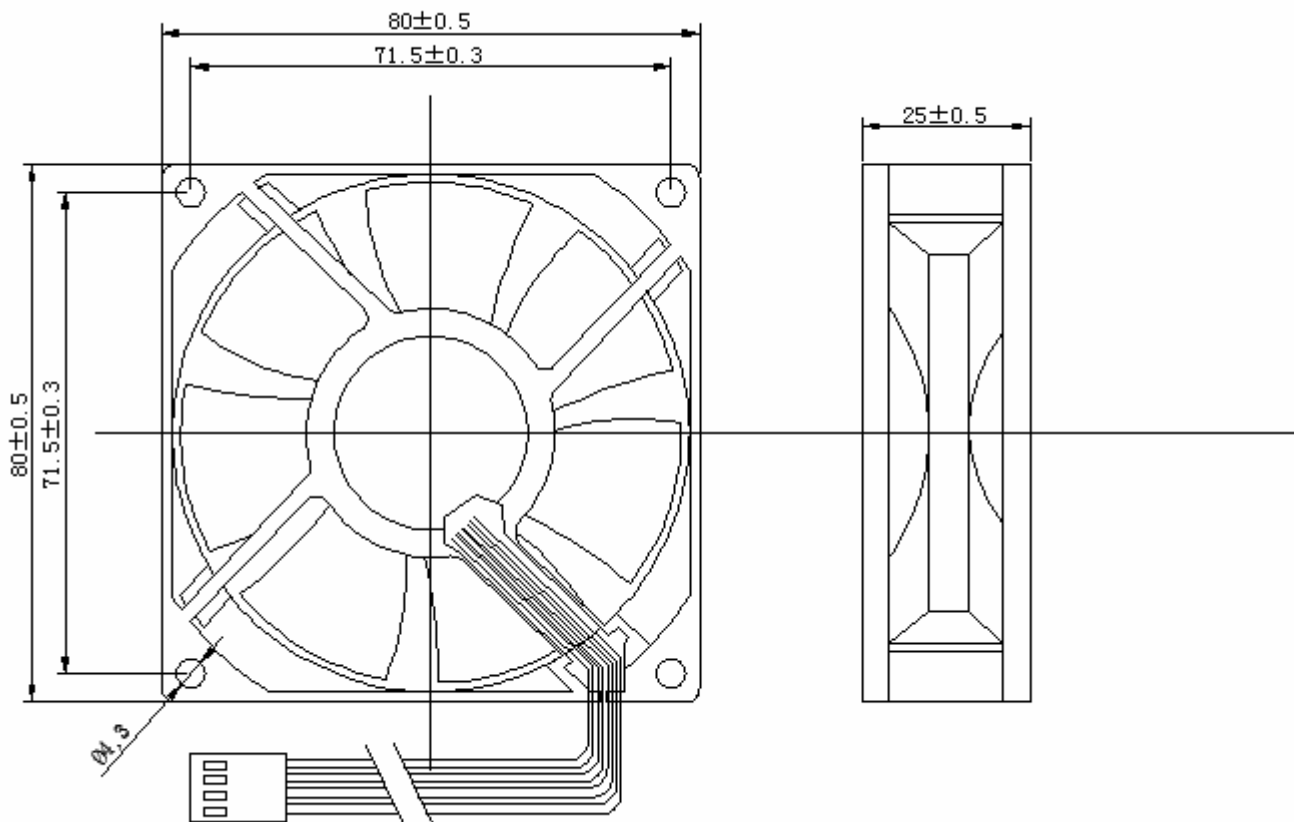
F : Weight(Kg)

N : Speed (R.P.M)

L : Life (time)

C : Weight (Kg) normal

6. Product Drawing : AS attachments



7. Dimension

1.0 SCOPE: This documentation defines mechanical & electrical characteristics of DC Brushless Fans.

2.0 MATERIAL

2.1 Housing : PBT plastic UL94V-0

2.2 Impeller : PBT plastic UL94V-0

2.3 Bearing type: [] (Two Ball Bearing-no need maintenance)

[] (one Ball one Sleeve)

[] (Sleeve Bearing)

[] (Hydraulic Bearing)

3.0 DIMENSIONS & CONSTRUCTION

All dimensions, direction of rotation and air flow were specified as per drawing attached.

4.0 CHARACTERISTICS & DEFINITION

4.1 All rated characteristics were specified as per data sheet enclosed.

4.2 Rated Current: Rated Current shall be measured after 3 minutes of continuous rotation at rated voltage.

4.3 Rated Speed: Rated Speed shall be measured after 3 minutes of continuous rotation at rated voltage).

4.4 Start Voltage: The voltage which is able to start the fan to operate by suddenly switching "ON").

4.5 Input Power: Input Power shall be measured after 3 minutes of

continuous rotation at rated voltage.

4.6 The fan can be locked, Locked Rotor Current: Locked Current shall be measured within one minute of rotor Locked after 3 minutes of continuous at rated voltage in clean air.

4.7 Air Flow & Static Pressure: The air flow data and static pressures should be determined in accordance with AMCA standard or DIN24163 specification in a double chamber testing with intake side measurement.

4.8 Noise Level: The measurement of noise level is carried out with reference to DIN45635 in an anechoic chamber with the microphone positioned 1 meter from the air intake. Testing fan shall be hung in clean air.

5.0 MECHANICAL INSPECTION

5.1 Rotation Direction

Clockwise CW (Viewed from rotor)

5.2 Protection

All fans have integrated protection against locked rotor condition so that there will be no damage to winding or any electronic component. Restarting is automatic as soon as any constraint component to rotation has been released.

As fan placed at dead angle position, and the switch of FAN was changed from off to on, Restarting was automatic normal as soon as and proved that this fan is good fan

5.4 Free Drop shock

The product drops from the height of 600mm to the wood board of 30mm. Any one of the 6 faces and any one of the corners could withstand the pressure, and also no damage will be found。

(ELECTRICAL INSPECTION)

5.5 Insulation Resistance

Not less than 10M ohm between housing and positive end of lead wire(red) at 500V DC。

6.0 Dielectric Strength

No damage should at 500 VAC for 60 sec, measured with 5mA trip current between housing and positive end of lead wire。

6.1 Life Expectancy :24 Hours 7days continue operation

The continuous duty life at given temperature after which,90% of testing units shall still be running。

Bearing System	Test Temperature	Test time
ball Bearing	30°C	50000hours above

7.0 ENVIRONMENTAL

7.1 Operating Temperature

-10°C to +70°C at normal humidity

7.2 Storage Temperature

All function shall be normal after 500 hours storage at -40°C to +75°C at normal humidity with a 24 hour recovery period at room

temperature。

7.3 Humidity

After 96 hours 95%RH 40+/-2°C per MiL-STD-202F, method 103B humidity test, the measured data on insulation resistance and dielectric strength shall meet the specification.

8.0 Matetial and construction are subject to change without advance. The changes should be within specification

8.1 All fans shall meet the quality inspection under sampling plan MIL-STD-105E II as follow

Critical	0
Major	0.65
Minor	1

