

# SPECIFICATION FOR APPROVAL

客 戶

CUSTOMER:

客 戶 成 品 料 號

CUSTOMER PARTS NO.:

品 名

DESCRIPTION.:

DC BRUSHLESS FAN

機種

MODEL NO.:

BP601512M-02

檔案序號

FILE NO.:

D601512MB-A0

核示 ISSUE	研發 R&D	品保 QA	版數 REVISION
			

客 戶 承 認

CUSTOMER APPROVAL

BI-SONIC TECHNOLOGY CO., LTD

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# PERFORMANCE SPECIFICATION

PRODUCT TITLE : DC BRUSHLESS FAN

MODEL NO : BP601512M-02

## 1、SCOPE :

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN. THE FAN MOTOR IS WITH TWO PHASES AND FOUR POLES.

## 2、ELECTRICAL CHARACTERISTICS :

ALL MEASUREMENTS PERFORMED AT 20-30°C ROOM TEMPERATURE & 50-70% R.H. UNLESS OTHERWISE SPECIFIED. SPEED MEASURED AFTER CONTINUOUS 10 MINUTE OPERATION AT RATED VOLTAGE IN CLEAN AIR.

ITEM	DESCRIPTION	UNIT	SYMBOL	SPEC.	CONDITION
1	RATED VOLTAGE	VOLTS	V	12	
2	OPERATION VOLTAGE	VOLTS	V	10.2~13.8	
3	INPUT CURRENT	AMP	A	0.16 MAX	AT RATED VOLTAGE
4	INPUT POWER	WATTS	W	1.92 MAX	AT RATED VOLTAGE
5	ROTATION SPEED	RPM	RPM	3800 ±10%	AT RATED VOLTAGE FREE AIR
6	ACOUSTICAL NOISE (AVG)	dB(A)	dB(A)	30.3 ±10%	DETAILS SEE ATTACHED PAGE.
7	MAX. AIR-FLOW	CFM	Q	20.52 ±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
8	MAX. AIR-PRESSURE	mmH <sub>2</sub> O	P	3.32 ± 10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
9	STARTING VOLTAGE	VOLTS	V	7	AT RATED VOLTAGE
10	INSULATION RESISTANCE	MEG. OHM	MΩ	10MΩ MIN. AT 500V DC	BETWEEN FRAME AND (+)LEAD WIRE.
11	DIELECTRIC STRENGTH	MILLI-AMP	mA	5mA MAX. AT 500V AC 60Hz. FOR 1 MINUTE	BETWEEN FRAME AND (+)LEAD WIRE.

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REVISIONS :

ITEM	DESCRIPTION	SPEC.	
12	ROTATION	CW VIEW FROM NAME PLATE SIDE	
13	AIR-FLOW DIRECTION	AIR INTAKE OVER THE STRUTS	
14	INSULATION RANK	UL : CLASS A	
15	LIFE EXPECTANCY	50000 HOURS CONTINUOUS	□
16	SAFETY APPROVAL	UL.CUL.TUV.CE.	

□ LIFE IS DEFINED AS THE TIME MOTOR SPEED DECREASED MORE THAN 30% COMPARED WITH INITIAL VALUE.

### 3、MECHANICAL

- 3-1. DIMENSIONS----- SEE SECTION 8
- 3-2. FRAME----- PLASTIC PBT UL : 94V-0 RATING + FIBRE GLASS.
- 3-3. FAN BLADE----- PLASTIC PBT UL : 94V-0 RATING + FIBRE GLASS.
- 3-4. BEARING SYSTEM ----- BALL BEARING
- 3-5. WEIGHT ----- 35 GRAMS
- 3-6. LEAD WIRE----- 1007 AWG # 26
  - + POSITIVE ..... RED
  - NEGATIVE ..... BLACK

### 4、ENVIRONMENTAL :

- 4-1. OPERATING TEMPERATURE ----- -10 TO +70°C
- 4-2. STORAGE TEMPERATURE ----- -40 TO +75°C
- 4-3. DROP TEST
 

IN MINIMUM PACKAGING CONDITION FAN WITHSTANDS EACH ONE DROP OF ONE CORNER, THREE EDGES & SIX FACES FROM 92CM DISTANCE HEIGHT ONTO 10mm THICKNESS OF WOODEN BOARD.
- 4-4. VIBRATION TEST
 

FREQUENCY : 5—85Hz      AMPLITUDE : 2MM  
X , Y , Z    DIRECTION EACH FOR 20 MIN.

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#### 4-5. SHOCK TEST

APPLY PEAK ACCELERATION 50g AND KEEP DURATION OF THE PULSE FOR 11ms ( HALF SINE WAVE ) .

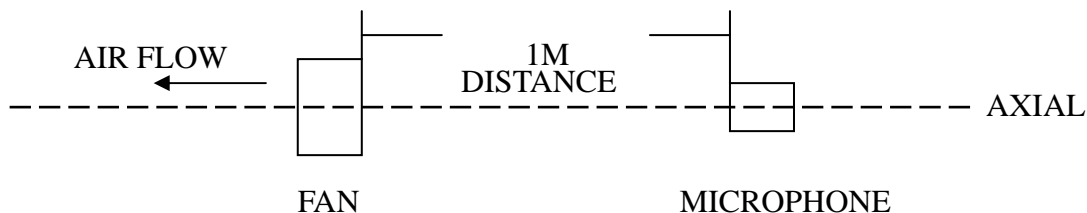
#### 5 、 PROTECTION :

##### 5-1. POLARITY PROTECTION

BUILT-IN ELECTRONIC CIRCUIT PROTECTS THE FAN AGAINST REVERSE CONNECTION OF POSITIVE AND REVERSE LEADS.

#### 6 、 ACOUSTICAL NOISE :

##### 6-1. MEASUREMENT SET-UP



6-2. MEASUREMENT PERFORMED IN ANECHOIC TEST CHAMBER UNDER FREE AIR CONDITION .

6-3. CHAMBER BACKGROUND NOISE 17dB MAX .

6-4. READING TAKEN FROM SPECTRUM ANALYZER .

6-5. NOISE DISTRIBUTION CURVE SEE ATTACHED PAGE .

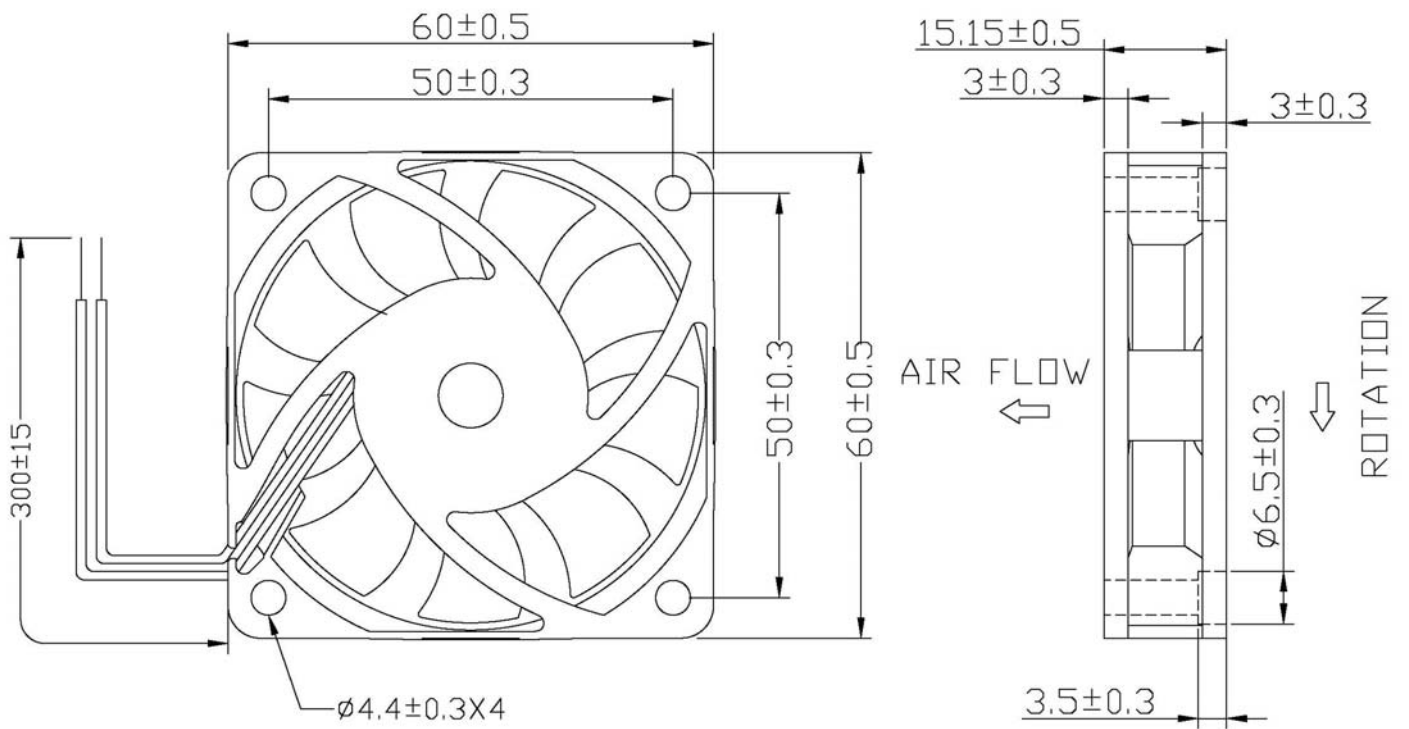
#### 7 、 STATICS PRESSURE VS AIR FLOW CURVE :

MEASURED PER TWO CHAMBER METHOD .

DATA-CURVE SEE ATTACHED PAGE .

8、DIMENSIONS DRAWING：

UNIT:mm



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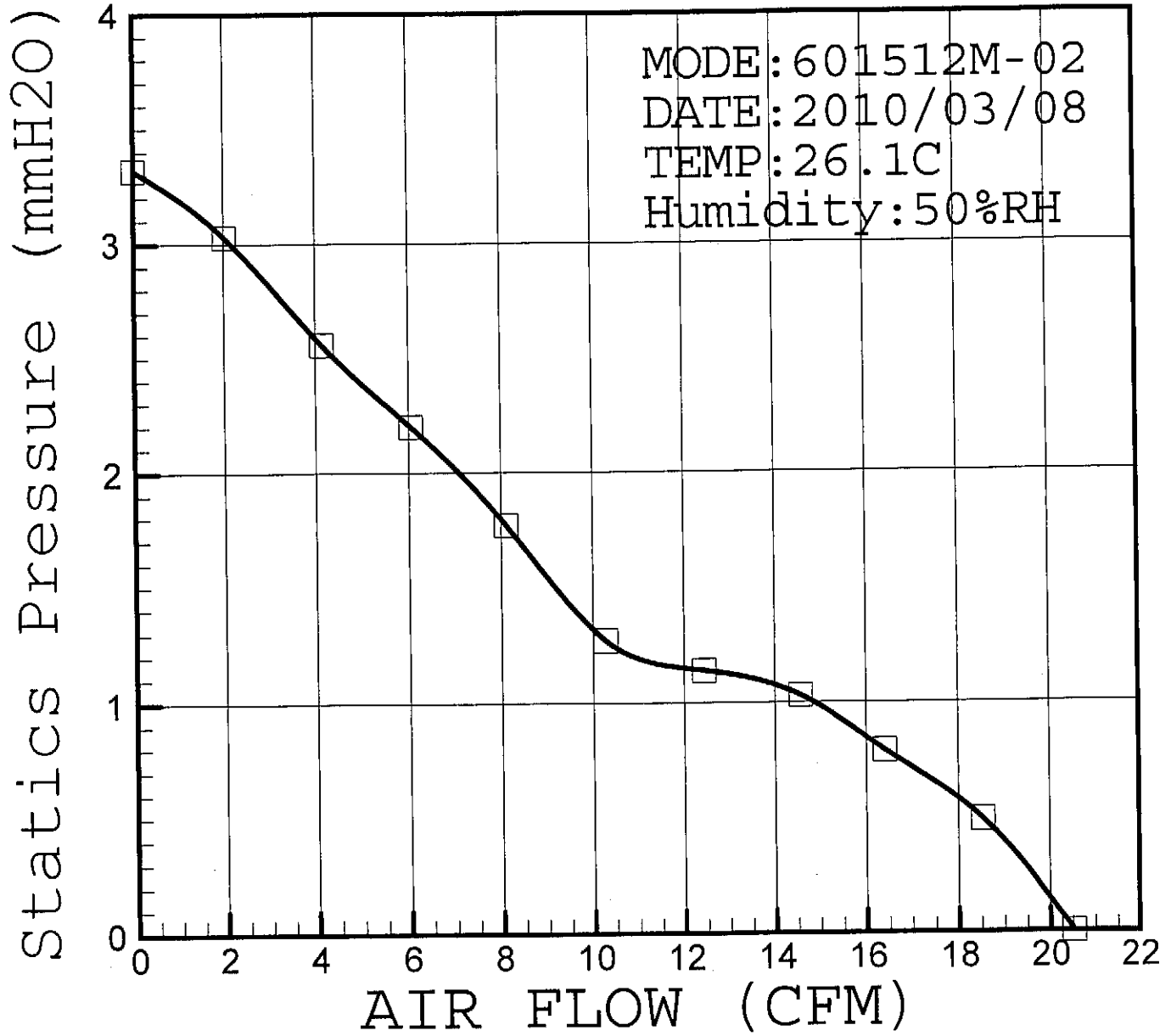
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REVISIONS :

## BI-SONIC FAN PERFORMANCE DATA SHEET

Customer:	Test No:601512M-02
Fan Model:601512M-02	System Setup:outlet Chamber
Testing Method: Constant Voltage	Testing Date:2010/03/08
Testing Voltage: DC 12V, 0Hz	Barometric Density (kg/m3):1.14
Barometric Pressure (cmHg):	Testing Engineer:ling yan
Dry Bulb Temperature ( C):24	Remark:VVV
Relative Humidity (%)50	
File Name:601512M-02	

No.	CFM	mmAq	inAq	Amp.	RPM	Watt	
1	0.00	3.32	0.1307748	0.152	3457	1.82	
2	2.02	3.03	0.1193517	0.151	3501	1.81	
3	4.14	2.56	0.1008384	0.148	3674	1.78	
4	6.05	2.20	0.086658	0.146	3835	1.75	
5	8.11	1.77	0.0697203	0.144	3960	1.73	
6	10.28	1.27	0.0500253	0.141	4092	1.69	
7	12.44	1.14	0.0449046	0.143	4026	1.72	
8	14.57	1.03	0.0405717	0.146	3850	1.75	
9	16.40	0.79	0.0311181	0.148	3763	1.78	
10	18.53	0.49	0.0193011	0.147	3808	1.76	
11	20.52	0.00	0	0.146	3880	1.75	



BI-SONIC TECHNOLOGY CORP NOISE TEST REPORT

MODEL: 601512M-02

TEST PURPOSE:  Evaluation

SAMPLING: 1 pcs

IPQC

QA

MODEL NO:

TEST FREQ

10KHz

TEST SENS

0dB

TRIG SENS

0/128

TRIG LOCA

100

Y AXIS UP

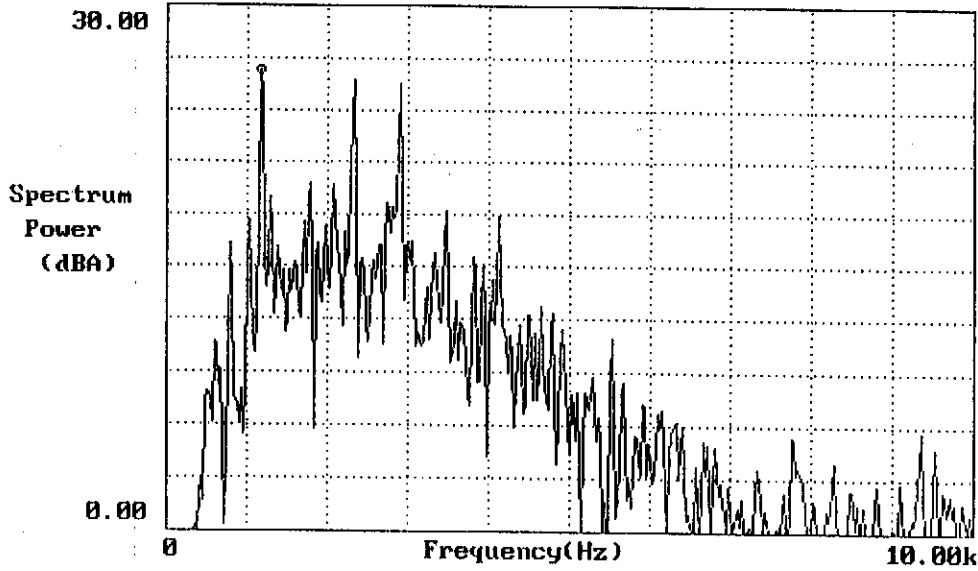
30.00

Y AXIS LM

0.00

AVERAGE

3



OU.AL	———	30.35803dB	MAXIM	1.150kHz	26.25427dB
LEFT		249.99Hz	MINIM	0.0000Hz	-289.418dB

ANALYSIS:

- (1) Background Noise : 17dBA
  - (2) FFT Analyzer
  - (3) Sound Pressure Level Meter
- No. RR01.04A

Reporter:  
Date : 2003/01/28