

SPECIFICATION FOR APPROVAL

客 戶

CUSTOMER:

客 戶 料 號

CUSTOMER PARTS NO.:

品 名 DC BRUSHLESS FAN

DESCRIPTION:

機種 SP601512M-02

MODEL NO.:

檔案序號 D601512MS-A0

FILE NO.:

核示	研發	品保	版數
ISSUE	R&D	QA	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 : SP601512M-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 ROOM TEMPERATURE & 50~70% R.H. UNLESS OTHERWISE SPECIFIED.

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	20.2 ±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
8	MAX. AIR-PRESSURE	mmH ₂ O	P	3.1 ±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
9	STARTING VOLTAGE	VOLTS	V	7	AT RATED VOLTAGE
10	INSULATION RESISTANCE	MEG. OHM	M	10M 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	20000 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 ----- SLEEVE 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
- 4-2. STORAGE TEMPERATURE ----- -40 TO +75
- 4-3. DROP TEST

IN MINIMUM PACKAGING CONDITION FAN WITHSTANDS EACH ONE DROP OF THREE FACES FROM 30CM DISTANCE HEIGHT ONTO 10mm THICKNESS OF WOODEN BOARD.
- 4-4. VIBRATION TEST

FREQUENCY : 10 - 55Hz AMPLITUDE : 4MM
X , Y , Z DIRECTION EACH FOR 1 HR.

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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

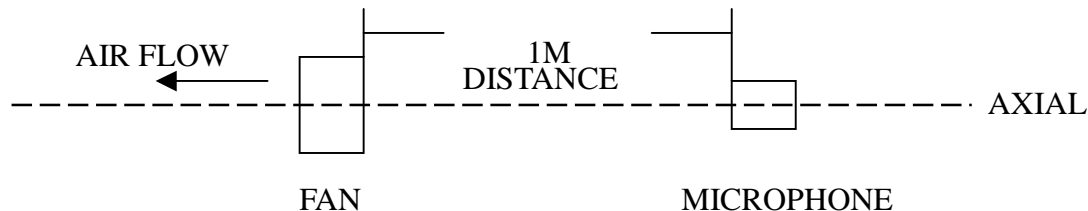
BUILT-IN ELECTRONIC CIRCUIT PROTECTS THE FAN AGAINST REVERSE CONNECTION OF POSITIVE AND REVERSE LEADS.

5-2. LOCKED ROTOR PROTECTION

IMPEDANCE OF MOTOR COIL WINDING PROTECTS MOTOR FROM FLAMING IN THE CONDITION OF 72 Hrs LOCKED ROTOR AT RATED VOLTAGE.

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 .

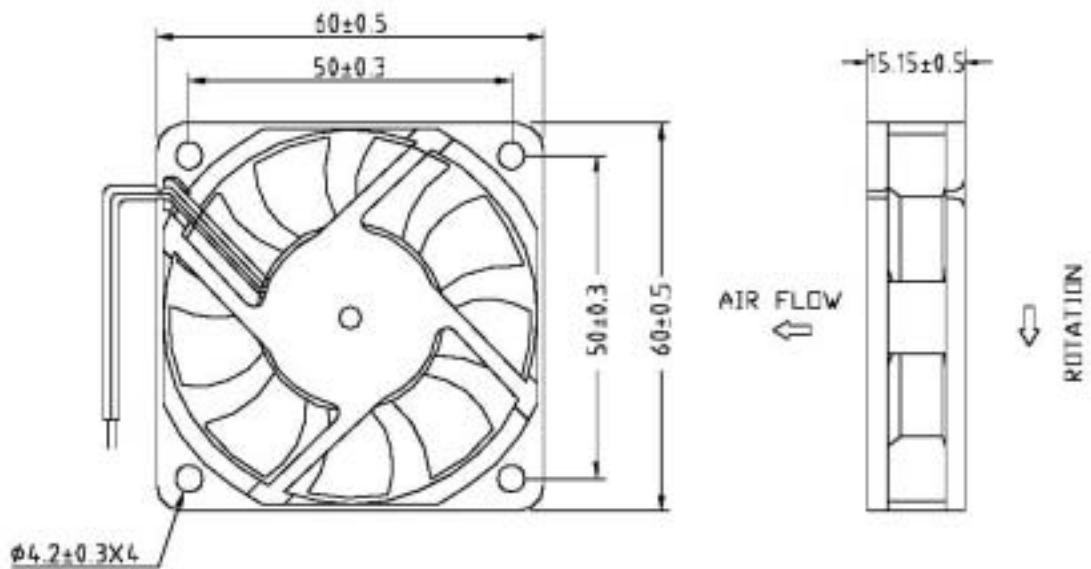
7、 STATICS PRESSURE VS AIR FLOW CURVE :

MEASURED PER TWO CHAMBER METHOD .

DATA-CURVE SEE ATTACHED PAGE .

8、 DIMENSIONS DRAWING :

UNIT:mm



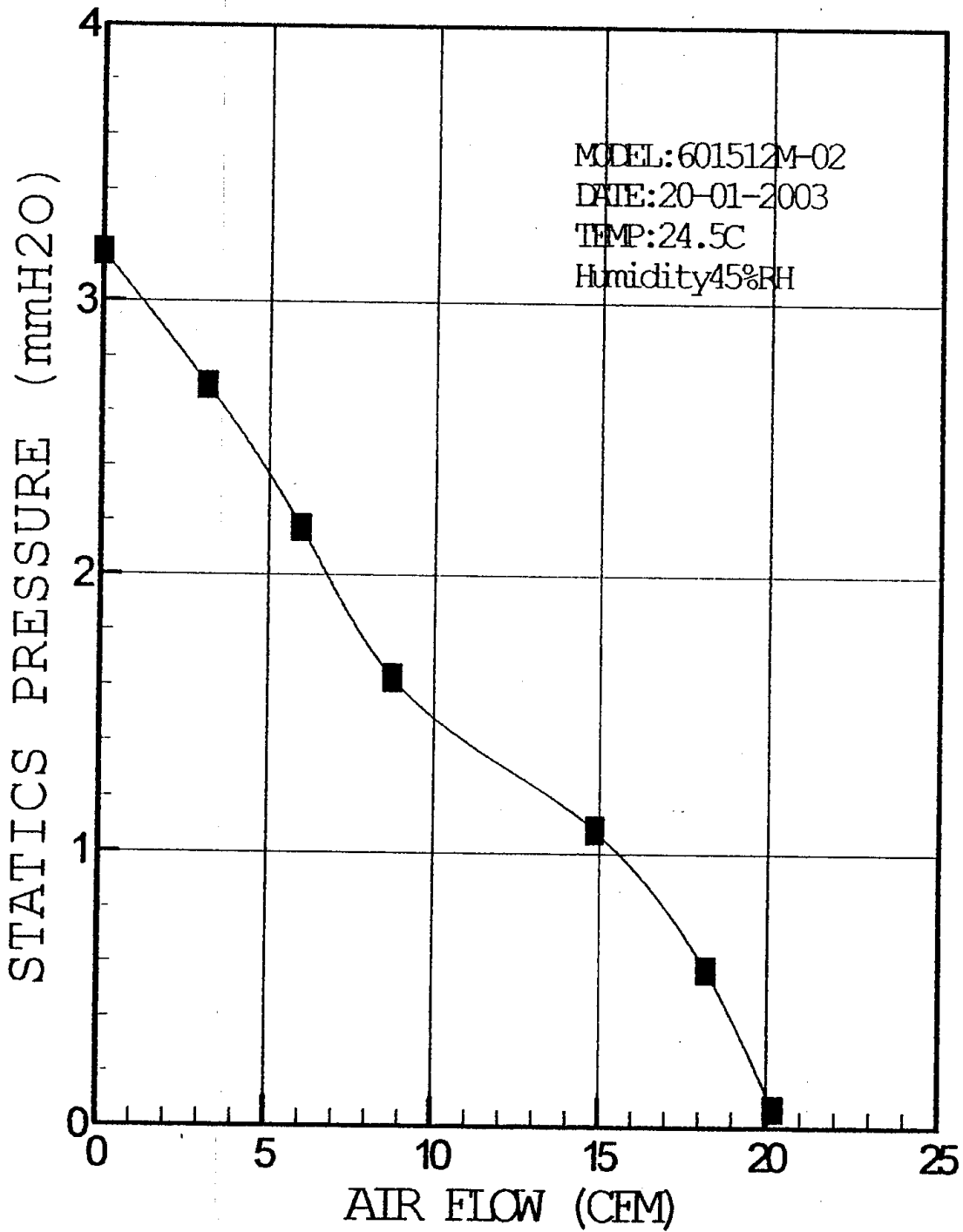
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REVISIONS :

BI-SONIC FAN PERFORMANCE CURVES



BI-SONIC FAN PERFORMANCE DATA SHEET

Customer: Fan Mode:601512M-02 Testing Method: Constant Voltage Testing Voltage: DC12V, 0Hz Barometric Pressure (cmHg): Dry Bulb Temperature (C):24.4 Relative Humidity (%)45 File Name:601512M-02	Test No: 601512M-02 System Setup:outlet Chamber Testing Date:20-01-2003 Barometric Density (kg/m3):1.14 Testing Engineer: Tsai Wu Je Remark:
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No	CFM	mmAq	inAq	A	RPM	Watt	
1	20.203	0.069	0.003	0.13	3873	1.56	
2	18.203	0.575	0.023	0.13	3788	1.56	
3	14.844	1.084	0.043	0.13	3770	1.56	
4	8.735	1.628	0.064	0.12	3963	1.44	
5	5.955	2.174	0.086	0.13	3727	1.56	
6	3.150	2.694	0.106	0.13	3510	1.56	
7	0.000	3.174	0.125	0.13	3407	1.56	

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

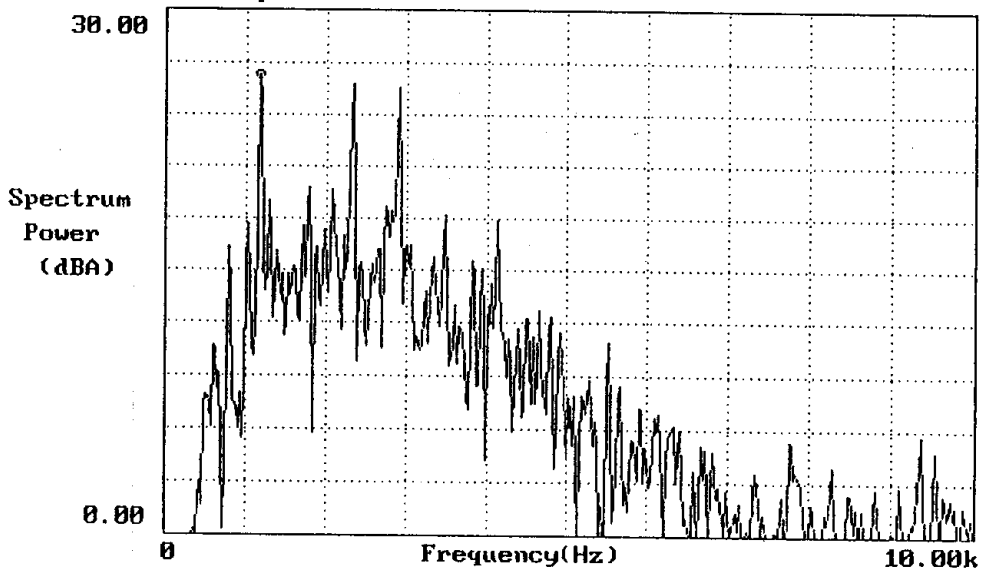
30.00

Y AXIS LW

0.00

AVERAGE

3



OV. AL	———	30.35803dB	MAXIM	1.150kHz	26.25427dB
LEFT	249.99Hz	-7.99439dB	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