

# SPECIFICATION FOR APPROVAL

客 戶

CUSTOMER:

客 戶 料 號

CUSTOMER PARTS NO.:

品 名

DC BRUSHLESS FAN

DESCRIPTION:

機種

SP802512M-02

MODEL NO.:

檔案序號

D802512MS-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 : SP802512M-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.

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	2700 ± 10%	AT RATED VOLTAGE FREE AIR
6	ACOUSTICAL NOISE (AVG)	dB(A)	dB(A)	29 ± 10%	DETAILS SEE ATTACHED PAGE.
7	MAX. AIR-FLOW	CFM	Q	33 ± 10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
8	MAX. AIR-PRESSURE	mmH <sub>2</sub> O	P	3 ± 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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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	☆

☆ 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----- 100 GRAMS
- 3-6. LEAD WIRE----- 1007 AWG # 24
  - + POSITIVE .....RED
  - NEGATIVE.....BLUE

### 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 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

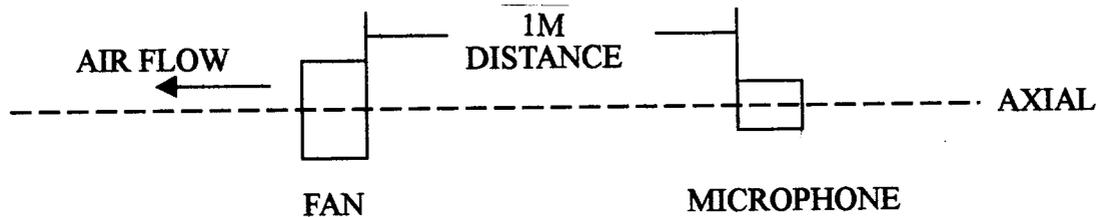
BUILT-IN ELECTRONIC CIRCUIT PROTECTS THE FAN AGAINST REVERSE CONNECTION OF POSITIVE AND REVERSE LEADS .

#### 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 .

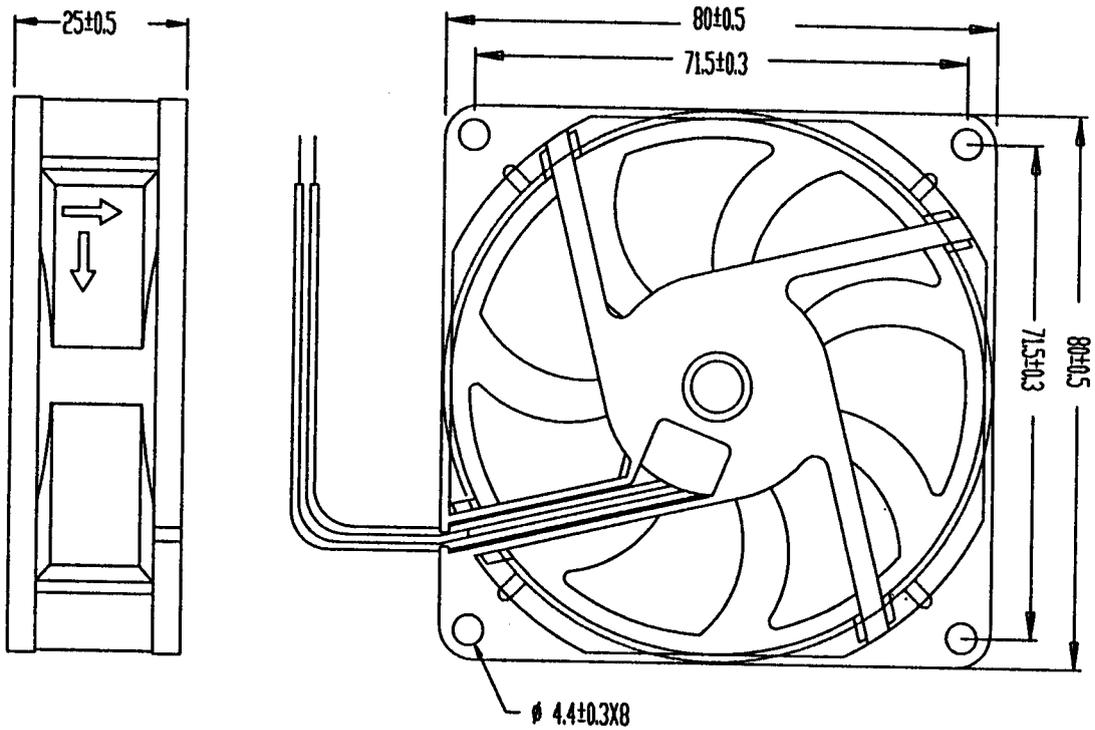
6-5. NOISE DISTRIBUTION CURVE SEE ATTACHED PAGE .

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

MEASURED PER TWO CHAMBER METHOD .  
DATA-CURVE SEE ATTACHED PAGE .

8、DIMENSIONS DRAWING：

UNIT:mm



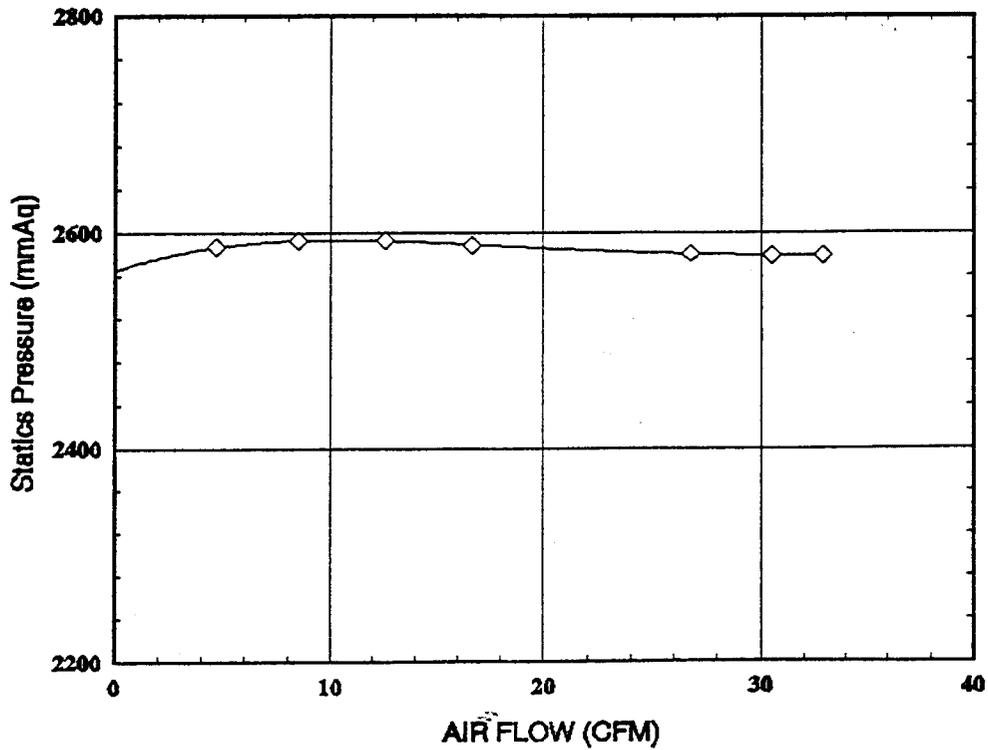
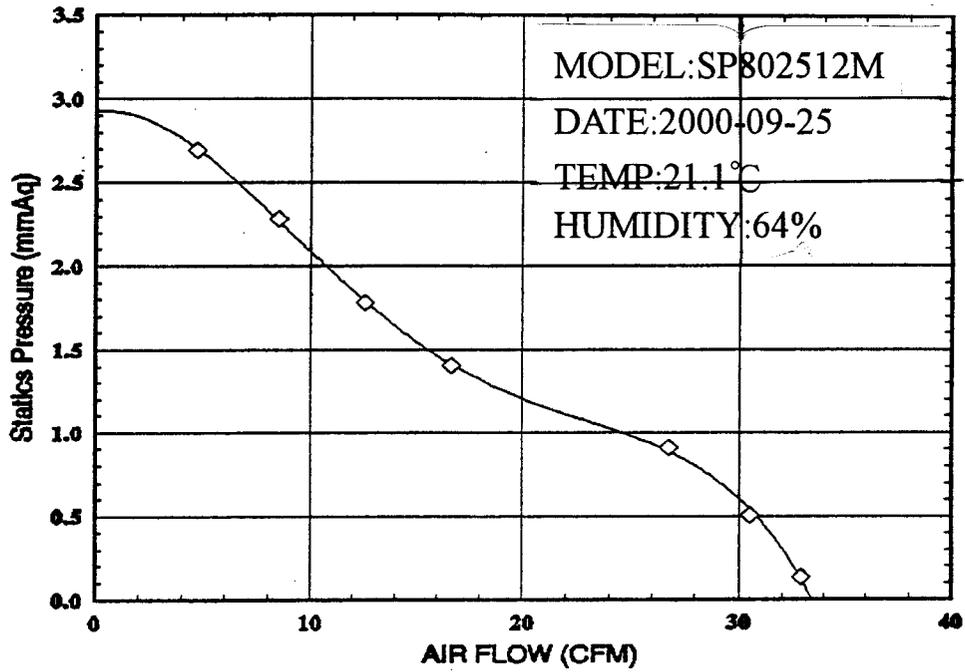
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# BI-SONIC FAN PERFORMANCE CURVES



## BI-SONIC FAN PERFORMANCE DATA SHEET

Customer: Fan Model: SP802512M Testing Method: Constant Voltage Testing Voltage: DC 12 V, 0Hz Barometric Pressure (cmHg): Dry Bulb Temperature ( C):21.1 Relative Humidity (%)64 File Name: SP802512M	Test No: SP802512M System Setup:outlet Chamber Testing Date: 09-25-2000 Barometric Density (kg/m3):1.14 Testing Engineer:Hsieh Hsin Yuan Remark:
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No	CFM	mmAq	inAq	A	RPM	Watt
1	32.92	0.135	0.005	0.13	2578	1.56
2	30.49	0.503	0.019	0.13	2578	1.56
3	26.79	0.909	0.035	0.131	2580	1.58
4	16.68	1.405	0.055	0.12	2588	1.5
5	12.52	1.779	0.07	0.12	2592	1.51
6	8.51	2.28	0.089	0.13	2592	1.58
7	4.65	2.69	0.105	0.13	2586	1.62
8	0	3.01	0.118	0.13	2520	1.62

# BI-SONIC TECHNOLOGY CORP NOISE TEST REPORT

測試機種: SP802512M

測試目的:  Evaluation 評估

工 令: \_\_\_\_\_

IPQC

取 樣: \_\_\_\_\_ pcs

QA

資料代碼:

8025-M

測試頻率:

10KHz

測試感度:

8dB

觸發感度:

0/128

觸發位置:

100點

Y軸上限:

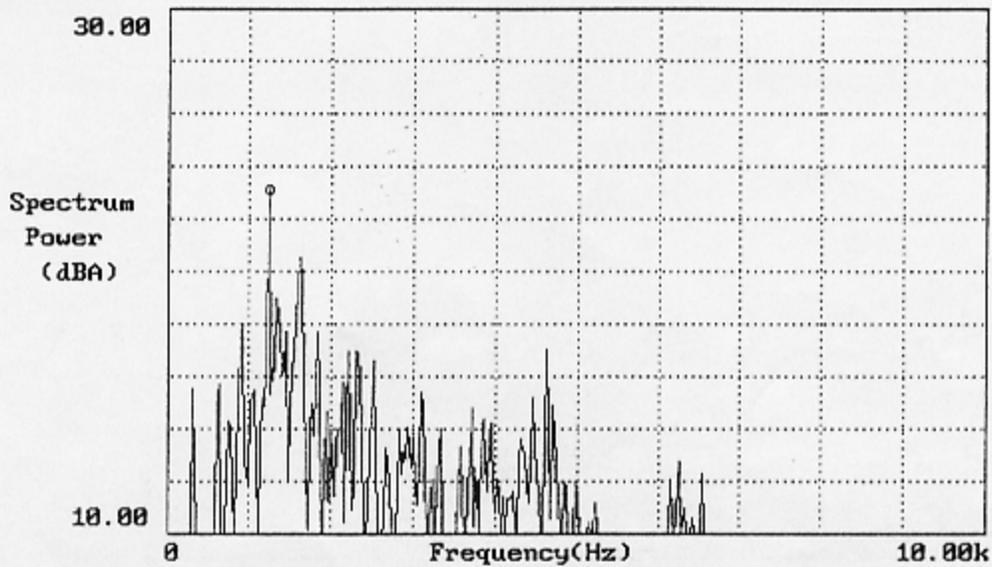
30.00

Y軸下限:

10.00

平均次數:

3次



OU. AL	———	29.12940dB	MAXIM	1.225kHz	23.07312dB
LEFT	5.000kHz	11.26526dB	MINIM	0.0000Hz	-289.418dB

結果分析:

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

Reporter: \_\_\_\_\_

Date : 2000-09-25

# Mouser Electronics

Authorized Distributor

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[SP802512M-02 W-G](#)