

DELTA ELECTRONICS, INC.  
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 TAoyUAN HSIEN 333, TAIWAN, R. O. C.

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SPECIFICATION FOR APPROVAL  
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Customer:

Description: DC FAN

Customer P/N:

REV:

Delta Model NO.: AFB0612HHD

Sample Rev: 00

Issue NO:

Sample Issue Date: FFB.23.2004.

Quantity:

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. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	12 VDC
OPERATION VOLTAGE	7.0 - 13.8 VDC
START VOLTAGE (ENVIRONMENT TEMPERATURE AT 25°C)	≤ 4.0 VDC.
INPUT CURRENT	0.15 (MAX. 0.23) A
INPUT POWER	1.80 (MAX. 2.76) W
SPEED	4400 R.P.M. (REF.)
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	0.520 (MIN. 0.480 ) M <sup>3</sup> /MIN. 18.36 (MIN. 16.95 ) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	5.81 (MIN. 4.92 ) mmH <sub>2</sub> O 0.229 (MIN. 0.194 ) inchH <sub>2</sub> O
ACOUSTICAL NOISE (AVG.)	31.0 (MAX. 34.0) dB-A
INSULATION TYPE	UL: CLASS A

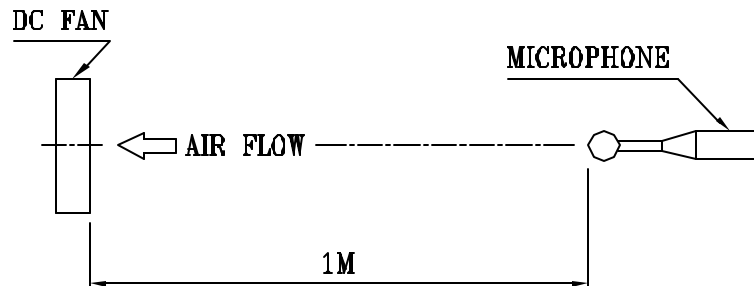
(continued)

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INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL)
DIELECTRIC STRENGTH	5 mA MAX. AT 500 VAC 60 Hz ONE MINUTE, (BETWEEN FRAME AND (+) TERMINAL)
EXTERNAL COVER	OPEN TYPE
LIFE EXPECTANCE	70,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLATE SIDE
OVER CURRENT SHUT DOWN	THE CURRENT WILL SHUT DOWN WHEN LOCKING ROTOR
LEAD WIRE	UL 1007 -F- AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+)

- NOTES: 1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.  
2. THE VALUES WRITTEN IN PARENS , ( ), ARE LIMITED SPEC.  
3. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT RATED VOLTAGE IN FREE AIR IN ANECHOIC CHAMBER WITH B & K SOUND LEVEL METER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

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PART NO:  
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3. MECHANICAL:

- 3-1. DIMENSIONS ----- SEE DIMENSIONS DRAWING
- 3-2. FRAME ----- PLASTIC UL: 94V-0
- 3-3. IMPELLER ----- PLASTIC UL: 94V-0
- 3-4. BEARING SYSTEM ----- TWO BALL BEARINGS
- 3-5. WEIGHT ----- 62 GRAMS

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE ----- -10 TO +70 DEGREE C
- 4-2. STORAGE TEMPERATURE ----- -40 TO +75 DEGREE C
- 4-3. OPERATING HUMIDITY ----- 5 TO 90 % RH
- 4-4. STORAGE HUMIDITY ----- 5 TO 95 % RH

5. PROTECTION:

5-1. LOCKED ROTOR PROTECTION

IMPEDANCE OF MOTOR WINDING PROTECTS MOTOR FROM FIRE IN 96 HOURS OF LOCKED ROTOR CONDITION AT THE RATED VOLTAGE.

5-2. POLARITY PROTECTION

BE CAPABLE OF WITHSTANDING IF REVERSE CONNECTION FOR POSITIVE AND NEGATIVE LEADS.

6. RE OZONE DEPLETING SUBSTANCES:

- 6-1. NO CONTAINING PBBs, PBBOs, CFCs, PBBEs, PBDPEs AND HCFCs.

7. PRODUCTION LOCATION

- 7-1. PRODUCTS WILL BE PRODUCED IN CHINA OR THAILAND OR TAIWAN.

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8. BASIC RELIABILITY REQUIREMENT:

8-1. THERMAL           LOW TEMPERATURE: -40°C  
CYCLING               HIGH TEMPERATURE: +80°C  
                          SOAK TIME: 30 MINUTES  
                          TRANSITION TIME < 5 MINUTES  
                          DUTY CYCLES: 5

8-2. HUMIDITY         TEMPERATURE: +25°C ~ +65°C  
EXPOSURE             HUMIDITY: 90-98% RH @ +65°C  
                          FOR 4 HOURS/CYCLE  
                          POWER: NON-OPERATING  
                          TEST TIME: 168 HOURS

8-3. VIBRATION       TEMPERATURE: +25°C  
                          ORIENTATION: X, Y, Z  
                          POWER: NON-OPERATING  
                          VIBRATION LEVEL: OVERALL  $g_{RMS}=3.2$

FREQUENCY(Hz)	PSD( $G^2/Hz$ )
10	0.040
20	0.100
40	0.100
800	0.002
1000	0.002

TEST TIME: 2 HOURS ON EACH ORIENTATION

8-4. MECHANICAL      TEMPERATURE: +20°C  
SHOCK                 ORIENTATION: X, Y, Z  
                          POWER: NON-OPERATING  
                          ACCELERATION: 20 G MIN.  
                          PULSE: 11 ms HALF-SINE WAVE  
                          NUMBER OF SHOCKS: 5 SHOCKS  
  FOR EACH DIRECTION

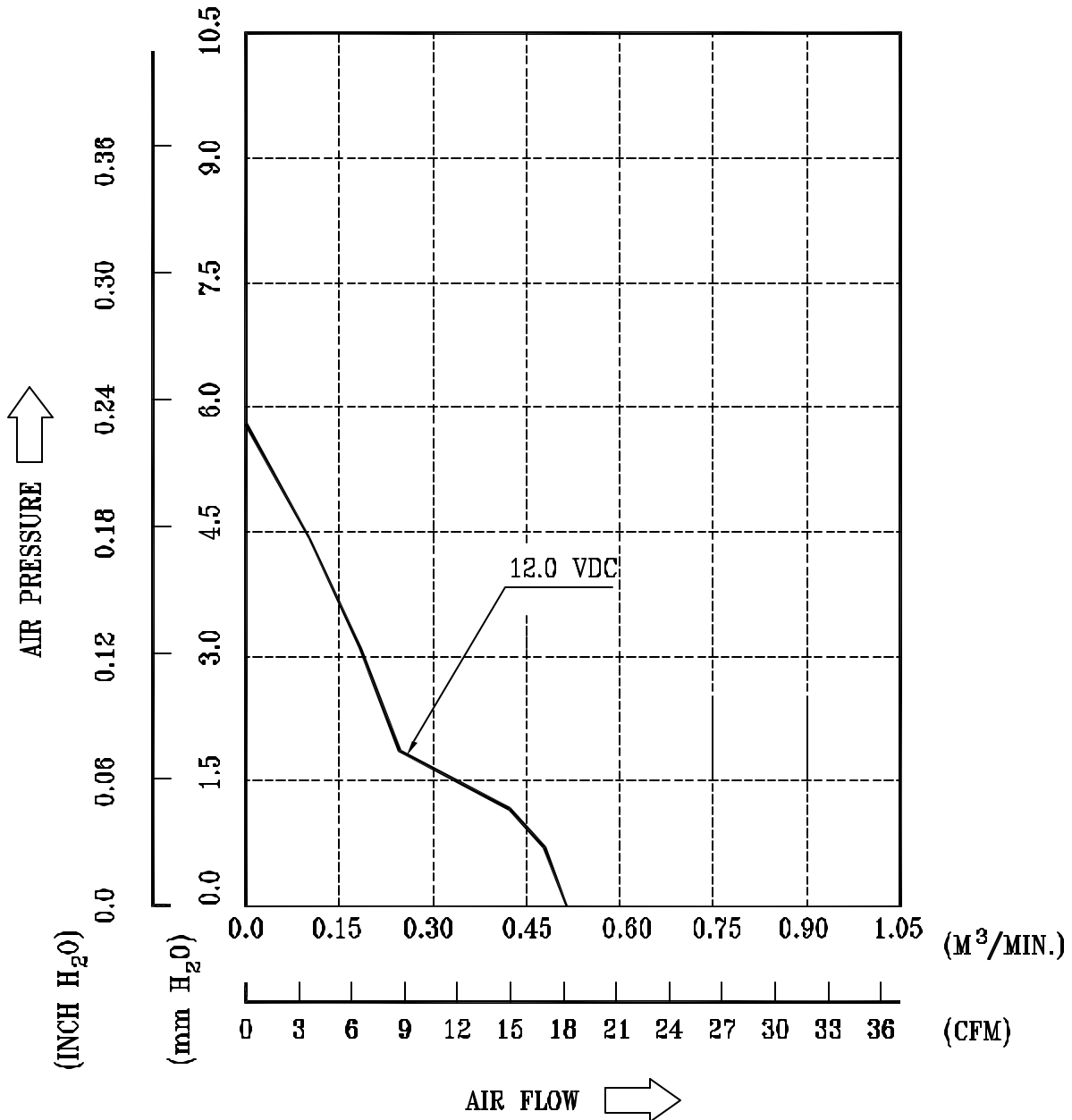
8-5. LIFE             TEMPERATURE: MAX , OPERATING TEMPERATURE  
                          POWER: OPERATING  
                          DURATION: 1000 HOURS MIN.

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9. P & Q CURVE:



\* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE  
TEMPERATURE ----- ROOM TEMPERATURE  
HUMIDITY ----- 65%RH

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10. DIMENSION DRAWING:

LABEL:



OR



OR

