

DELTA ELECTRONICS, INC.  
 252, SHANG YING ROAD, KUEI SAN  
 TAOYUAN HSIEN 333, TAIWAN, R. O. C.

TEL : 886-(0)3-3591968  
 FAX : 886-(0)3-3591991

**SPECIFICATION FOR APPROVAL**  
 \*\*\*\*\*

Customer:

Description:	DC FAN
Customer P/N:	REV:
Delta Model NO.:	AFB0405LA-A
Sample Rev:	01
Sample Issue Date:	DEC.04.2008
	Issue NO:
	Quantity:

1. SCOPE:

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

2. CHARACTERS:

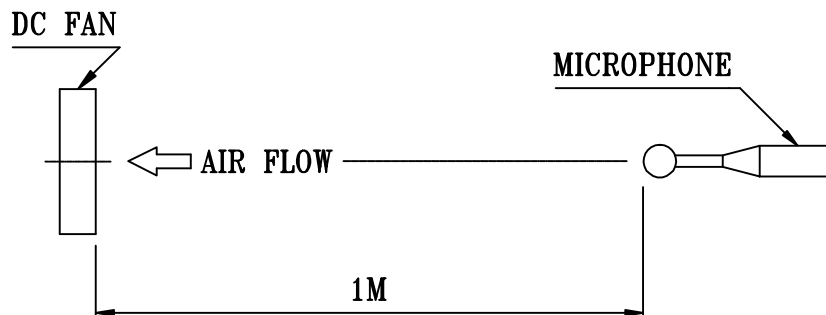
ITEM	DESCRIPTION
RATED VOLTAGE	5 VDC
OPERATION VOLTAGE	4.5 - 5.5 VDC
INPUT CURRENT	0.03 (MAX. 0.08) A
INPUT POWER	0.15 (MAX. 0.40) W
SPEED	4000 R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	0.124 (MIN. 0.105 ) M <sup>3</sup> /MIN. 4.394 (MIN. 3.734 ) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	1.737 (MIN. 1.254 ) mmH <sub>2</sub> O 0.068 (MIN. 0.049) inchH <sub>2</sub> O
ACOUSTICAL NOISE (AVG.)	16.0 (MAX. 19.5) dB-A
INSULATION TYPE	UL: CLASS A

PART NO:

DELTA MODEL: AFB0405LA-A

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 #28 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.

---

PART NO:

---

DELTA MODEL: AFB0405LA-A

---

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 \_\_\_\_\_ 14.0 GRAMS (REF.)

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.

---

PART NO:

---

DELTA MODEL: AFB0405LA-A

---

8. BASIC RELIABILITY REQUIREMENT:

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

8-2. HUMIDITY EXPOSURE      TEMPERATURE: +25°C ~ +65°C  
                                 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 gRMS=3.2

FREQUENCY(Hz)	PSD(G <sup>2</sup> /Hz)
10	0.040
20	0.100
40	0.100
800	0.002
1000	0.002

TEST TIME: 2 HOURS ON EACH ORIENTATION

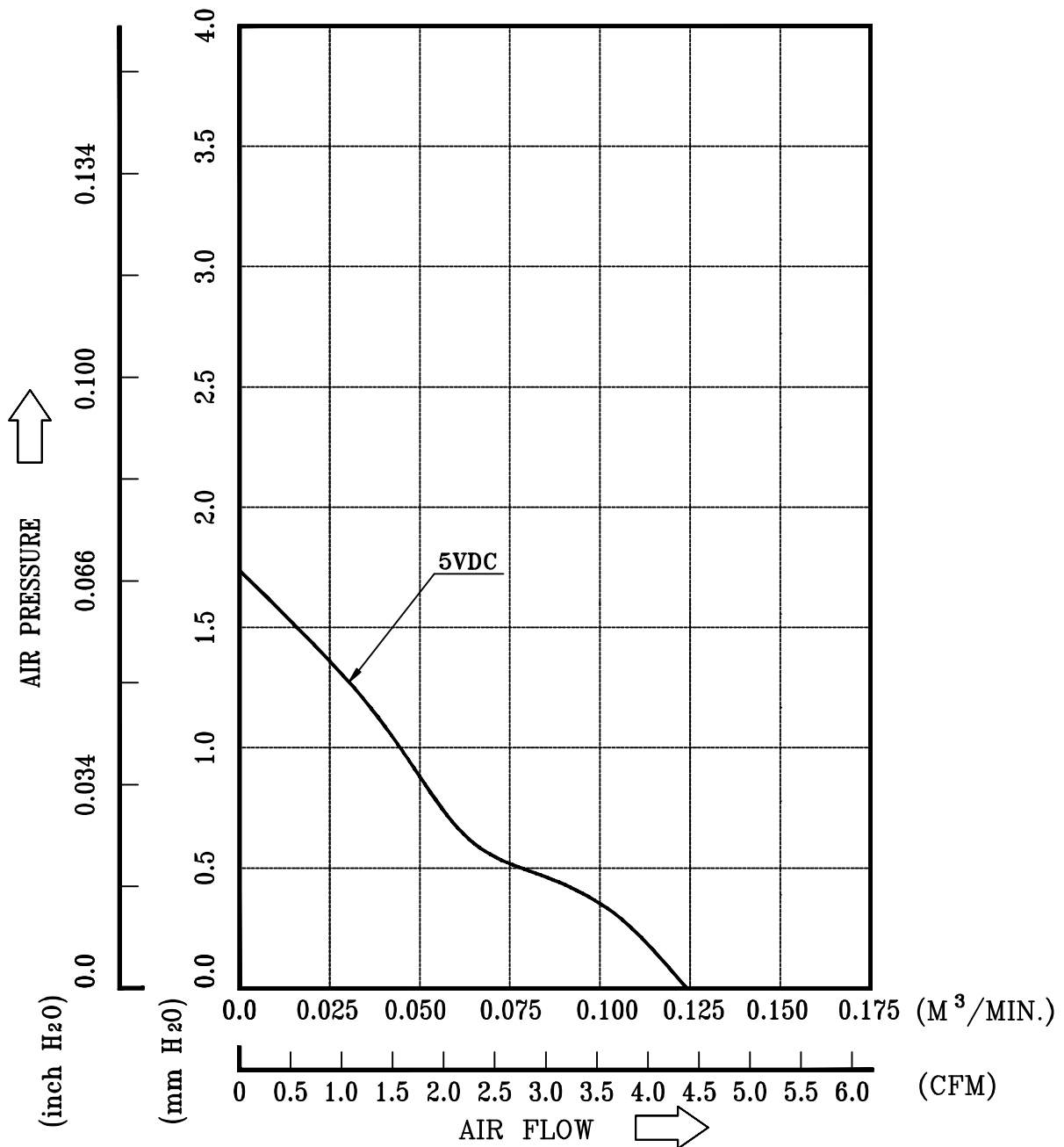
8-4. MECHANICAL SHOCK      TEMPERATURE: +20°C  
                                 ORIENTATION: X, Y, Z  
                                 POWER: NON-OPERATING  
                                 ACCELERATION: 20 G MIN.  
                                 PULSE: 11 ms HALF-SINE WAVE  
                  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

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

PART NO:

DELTA MODEL: AFB0405LA-A

9. P & Q CURVE:



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

PART NO:

DELTA MODEL: AFB0405LA-A

10. DIMENSION DRAWING:

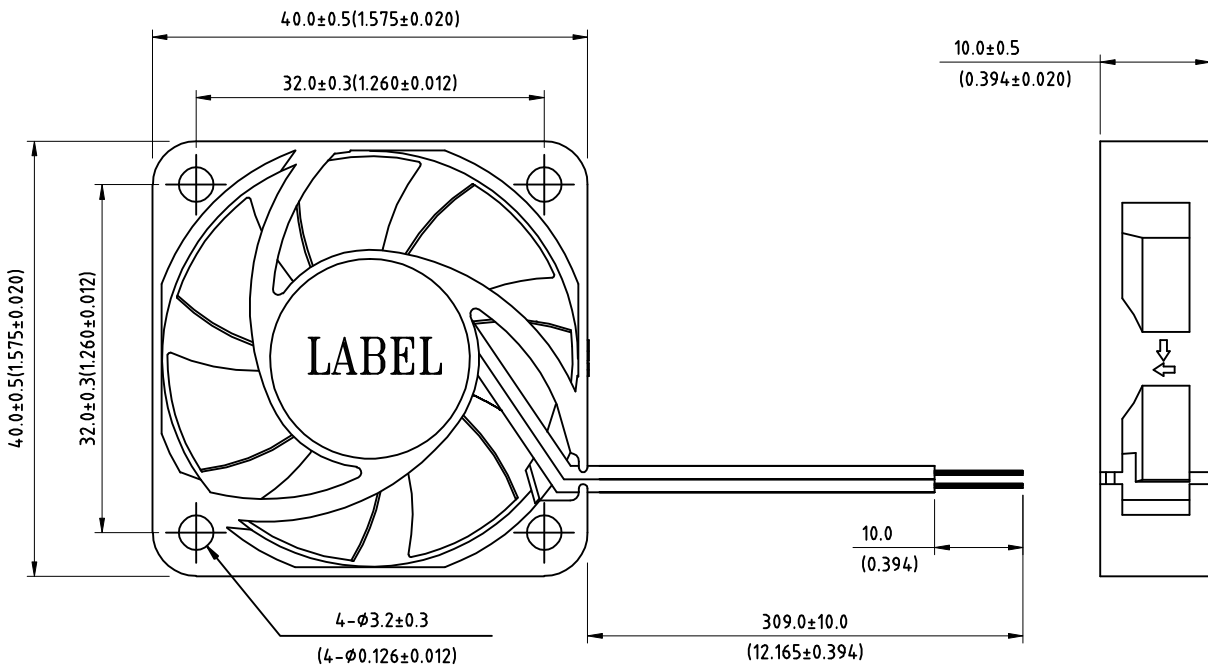
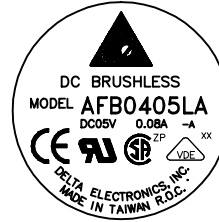
LABEL:



OR



OR



UNIT:mm(INCH)

- NOTES: 1. THIS PRODUCT IS RoHS COMPLIANT  
2. UL 1007 -F- AWG #28  
BLACK WIRE NEGATIVE(-)  
RED WIRE POSITIVE(+)