

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.:	AFB1212L	
Sample Rev:	00	Issue NO:
Sample Issue Date:	JAN.24.2008	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
INPUT CURRENT	0.14 (MAX. 0.21) A
INPUT POWER	1.68 (MAX. 2.52) W
SPEED	1900 R.P.M. (REF.)
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	1.782 (MIN. 1.604) M ³ /MIN. 62.93 (MIN. 56.64) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	3.93 (MIN. 3.18) mmH ₂ O 0.154 (MIN. 0.125) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	32.5 (MAX. 35.5) dB-A
INSULATION TYPE	UL: CLASS A

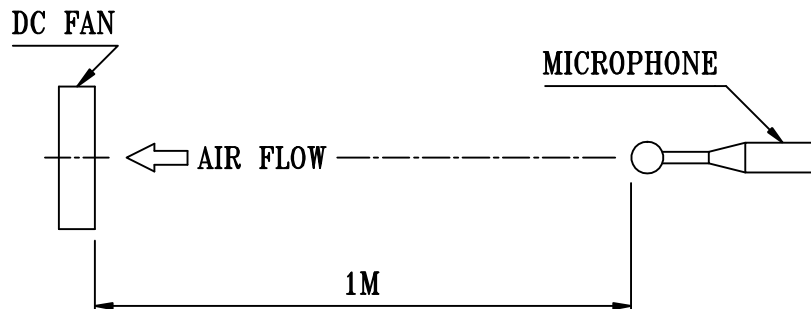
(continued)

PART NO:

DELTA MODEL: AFB1212L

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.

PART NO:

DELTA MODEL: AFB1212L

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 ----- 198 GRAMS

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE ----- -10 TO +60 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: AFB1212L

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 $g_{RMS}=3.2$

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

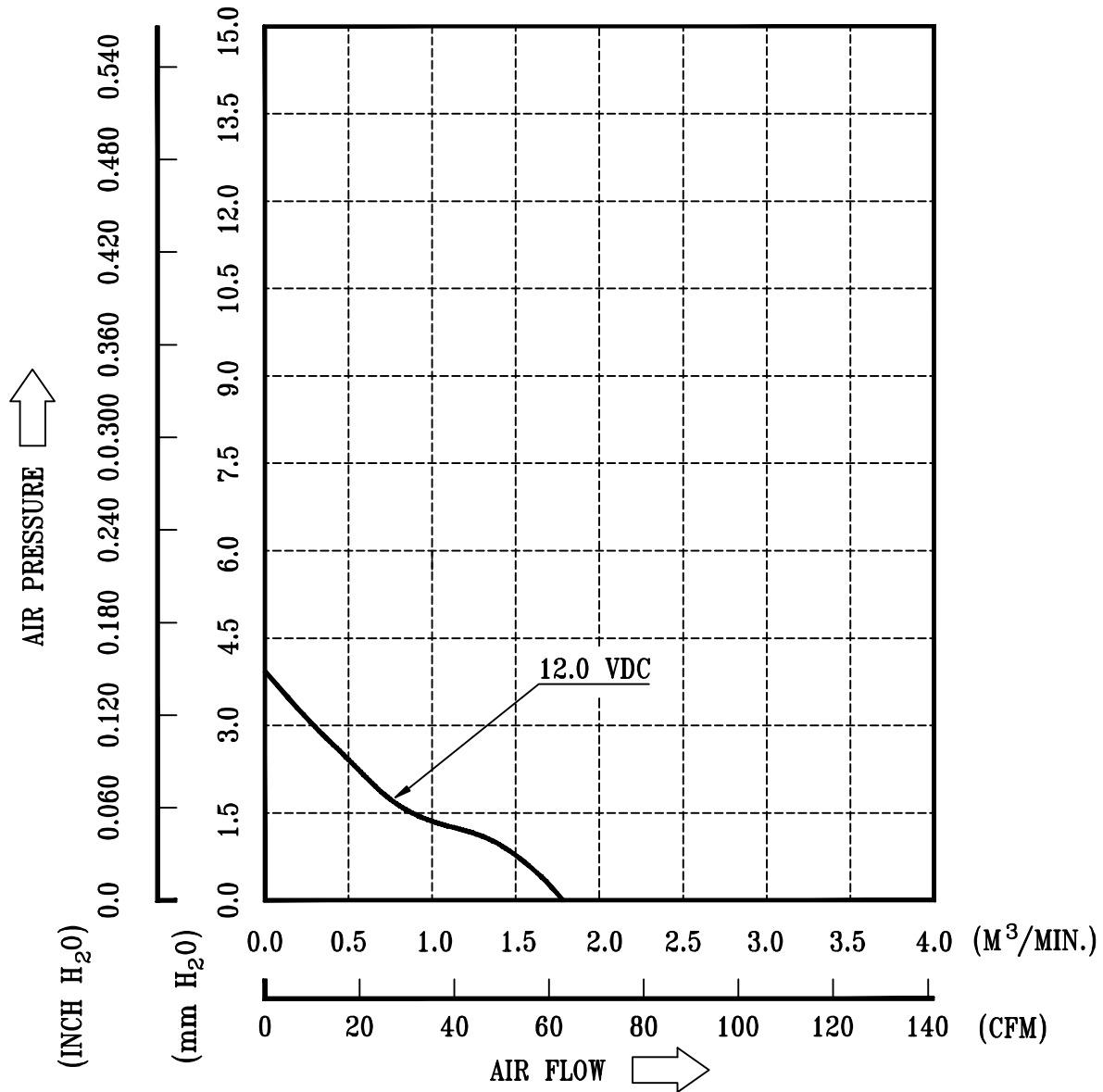
8-4. MECHANICAL SHOCK TEMPERATURE: +20°C
 ORIENTATION: X, Y, Z
 POWER: NON-OPERATING
 ACCELERATION: 20 G MIN.
 PULSE: 11 ms HALF-SINE WAVE
 NUMBER OF SHOCKS: 5 SHOCKS
 FOR EACH DIRECTION

8-5. LIFE TEMPERATURE: MAX , OPERATING TEMPERATURE
 POWER: OPERATING
 DURATION: 2000 HOURS MIN.

PART NO:

DELTA MODEL: AFB1212L

9. P & Q CURVE:



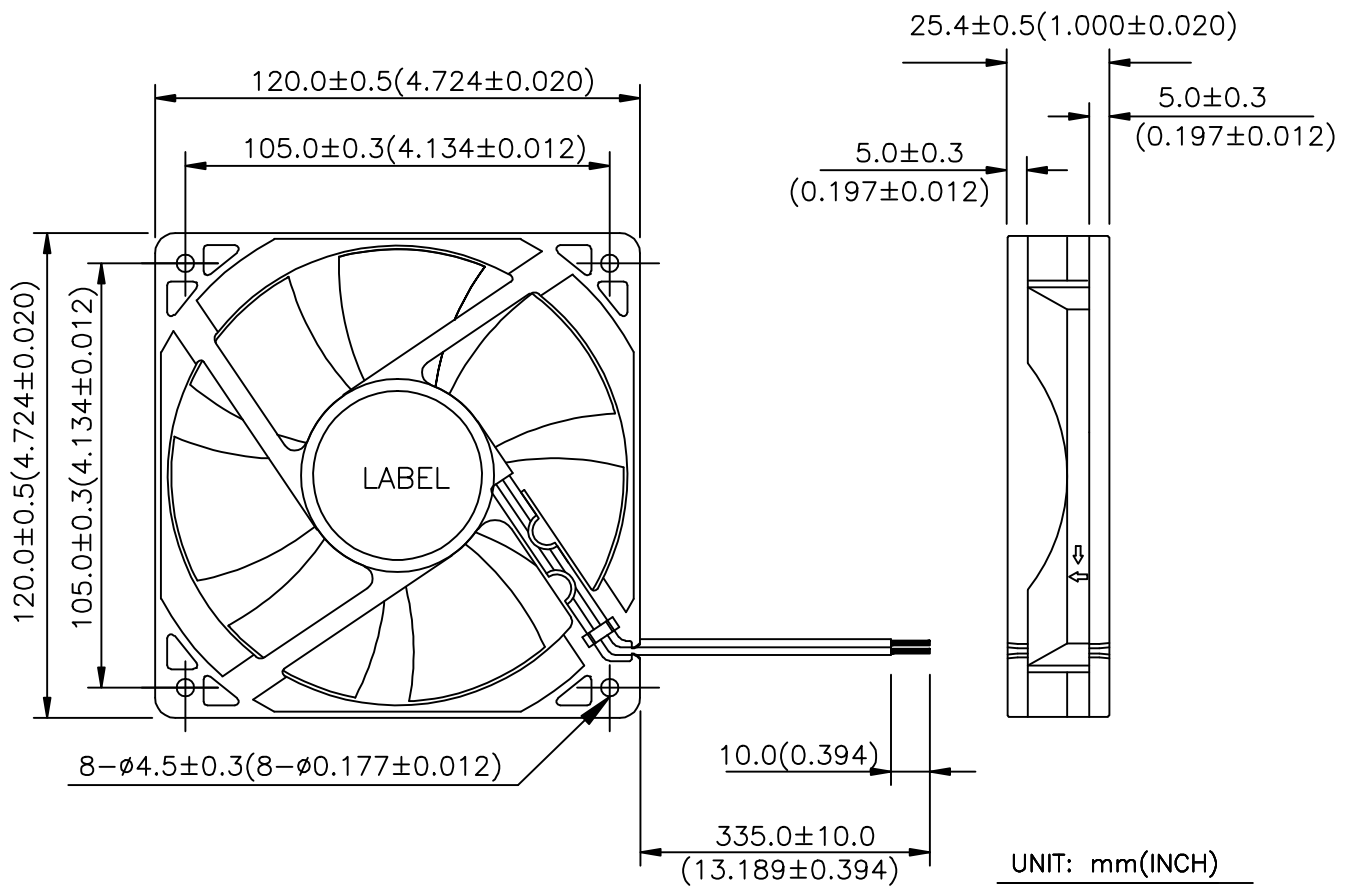
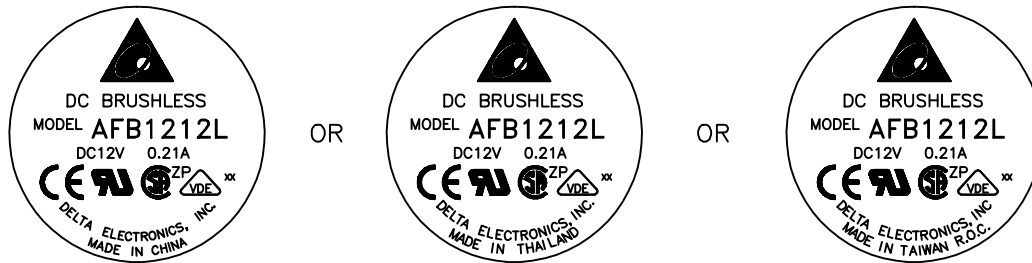
* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH

PART NO:

DELTA MODEL: AFB1212L

10. DIMENSION DRAWING:

LABEL:



UL 1007 -F- AWG #24
BLACK WIRE NEGATIVE(-)
RED WIRE POSITIVE(+)