

Customer				
Description DC FAN				
Part NoR E V				
elta Model No. <u>AFB0624EH-SP50</u> REV. 00				
Sample Issue No				
Sample Issue Date JUL.17.2009				
PLEASE SEND ONE COPY OF THIS SPECIFICAITON BACK AFTER YOU SIGNED APPROVAL FOR PRODUCTION PRE-ARRANGMENT.				
APPROVED BY:				
DATE :				

DELTA ELECTRONICS, INC. TAOYUAN PLANT 252, SHANG YING ROAD, KUEI SAN INDUSTRIAL ZONE TAOYUAN SHIEN, TAIWAN, R.O.C. TEL:886-(0)3-3591968 FAX:886-(0)3-3591991 DELTA ELECTRONICS, INC. 252, SHANG YING ROAD, KUEI SAN TAOYUAN HSIEN 333, TAIWAN, R. O. C.

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SPECIFICATION FOR APPROVAL

Customer:			
Description:	DC FAN		
Customer P/N:		REV:	
Delta Model NO.:	AFB0624EH-SP50		
Sample Rev:	00	Issue NO:	
Sample Issue Date:	JUL.17.2009	Quantity:	

1. SCOPE:

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

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	24 VDC
OPERATION VOLTAGE	21.6 - 26.4 VDC
INPUT CURRENT	0.24 (MAX. 0.36) A
INPUT POWER	5.76 (MAX. 8.64) W
SPEED	6800 R.P.M. ±10%
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	1.086 (MIN. 0.977) M ³ /MIN. 38.35 (MIN. 34.50) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	13.81 (MIN. 11.18) mmH ₂ 0 0.544 (MIN. 0.441) inchH ₂ 0
ACOUSTICAL NOISE (AVG.)	46.5 (MAX. 50.5) dB-A
INSULATION TYPE	UL: CLASS A

(continued)

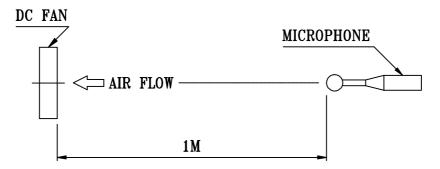
DELTA MODEL: AFB0624EH-SP50

INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL)
DIELECTRIC STRENGTH	5 mA MAX. AT 500 VAC 50/60 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 1061 -F- AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) BLUE WIRE FREQUENCY(-F00) YELLOW WIRE SPEED CONTROL(-PWM)

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.

A00

DELTA MODEL: AFB0624EH-SP50

3. MECHANICAL:

	3-1.	DIMENSIONS ————	SEE	DIMEN	ISION	S DI	RAWING
	3-2.	FRAME		PLA	STIC	UL:	94V-0
	3-3.	IMPELLER		- PLA	STIC	UL:	94V-0
	3-4.	BEARING SYSTEM		- TWO	BALL	BE	ARINGS
	3-5.	WEIGHT				80	GRAMS
4.	ENVI	RONMENTAL:					

4-1. OPERATING TEMPERATURE -10 T0 +70 DEGREE C 4-2. STORAGE TEMPERATURE -40 T0 +75 DEGREE C 4-3. OPERATING HUMIDITY 5 T0 90 % RH 4-4. STORAGE HUMIDITY 5 T0 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.

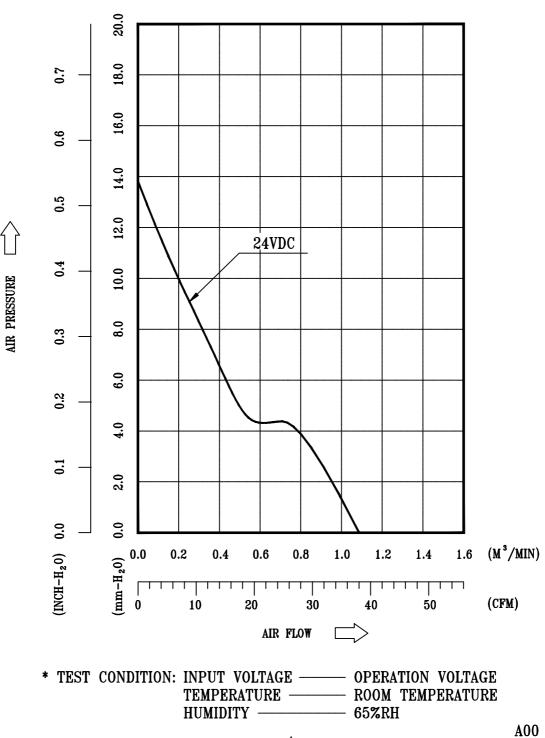
6. RE OZONE DEPLETING SUBSTANCES:

- 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. P & Q CURVE:



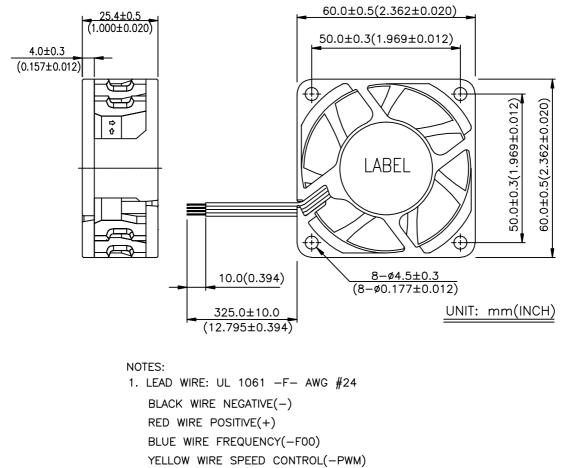
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9. DIMENSION DRAWING:

LABEL:

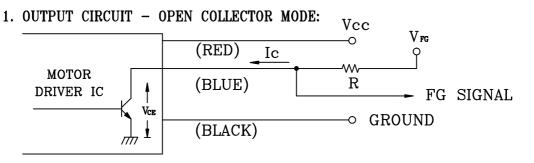




2. THIS PRODUCT IS ROHS COMPLIANT.

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10. FREQUENCY GENRATOR (FG) SIGNAL:



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CAUTION: THE FG SIGNAL LEAD WIRE MUST BE KEPT AWAY FROM "+" LEAD WIRE & "-" LEAD WIRE.
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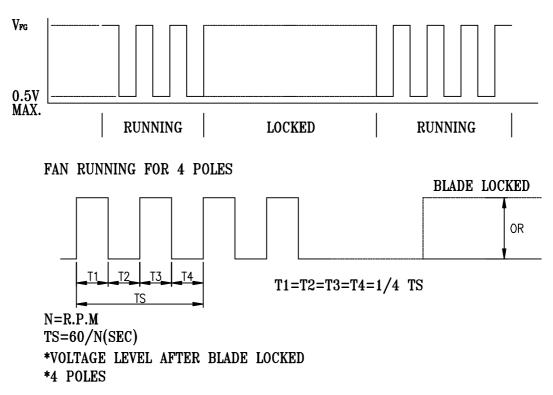
2. SPECIFICATION:

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V_{CE}(sat)=0.5V MAX V_{FG}=5.0 TYP.(Vcc MAX.)
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Ic = 5mA MAX.
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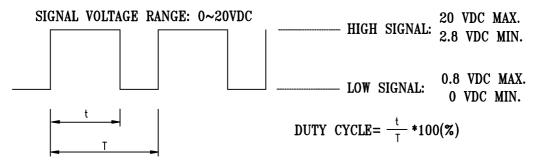
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R≥Vfg/I c
```

3. FREQUENCY GENERATOR WAVEFORM:



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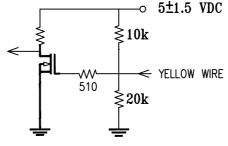
11. PWM CONTROL SIGNAL:



- THE PREFERRED OPERATING POINT FOR THE FAN IS 25K HZ.
- AT 100% DUTY CYCLE, THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- AT 0% DUTY CYCLE, THE ROTOR WILL STOP SPIN .
- WITH CONTROL SIGNAL LEAD DISCONNECTED, THE FAN WILL SPIN AT MAXIMUM SPEED.
- AT 25K HZ 20% DUTY CYCLE ,THE FAN WILL BE ABLE TO START FROM A DEAD STOP .
- THE SUGGESTION OF PWM DUTY CYCLE RANGE IS 20%~100%
- 12. SPEED VS PWM CONTROL SIGNAL: (AT RATED VOLTAGE & PWM FREQUENCY=25KHZ)

DUTY CYCLE (%)	SPEED R.P.M. (REF.)	CURRENT (A) TYP.
100	6800	0.24
0	0	0.00

13. PWM CONTROL LEAD WIRE INPUT IMPEDANCE:



13-1. THE FAN SPEED WILL DEFAULT TO MAXIMUM WHEN THE SPEED CONTROL INPUT IS LEFT UNCONNECTED.

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Application Notice

- **1.** Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.
- 2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.
- **3.** Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fan was hard-dropped to the production floor.
- 4. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.
- 5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.
- 6. It is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.
- 7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.
- 8. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.
- 9. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.
- 10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.
- 11. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.
- 12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.
- 13. Be certain to connect an "4.7μF or greater" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.