SPECIFICATION FOR APPROVAL

Customer. STANDARD

Description. DC BLOWER

Part No. _____ REV. _____

Delta Model No. BFB0712HHD77 REV. 01

Sample Issue No. _____

Sample Issue Date. AUG.15 2024

PLEASE SEND ONE COPY OF THIS SPECIFICATION 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 HSIEN, TAIWAN, R.O.C.
TEL:886-(0)3-3591968
FAX:886-(0)3-3591991

*** SAMPLE HISTORY***

CUSTOMER: STANDARD

CUSTOMER P/N:

DELTA MODEL: BFB0712HHD77

REV.	DESCRIPTION	DRAWN	CHECKED			APPROVED	ISSUE DATE
			ME	EE	CE		
00	RELEASE/5500rpm/open loop	Kent.Li	Kent.Li	Wendy.Lee	- - -	Davis.Chen	03/15'17
01	Correct the Noise data.	Kent.Li	Kent.Li	Wendy.Lee	- - -	Davis.Chen	08/15'24

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

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STATEMENT OF DEVIATION

****

■ NONE

□ DESCRIPTION :

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SPECIFICATION FOR APPROVAL

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Customer: STANDARD

Description: DC BLOWER

Customer P/N: REV:01

Delta Model NO.: BFB0712HHD77

Sample Rev: 01 Issue NO:

Sample Issue Date: AUG.15 2024 Quantity:

1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS BLOWER.

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	12.0 VDC
OPERATION VOLTAGE	9.0 - 16.0 VDC
INPUT CURRENT (AVG.)	**0.53 (0.68 MAX.) A** **SAFETY CURRENT ON LABEL: 0.68 A**
INPUT POWER (AVG.)	8.15 MAX (6.35 TYP.) W
SPEED	5500±10% R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	0.41 (MIN. 0.37) M^3/MIN 14.7 (MIN. 13.2) CFM
MAX.AIR PRESSURE (AT ZERO AIR FLOW)	35.9 (MIN. 32.3)mmH_2O 1.41 (MIN. 1.27)inchH_2O
ACOUSTICAL NOISE (AVG.)	52 (MAX 55) dB-A(DISTANCE OF 1M)

(continued)

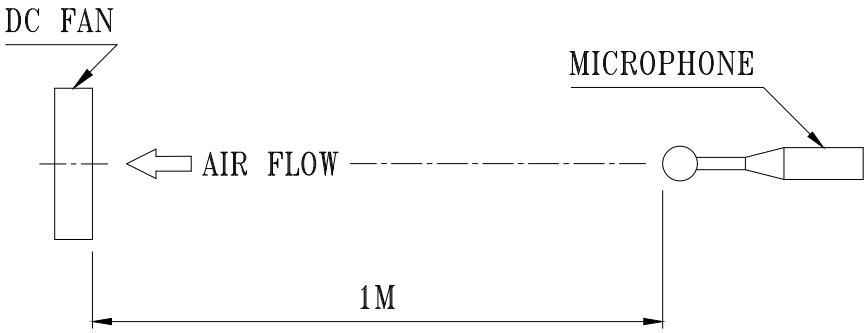
A00

PART NO:

DELTA MODEL: BFB0712HHD77

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)
ROTATION	COUNTERCLOCKWISE FROM AIR INTAKE SIDE

NOTES:
1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES
2. STANDARD AIR PROPERTY IS AIR AT (Td) 25°C TEMPERATURE, (RH) 65% RELATIVE HUMIDITY, AND (Pb) 760 mmHg BAROMETRIC PRESSURE.
3. THE VALUES WRITTEN IN PARENS , ( ), ARE LIMITED SPEC.
4. 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: BFB0712HHD77

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 ---------- 85 GRAMS(Ref.)

4. ENVIRONMENTAL:

4-1. OPERATING TEMPERATURE ---------- -40 TO +85 DEGREE C

4-2. STORAGE TEMPERATURE ---------- -40 TO +95 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

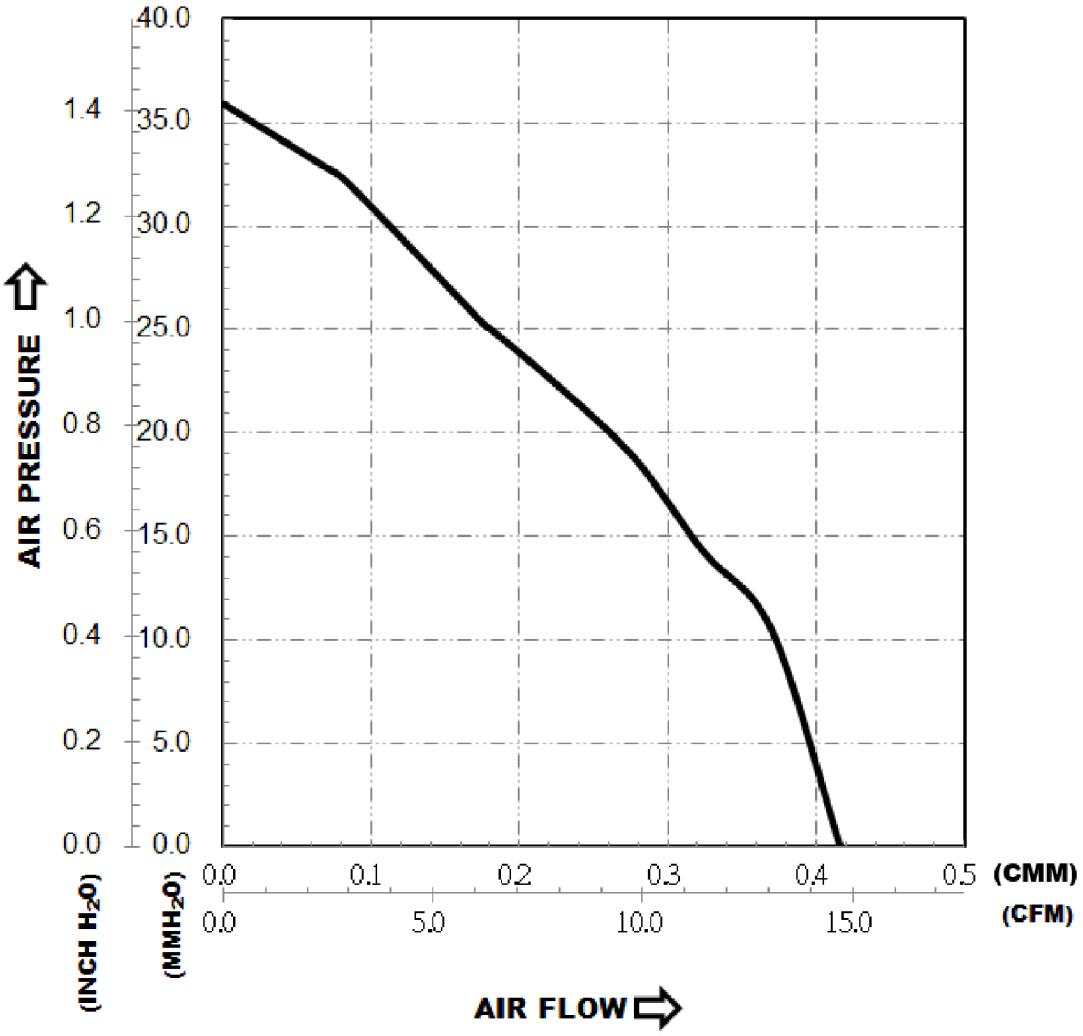
7-1. PRODUCTS WILL BE PRODUCED IN CHINA OR THAILAND.

8. THIS MODEL MUST MEET IP55 REQUEST COATING TO PROTECT WHOLE MOTOR ASSY

PART NO:

DELTA MODEL: BFB0712HHD77

9. P & Q CURVE:



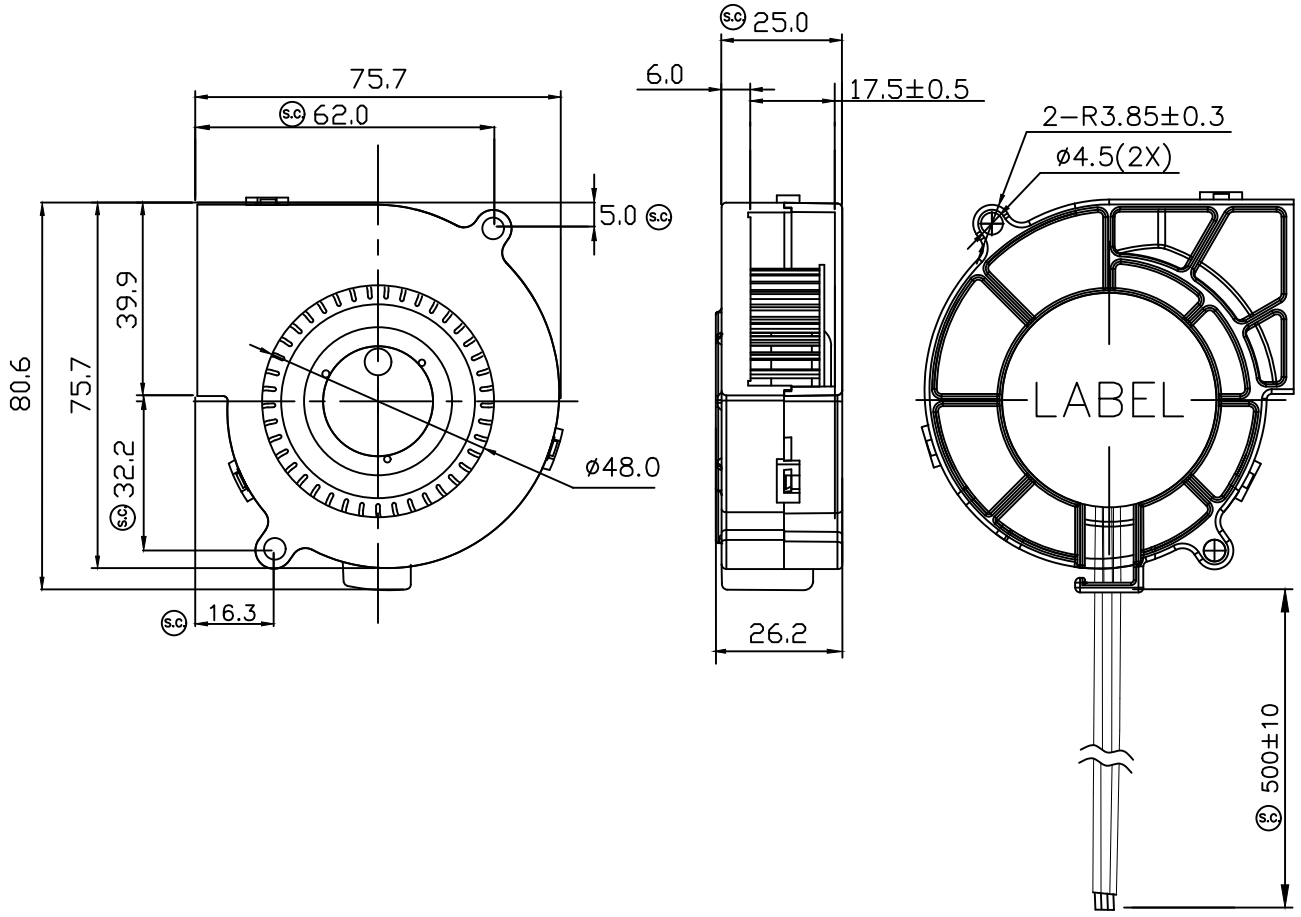
* TEST CONDITION: INPUT VOLTAGE ------- OPERATION VOLTAGE
TEMPERATURE -------- ROOM TEMPERATURE
HUMIDITY ---------- 65%RH

PART NO:

DELTA MODEL: BFB0712HHD77

10. Attach: DIMENSIONS DRAWING

LABEL:



NOTE.

1.THIS PRODUCT IS RoHS COMPLIANT.

2.LEAD WIRE FLRY-A AWG22

RED WIRE POSITIVE (+)

BLACK WIRE NEGATIVE (-)

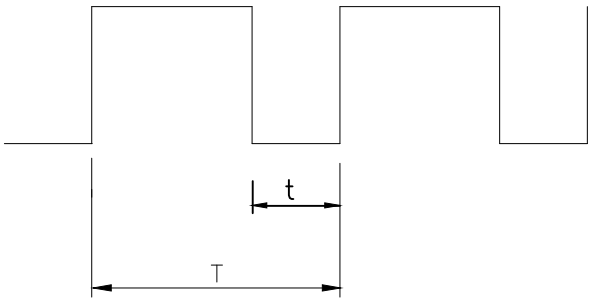
BLUE WIRE PWM CONTROL (PWM)

A00

11. PWM CONTROL SIGNAL:

11-1. PWM SPECIFICATION:

SIGNAL VOLTAGE RANGE: 0~16VDC



HIGH SIGNAL: 16.0VDC MAX. 5.0VDC MIN.

LOW SIGNAL: 0VDC MAX.

DUTY CYCLE= $\frac{t}{T}$ *100(%)

THE FAN WILL BE CONTROLLED USING A PULSE WIDTH MODULATED (PWM) SIGNAL FROM THE ELECTRONICS WITHIN THE ENCLOSURE. THE FAN MUST ACCEPT A CMOS COMPATIBLE PWM SIGNAL WITH A FREQUENCY RANGE OF 90HZ TO 110HZ. THE PWM SIGNAL WILL HAVE A DUTY CYCLE FROM 0% TO 100%. A 100% DUTY CYCLE WILL BE DEFINED AS A CONTINUOUS LOGIC HIGH (V_{INH}) AND WILL CAUSE THE FAN TO STOP SPINNING. A DUTY CYCLE OF 0% WILL BE DEFINED AS A CONTINUOUS LOGIC LOW (V_{INL}) AND WILL CAUSE THE FAN TO STOP SPINING. A DUTY CYCLE AT 6~30%,50%,94% THE FAN SPEED WILL BE 1700,2800,5500 RPM.
IF THE PWM CONTROL WIRE IS OPEN,THE ROTOR WILL STOP SPINNING.

12. SPEED VS PWM WITHOUT LOAD (DC:12.0V): DUTY CYCLE TOLERANCE ±1%.

DUTY CYCLE (%)	SPEED R.P.M.
0~4	0
6~30	1700 ± 300
50	2800 ± 10%
94	5500 ± 10%
96~100	0

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.