



## SPECIFICATION FOR APPROVAL

Customer : STD

Description : DC FAN

Customer Part No. \_\_\_\_\_

REV. : \_\_\_\_\_

Delta Model No. : PFB0924DHEP0

REV. : 01

Sample Issue No. : \_\_\_\_\_

Sample Issue Date : JAN.13.2020

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, SHANGYING ROAD, GUIZHAN INDUSTRIAL ZONE,  
TAOYUAN CITY 33341, TAIWAN  
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## STATEMENT OF DEVIATION

NONE

DESCRIPTION:

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## Specification For Approval

Customer : STD

Description : DC FAN

Customer P/N :

rev. :

Delta model no. : PFB0924DHEP0

Delta Safety Model No.: PFB0924DHE

Sample revision. : 01

Issue no.:

Sample issue date : JAN.13 2020

Quantity :

### 1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN.

### 2. CHARACTERS:

ALL CHARACTERS ARE MEASURED BY SINGLE FAN UNIT.

ITEM	DESCRIPTION
RATED VOLTAGE	24V
OPERATION VOLTAGE	21.6 - 26.4 VDC
INPUT CURRENT(AVG.) (AT RATED VOLTAGE)	1.45 (MAX. 1.68) A SAFETY CURRENT ON LABEL : 1.74A
INPUT POWER(AVG.) (AT RATED VOLTAGE)	34.8 (MAX. 40.32) W
SPEED (AT RATED VOLTAGE)	8000 R.P.M. $\pm$ 10%
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	4.957 (MIN.4.461) M <sup>3</sup> /MIN. 175.03 (MIN. 157.63) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	46.21 (MIN.37.43) mmH <sub>2</sub> O 1.819 (MIN. 1.473) inchH <sub>2</sub> O
ACOUSTICAL NOISE (AVG.)	66.5 (MAX. 70.5) dB-A
INSULATION TYPE	UL: CLASS A
INSULATION STRENGT	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)

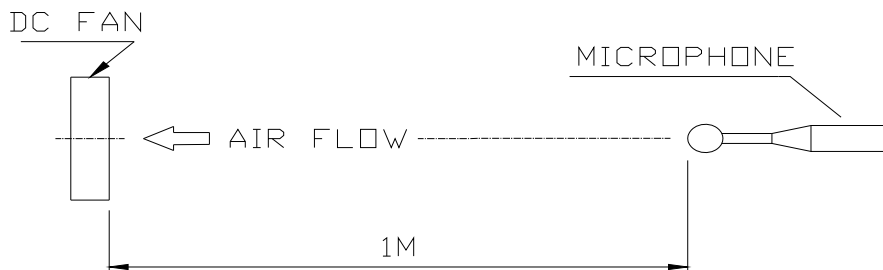
PART NO:

DELTA MODEL: PFB0924DHEP0

LIFE EXPECTANCE (L10) (AT LABEL VOLTAGE)	70,000 HOURS CONTINUOUS OPERATION AT 40 ° C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLATE SIDE
LOCKED ROTOR PROTECTION	THE CURRENT WILL SHUT DOWN, WHEN ROTOR LOCKED AND FIXED.

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 SEMI-ANECHOIC CHAMBER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

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PART NO:

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DELTA MODEL: PFB0924DHEP0

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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----- 250 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.

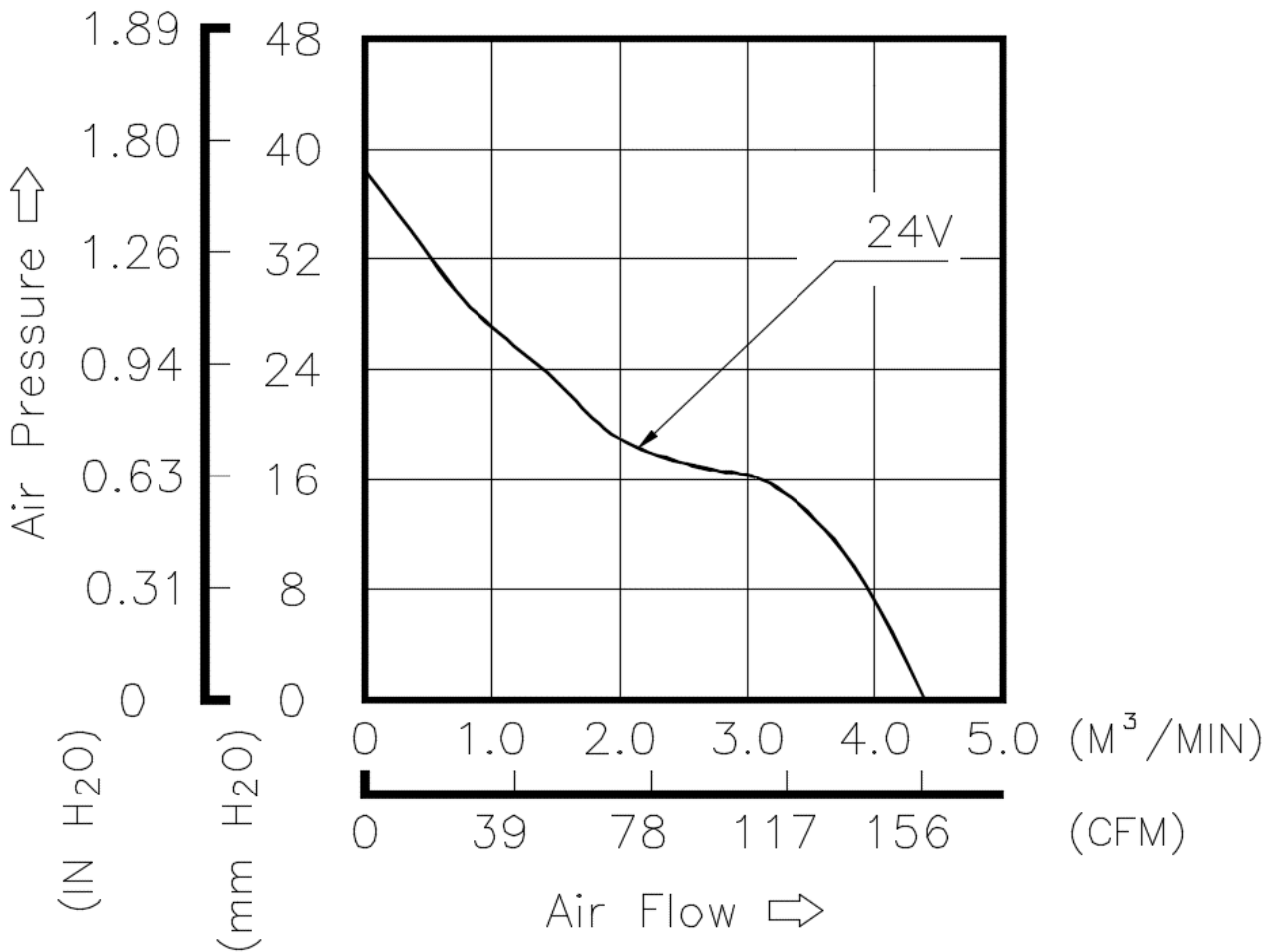
7. PRODUCTION LOCATION

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

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8. P & Q CURVE:



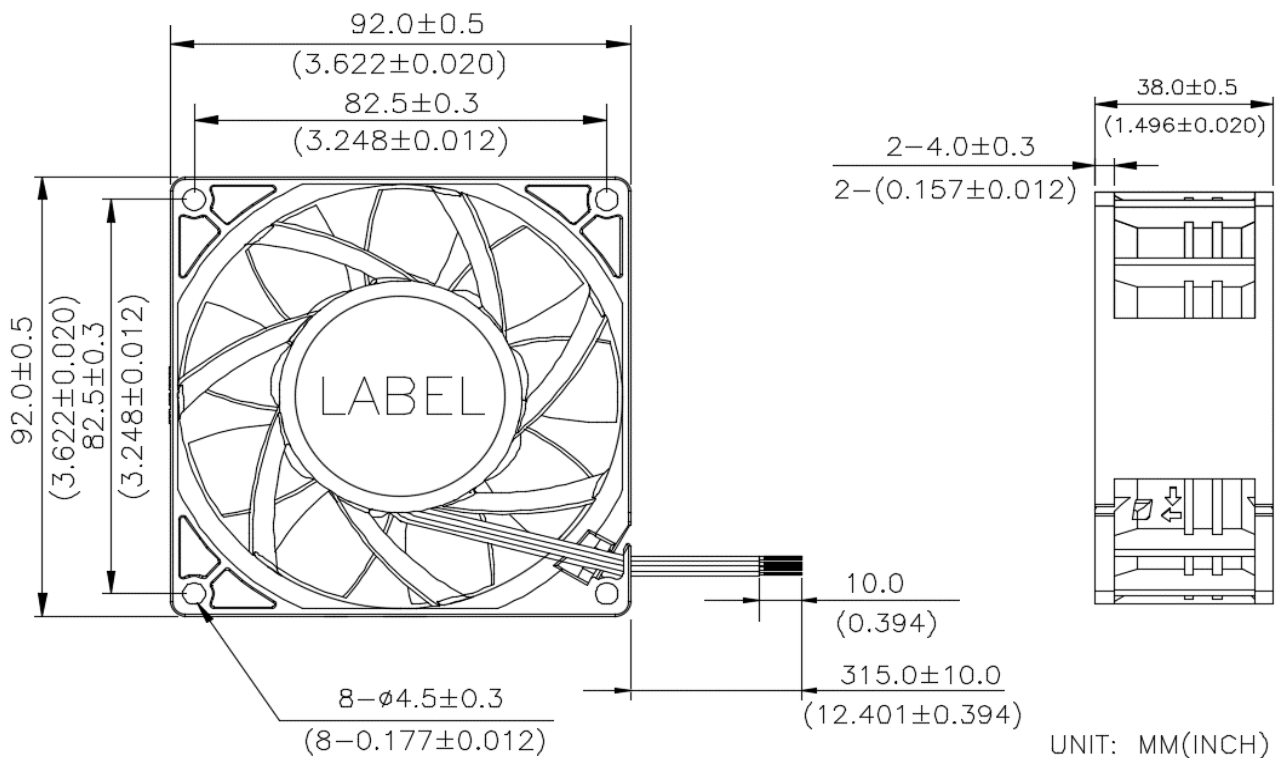
\*TEST CONDITION: INPUT VOLTAGE-----OPERATION VOLTAGE  
TEMPERATURE-----ROOM TEMPERATURE  
HUMIDITY-----65%RH

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9. DIMENSION DRAWING:

LABEL:



1. THIS PRODUCT IS RoHS COMPLIANT
2. CABLE WIRE UL1007 AWG#24  
BLACK WIRE----(-)  
RED WIRE----(+)  
BLUE WIRE----(F00)  
YELLOW WIRE----(PWM)

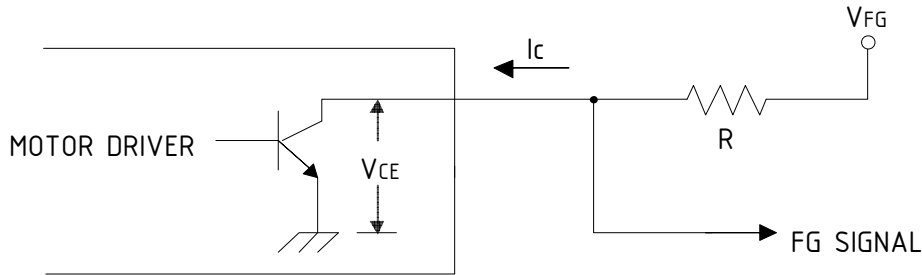


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10. FREQUENCY GENERATOR (FG) SIGNAL:

10-1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



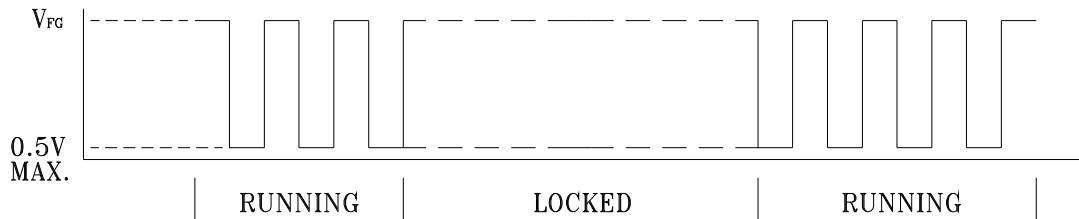
CAUTION:

THE LEAD WIRE OF FG SIGNAL CAN NOT TOUCH THE LEAD WIRE OF POSITIVE OR NEGATIVE.

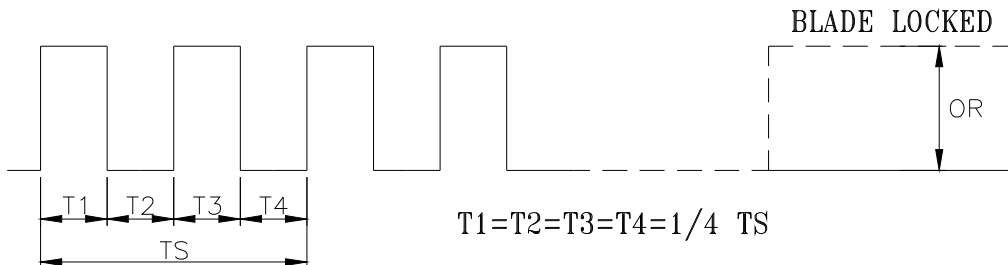
10-2. SPECIFICATION:

$V_{FG} = 5.0 \text{ TYP.}(V_{CC} \text{ MAX.})$      $I_c = 5\text{mA MAX.}$   
 $V_{CE} = 0.5\text{V MAX.}$                        $R \geq V_{FG} / I_c$

10-3. FREQUENCY GENERATOR WAVEFORM:



FAN RUNNING FOR 4 POLES



$N = \text{R.P.M}$

$TS = 60/N(\text{SEC})$

\*VOLTAGE LEVEL AFTER BLADE LOCKED

\*4 POLES

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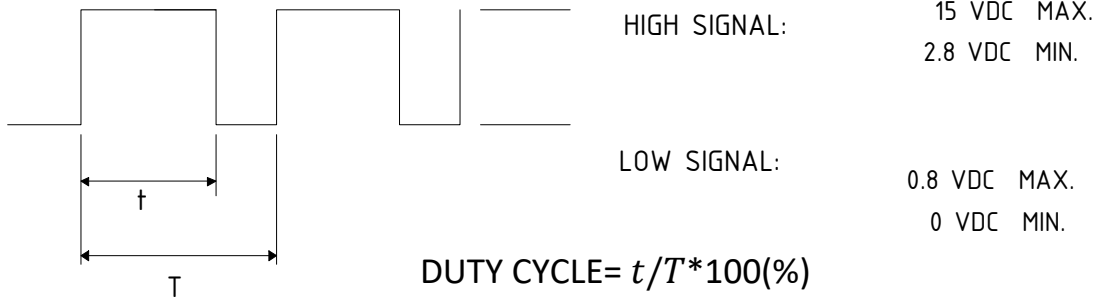
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11. PWM CONTROL SIGNAL:

SIGNAL VOLTAGE RANGE: 0~15 VDC



\*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.

\*WITH CONTROL SIGNAL LEAD DISCONNECTED, THE FAN WILL SPIN AT MAXIMUM SPEED.

12. SPEED VS PWM CONTROL SIGNAL:

(AT 25°C, RATED VOLTAGE & PWM SIGNAL AS FOLLOW)

\*PWM SIGNAL

PWM FREQUENCY = 25k Hz

DUTY CYCLE (%)	SPEED R.P.M.	CURRENT (A) TYP.
100	8000±10%	1.45
20	2000±15%	0.1
0	0	0.02

