



SPECIFICATION FOR APPROVAL

Customer : _____
Description : DC FAN _____
Customer Part No. _____ REV. : _____
Delta Model No. : AUB0912HJ-00 _____ REV. : 00 _____
Sample Issue No. : _____
Sample Issue Date : MAY.10.2021 _____

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
TEL:886-(0)3-3591968
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STATEMENT OF DEVIATION

NONE

DESCRIPTION:

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Specification For Approval

Customer : _____

Description : DC FAN

Customer P/N : _____

rev. : _____

Delta model no. : AUB0912HJ-00

Delta Safety Model No.: AUB0912HJ-00

Sample revision. : 00

Issue no.: _____

Sample issue date : MAY.10 2021

Quantity : _____

1. SCOPE:

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

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	12 VDC
OPERATION VOLTAGE RANGE	10.8-13.2 VDC
OPERATION DUTY RANGE	25% ~ 100% @25KHZ
MIN. START DUTY	≥40% @25KHZ
INPUT CURRENT(AVG.) ★ (TEST UNDER FREE AIR)	0.35 (MAX. 0.50) A CURRENT ON LABEL : 0.50A
INPUT POWER(AVG.) ★ (TEST UNDER FREE AIR)	4.20 (MAX. 6.00) W
RATED SPEED	4600±10% R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	1.955 (MIN. 1.759) M ³ /MIN. 69.02 (MIN. 62.12) CFM
MAX. AIR PRESSURE (AT ZERO AIR FLOW)	10.34 (MIN. 8.380) mmH ₂ O 0.407 (MIN. 0.330) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	45.0 (MAX. 49.0) dB-A
INSULATION TYPE	UL: CLASS A
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)

★AVG. IS THE AVERAGE VALUE DURING STEADY OPERATION, AND MAX. IS MAXIMUM AVERAGE VALUE INCLUDED PRODUCTION TOLERANCE. ABOUT THE PEAK VALUE, NEED TO USE OSCILLOSCOPE TO MEASURE.

(continued)

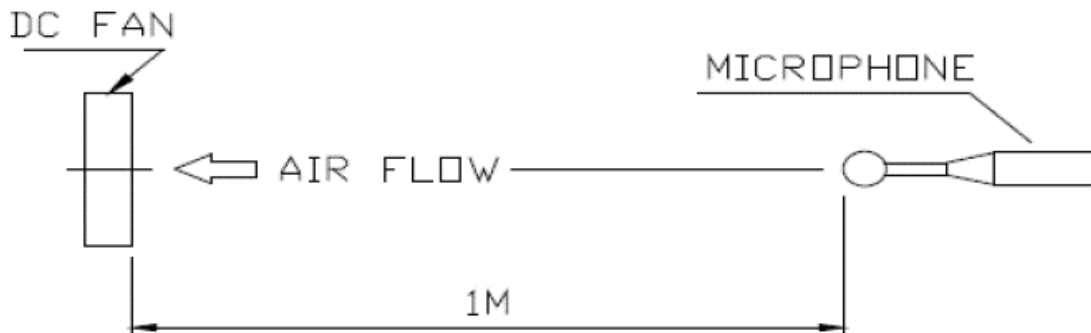
PART NO:

DELTA MODEL: AUB0912HJ-00

LIFE EXPECTANCE (L10) (AT LABEL VOLTAGE)	50,000 HOURS CONTINUOUS OPERATION AT 40 ° C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLAT SIDE
LOCK 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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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----- SLEEVE BEARING
- 3-5. WEIGHT----- 99.0 (REF.) GRAMS

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE----- -10 TO +85 DEGREE C
- 4-2. STORAGE TEMPERATURE----- -40 TO +85 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.

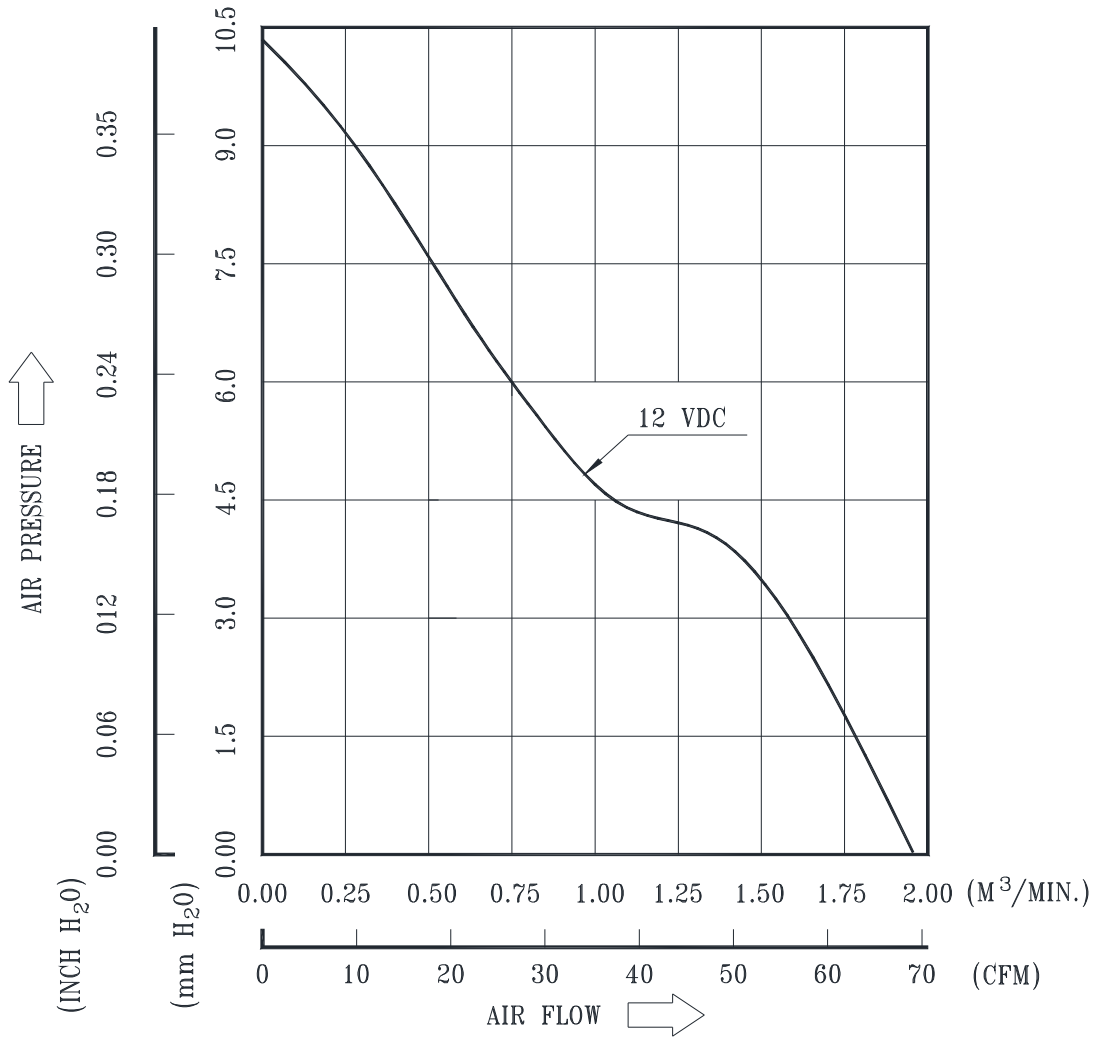
7. PRODUCTION LOCATION

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

PART NO:

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8. P & Q CURVE:

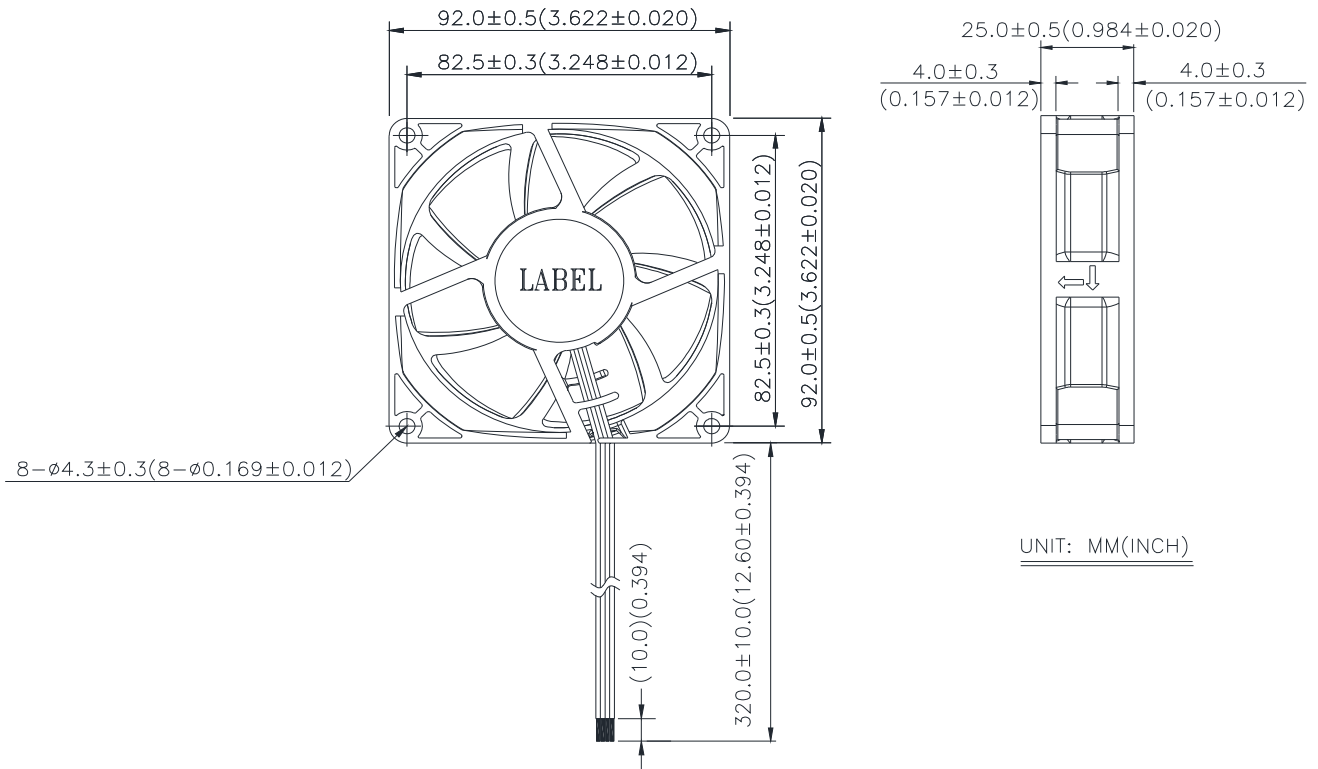


*TEST CONDITION: INPUT VOLTAGE-----OPERATION VOLTAGE
TEMPERATURE-----ROOM TEMPERATURE
HUMIDITY-----65%RH

PART NO:

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9. DIMENSION DRAWING:



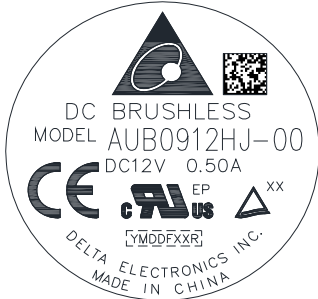
NOTES:

1. LEAD WIRE: UL 10368 AWG #26
RED WIRE (+)
BLACK WIRE (-)
BLUE WIRE (F00)
YELLOW WIRE (PWM)
2. THIS PRODUCT IS ROHS COMPLIANT.

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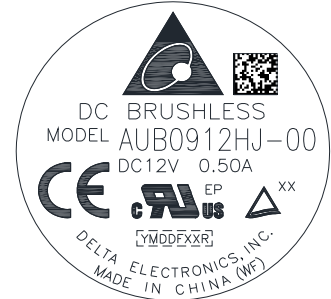
10. LABEL:



OR



OR



DATE CODE NUMBER REFER TO BELOW LIST:

THE FORMAT FOR DATE CODE		
Y	YEAR	"0" FOR 2010, "1" FOR 2011, ET AL.
M	MONTH	1-9 IS JAN-SEP, X IS OCT, Y IS NOV, Z IS DEC
DD	DATE	01-31 MEANS DATE OF MONTH
FXX	LINE	"F1" MEANS NO.1 PRODUCTION LINE, "F2" MEANS NO.2 PRODUCTION LINE, "F10" MEANS NO.10 PRODUCTION LINE, ET AL.
R	PRODUCE CONDITION	"R": MEANS THE FAN CONFORM TO RoHS COMPLIANCE.

THE CONTENT OF 2D BARCODE IS SHOWN AS BELOW:

2D BARCODE



(DATA MATRIX)

SCAN



BARCODE

AUB0912HJ-00A0YYMDSSSSS

BARCODE INFORMATION REFER TO BELOW LIST:

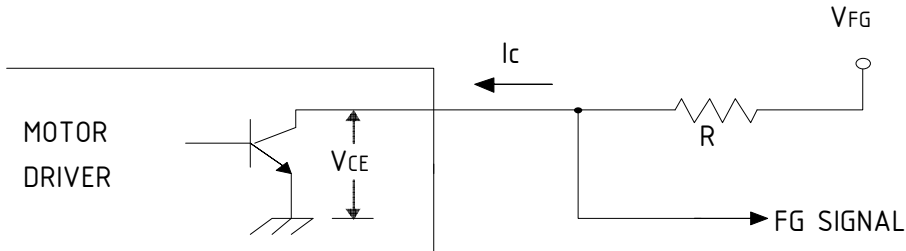
THE FORMAT FOR THE BARCODE		
AUB0912HJ-00	P/N	DELTA MODEL NAME.
A0	VENDOR	"A0" MEANS DELTA.
YY	YEAR	"10" FOR 2010, "11" FOR 2011, ET AL.
M	MONTH	1-9 IS JAN-SEP, A IS OCT, B IS NOV, C IS DEC.
D	DATE	1-9 IS 1st-9th, A IS 10th, B IS 11th, ET AL. (NOT INCLUDED I, J, O and Q.)
SSSSS	SERIAL NUMBER	FROM 00001 TO 99999.

PART NO:

DELTA MODEL: AUB0912HJ-00

11. FREQUENCY GENERATOR (FG) SIGNAL:

11-1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



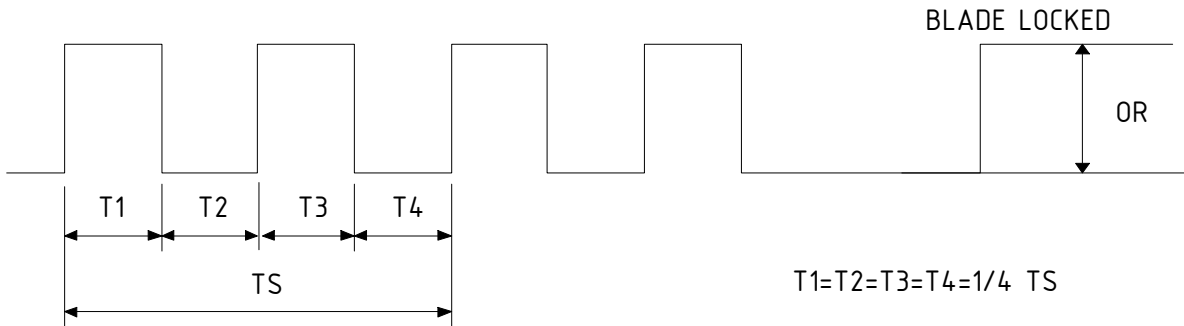
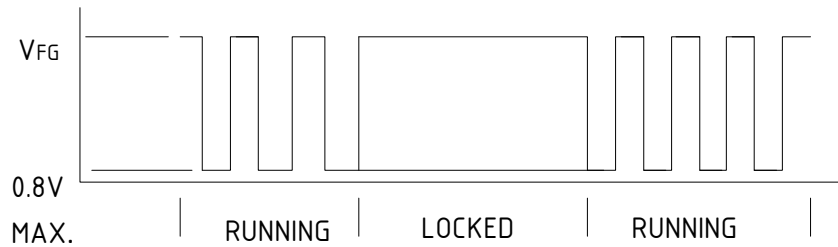
CAUTION:

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

11-2. SPECIFICATION:

$V_{FG} = 5.0 \text{ TYP. (} V_{CC} \text{ MAX.)}$ $I_c = 5\text{mA MAX.}$
 $V_{CE} = 0.8\text{V MAX.}$ $R \geq V_{FG} / I_c$

11-3. FREQUENCY GENERATOR WAVEFORM:



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

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

*VFG IS ALWAYS HIGH OR LOW LEVEL AFTER BLADE LOCKED

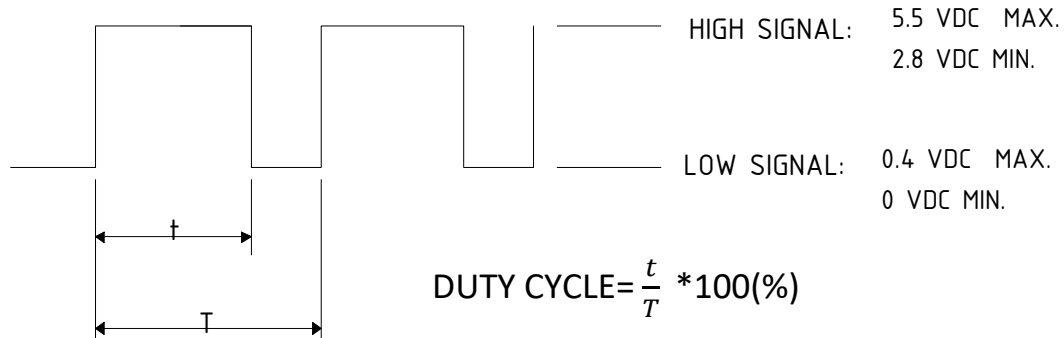
*4 POLES

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12. PWM CONTROL SIGNAL:

12-1 . SIGNAL VOLTAGE RANGE: 0~5.5 VDC



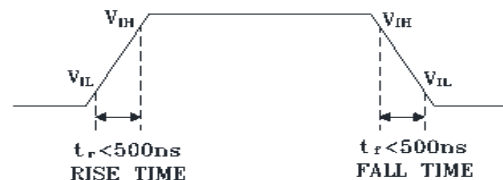
- * THE OPERATING FREQUENCY POINT IS 25KHz.
- * AT 100% DUTY CYCLE, THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- * AT 0% DUTY CYCLE, THE ROTOR WILL STOP SPINNING.
- * THE FAN WILL SPIN AT MAXIMUM SPEED WHILE CONTROL SIGNAL LEAD IS DISCONNECTED.

12-2 . THE REQUIREMENT OF WAVEFORM QUALITY OF PWM SIGNAL

- THE RECOMMENDED PWM SIGNAL FROM SYSTEM IS TTL ($t_r = 500ns$, $t_f = 500ns$), EVEN IF THE PWM LEAD OF FAN IS DISCONNECTED.
- THE MAXIMUM PERMISSIBLE OF WAVEFORM DISTORTION:

$V_{IH} : (V_+ - 0.5) * 90\%$ RISE TIME : $t_r < 500ns$

$V_{IL} : (V_+ - 0.5) * 10\%$ FALL TIME : $t_f < 500ns$

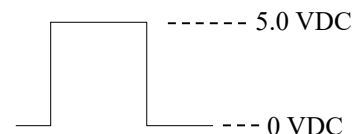


13. SPEED VS PWM CONTROL SIGNAL:

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

DUTY CYCLE (%)	SPEED (R.P.M.)	CURRENT(A) (AVG.)★
100	4600±10%	0.35 (MAX. 0.50)
0	0	0.01 (MAX. 0.02)

*PWM SIGNAL
PWM FREQUENCY = 25KHz



★AVG. IS THE AVERAGE VALUE DURING STEADY OPERATION, AND MAX. IS MAXIMUM AVERAGE VALUE INCLUDED PRODUCTION TOLERANCE. ABOUT THE PEAK VALUE, NEED TO USE OSCILLOSCOPE TO MEASURE.

- MIN. STARTED DUTY CYCLE(at 25°C, 12.0 VDC): 40 %
- WHEN THE FAN BLADE IS IN THE COMPLETE STOP STATE AND THEN PROVIDE PWM TO START THE FAN IN ORDER TO ENSURE THAT THE FAN START-UP IS NORMAL FROM A DEAD STOP.