



SPECIFICATION FOR APPROVAL

Customer : _____
Description : DC FAN
Customer Part No. _____ REV. : _____
Delta Model No. : QFR0812GJ-00P0 REV. : 04
Sample Issue No. : _____
Sample Issue Date : MARCH.16 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
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STATEMENT OF DEVIATION

NONE

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Specification For Approval

Customer : _____

Description : DC FAN

Customer P/N : _____

rev. : _____

Delta model no. : QFR0812GJ-00P0

Delta Safety Model No.: NA

Sample revision. : 04

Issue no.: _____

Sample issue date : MARCH.16 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	12.0 V
OPERATION VOLTAGE RANGE	7.0 - 13.8 VDC
INPUT CURRENT(AVG.) (AT RATED VOLTAGE)	0.97 (MAX. 1.12) A CURRENT ON LABEL : 1.46 A
INPUT POWER(AVG.) (AT RATED VOLTAGE)	11.64 (MAX. 13.44) W
SPEED (AT RATED VOLTAGE)	8000 ± 10% R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	2.72 (MIN. 2.45) M ³ /MIN. 88.438 (MIN. 79.590) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	20.46 (MIN. 16.57) mmH ₂ O 0.805 (MIN. 0.652) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	57.5 (MAX.60.5) dB-A
INSULATION TYPE	UL: CLASS A
INGRESS PROTECTION	N/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)

(continued)

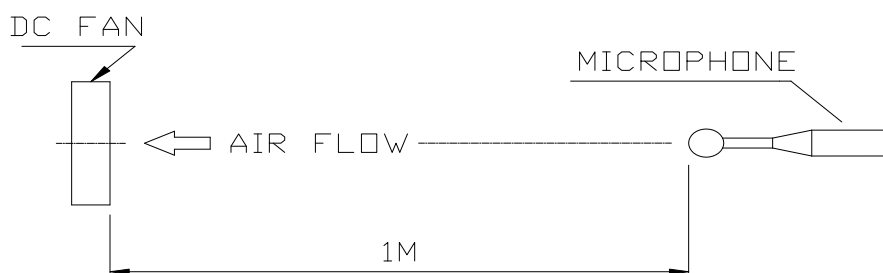
PART NO:

DELTA MODEL: QFR0812GJ-00P0

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
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.

PART NO:

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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----- 117 GRAMS(REF.)

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE----- -20 TO +70 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.

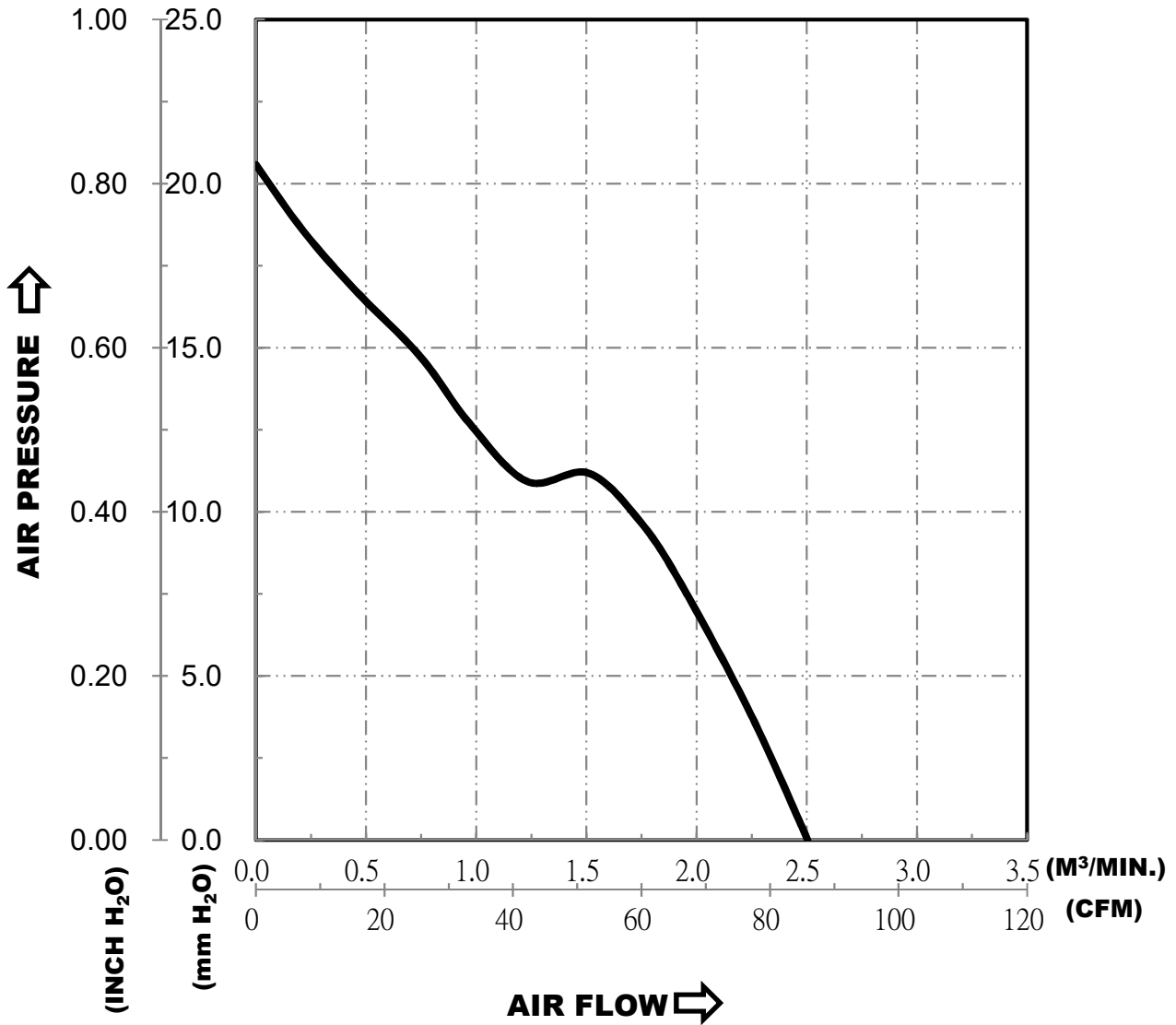
7. PRODUCTION LOCATION

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

PART NO:

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8. P & Q CURVE:



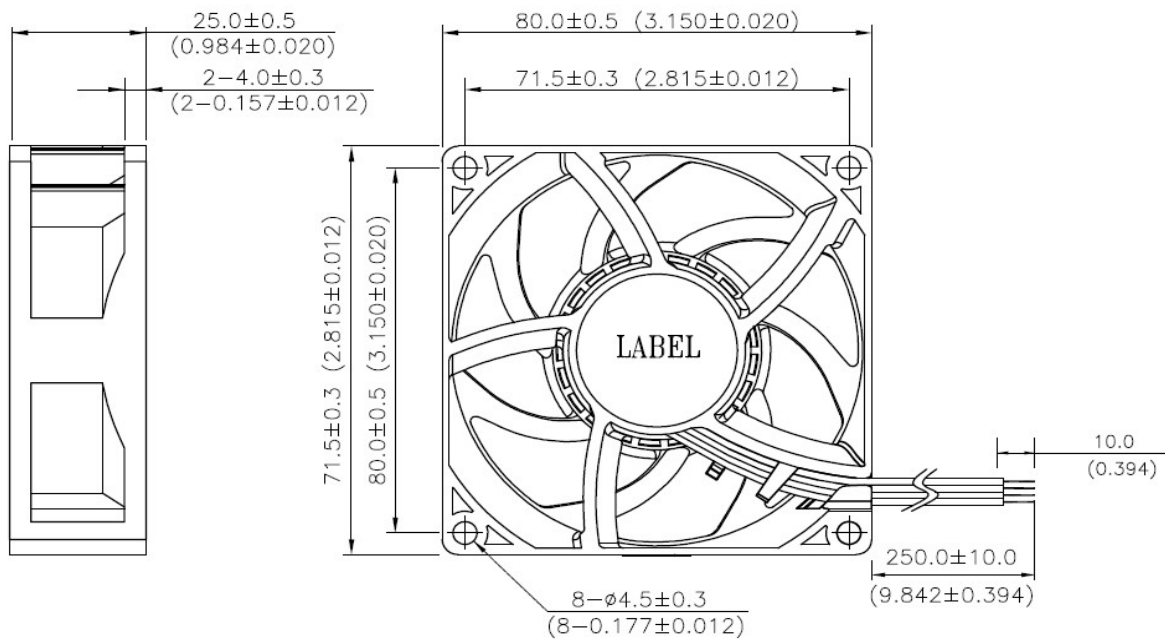
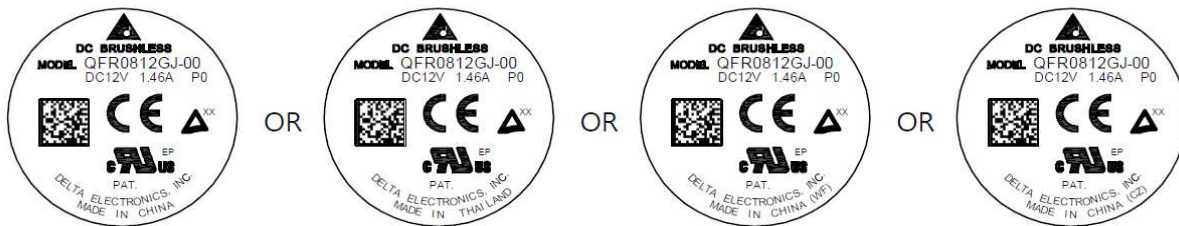
*TEST CONDITION: INPUT VOLTAGE-----OPERATION VOLTAGE
TEMPERATURE-----ROOM TEMPERATURE
HUMIDITY-----65%RH

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9. DIMENSION DRAWING:

LABEL:



NOTES:

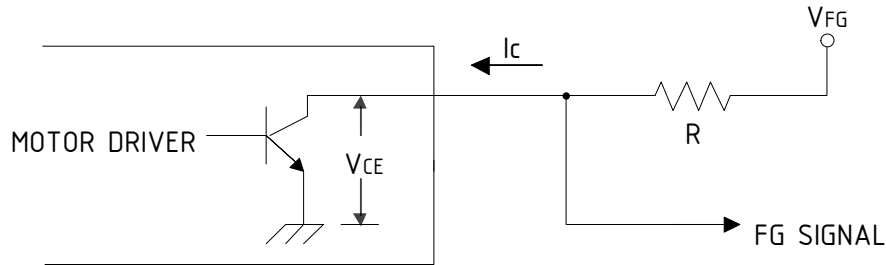
1. THIS PRODUCT IS ROHS COMPLIANT.
2. LEAD WIRE: PVC WIRE UL1007 AWG#24
BLACK WIRE-----(-)
RED WIRE-----(+)
BLUE WIRE----- (F00)
YELLOW WIRE----- (PWM)

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10. FREQUENCY GENERATOR (FG) SIGNAL:

10-1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



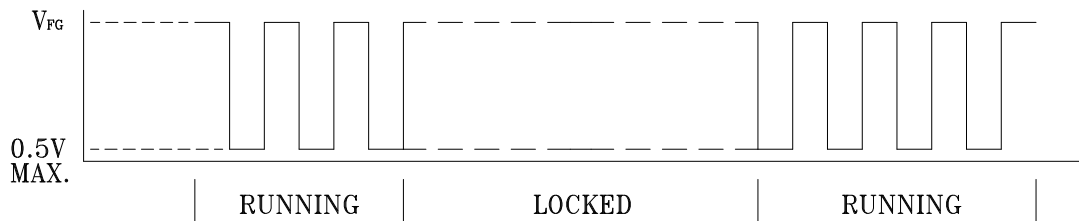
CAUTION:

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

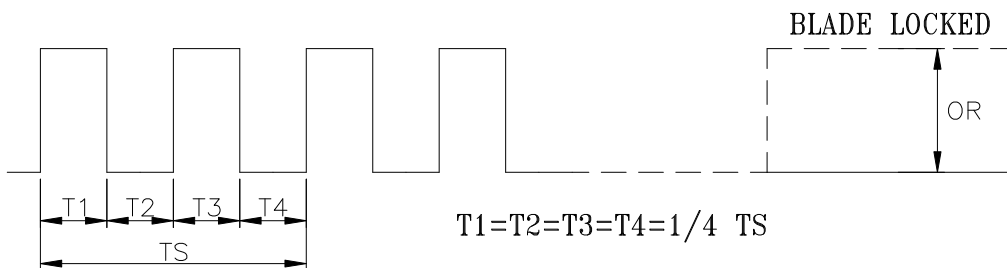
10-2. SPECIFICATION:

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

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

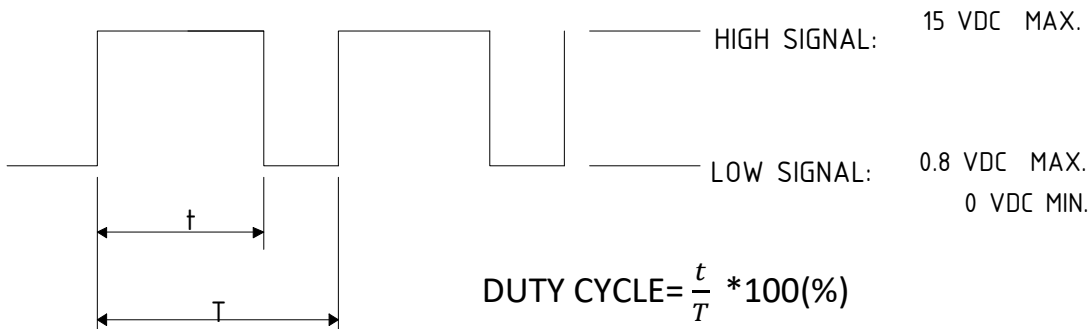
*4 POLES

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11. PWM CONTROL SIGNAL:

SIGNAL VOLTAGE RANGE: 0~15 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.
- * THE FAN WILL BE ABLE TO START FROM A DEAD STOP WHILE PWM SET AT 25KHZ 20% DUTY CYCLE & RATED VOLTAGE .

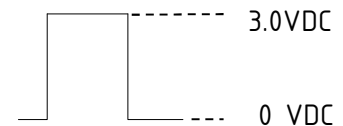
12. SPEED VS PWM CONTROL SIGNAL:

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

*PWM SIGNAL

PWM FREQUENCY = 25KHz

DUTY CYCLE (%)	SPEED (R.P.M.)	CURRENT (A) (AVG.)
100	8000±10%	0.97
0	0	0.02



13. PWM CONTROL LEAD WIRE INPUT IMPEDANCE:

