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PRELIMINARY SPEC

Customer:

Description: DC FAN

Customer P/N: REV:

Delta Model NO.: TDA1748AG-SP00

Smample Rev: 00 Issue NO:

Sample Issue Date: APRIL.30.2010 Quantity:

1. SCOPE:

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

2. CHARACTERISTICS:

ITEM	DESCRIPTION
RATED VOLTAGE	48 VDC
OPERATION VOLTAGE	36 - 60 VDC
INPUT CURRENT	1.85 (MAX. 2.22) A
INPUT POWER	88.80 (MAX. 106.56) W
SPEED	5400 R.P.M. ±10%
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	11.72 (MIN. 10.584) M ³ /MIN. 413.893(MIN. 372.503) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	71.815 (MIN. 58.170) mmH ₂ O 2.827 (MIN. 2.289) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	71.0 (MAX. 75.0) dB-A
INSULATION TYPE	UL: CLASS A

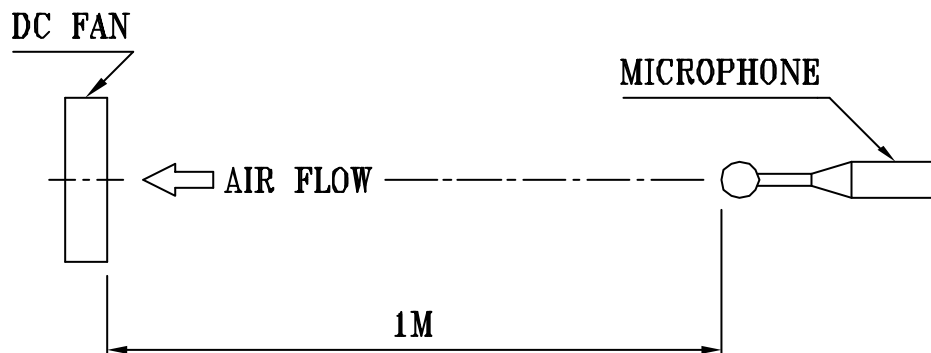
(continued)

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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	80,000 HOURS CONTINOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLATE SIDE
LOCKED ROTOR SHUT DOWN	THE CURRENT WILL SHUT DOWN, WHEN LOCKING ROTOR.
LEAD WIRE	UL 1007 AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) BLUE WIRE (FOO) YELLOW WIRE (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.

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3. MECHANICAL:

- 3-1. DIMENSIONS ----- SEE DIMENSIONS DRAWING
- 3-2. FRAME ----- DIE-CAST ALUMINUM
- 3-3. IMPELLER ----- PLASTIC UL: 94V-0
- 3-4. BEARING SYSTEM ----- TWO BALL BEARINGS
- 3-5. WEIGHT ----- 800 GRAMS

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.

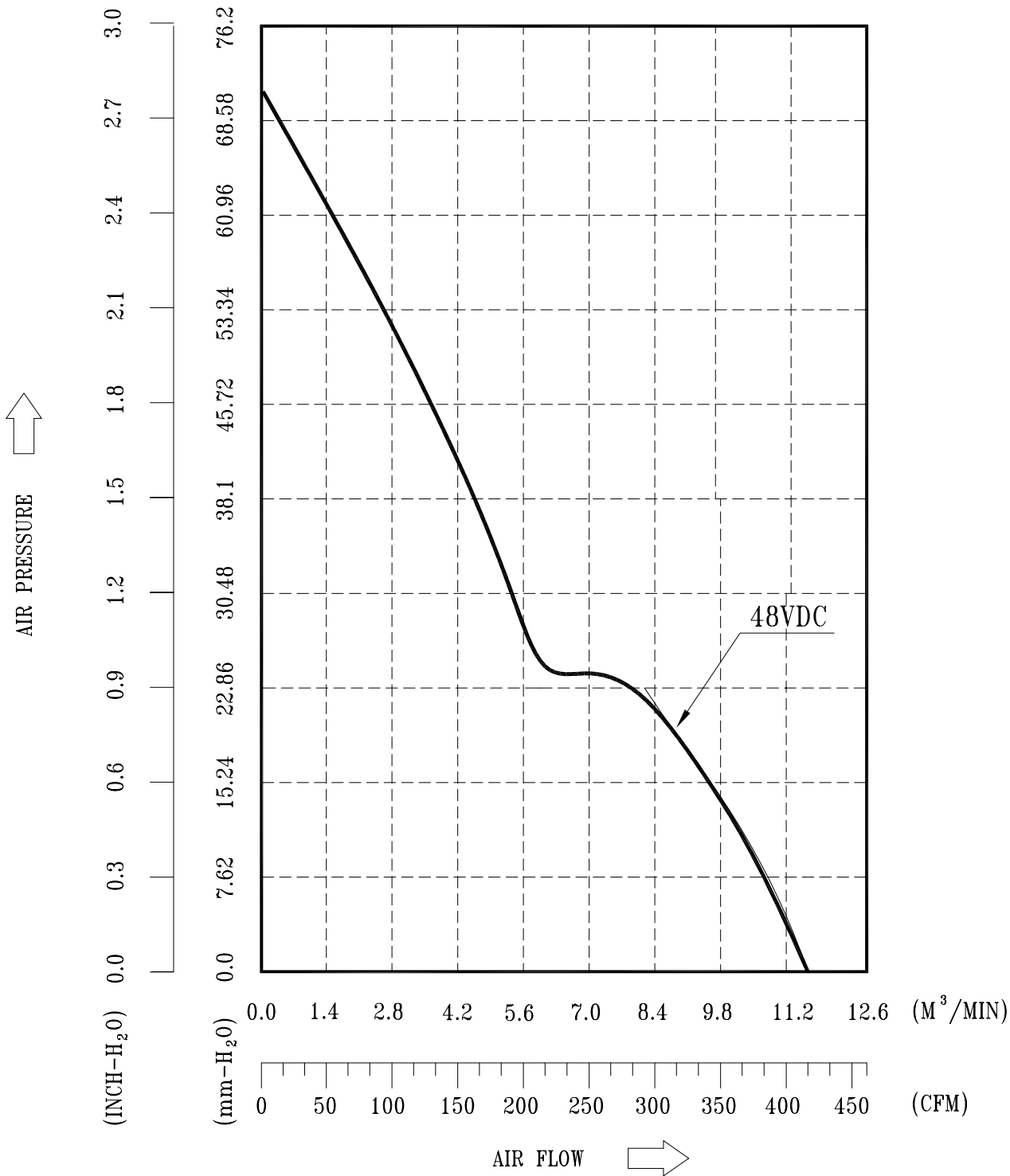
7. PRODUCTION LOCATION

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

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8. P & Q CURVE:



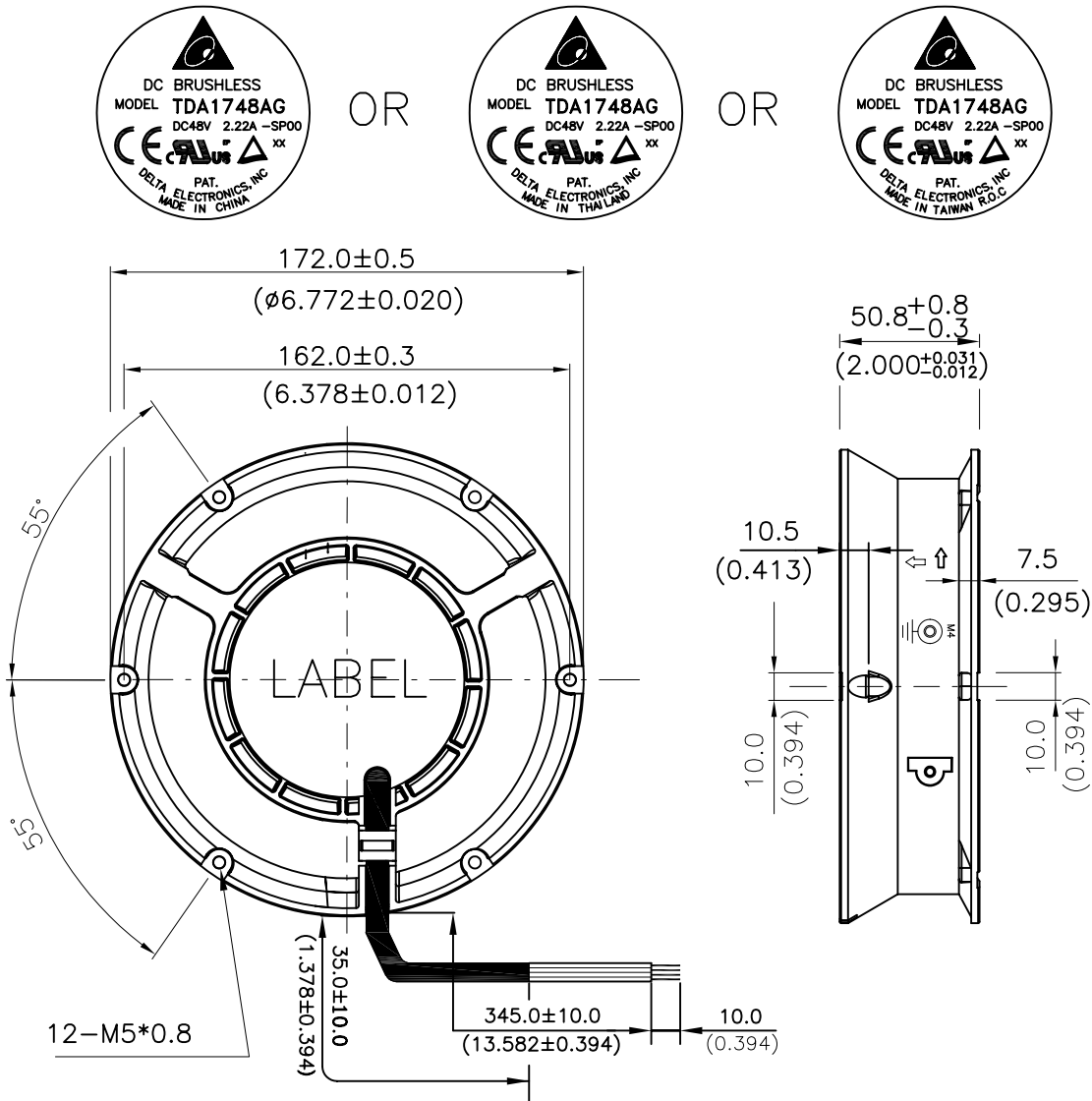
* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH

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9.DIMENSIONS DRAWING

LABEL:



NOTE :

UNIT: MM(INCH)

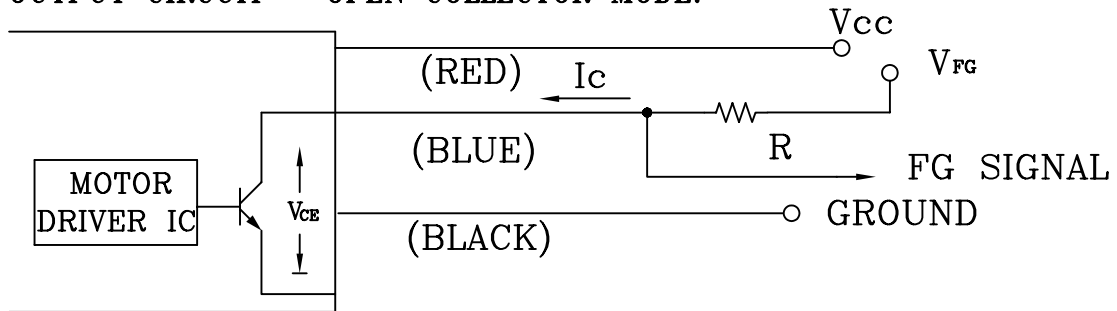
1. LEAD WIRE UL 1007 AWG #24
BLACK WIRE NEGATIVE ----- (-)
RED WIRE POSITIVE ----- (+)
BLUE WIRE FREQUENCY ----- (F00)
YELLOW WIRE SPEED CONTROL ----- (PWM)
2. PVC TUBE: $\phi 4.0 \times 0.55$, BLACK, 105°C 600V UL, CSA APPROVED
3. THIS PRODUCT IS RoHS COMPLIANT

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10. ROTATION DETECT (FG) SIGNAL:

1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



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

2. SPECIFICATION:

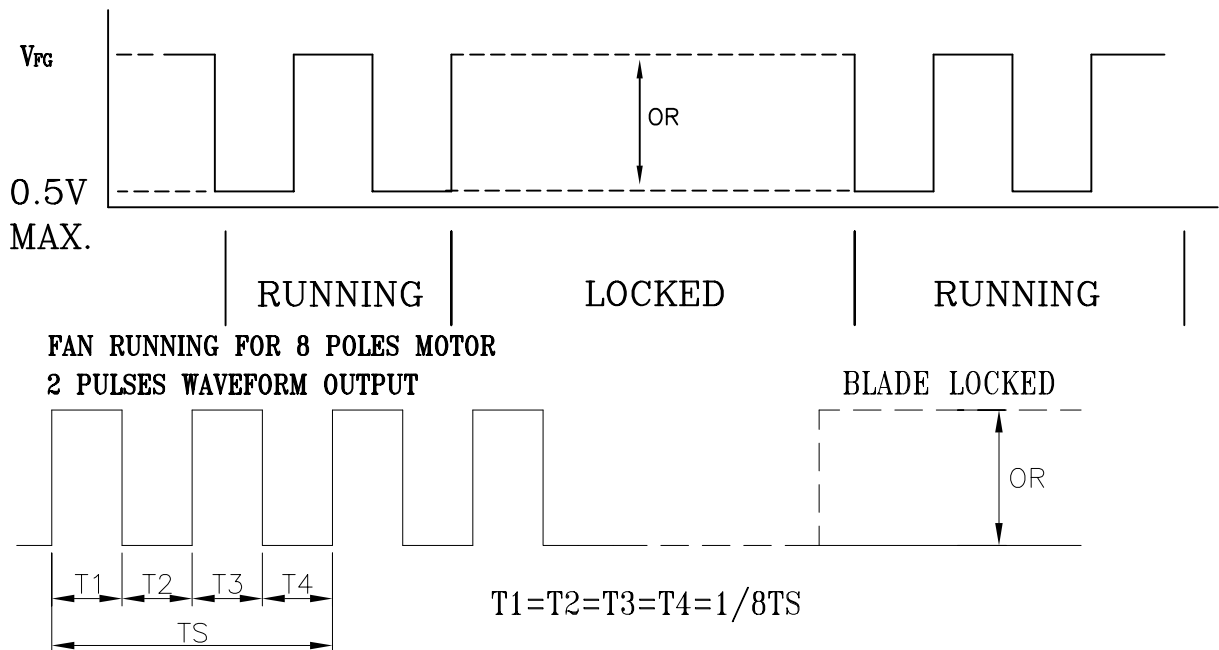
$$V_{CE(sat)} = 0.5V \text{ MAX}$$

$$V_{CC} = 60V \text{ MAX}$$

$$I_c = 10mA \text{ MAX.}$$

$$R \geq V_{CC} / I_c$$

3. FREQUENCY GENERATOR WAVEFORM:



N=R.P.M

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

*VOLTAGE LEVEL AFTER BLADE LOCKED

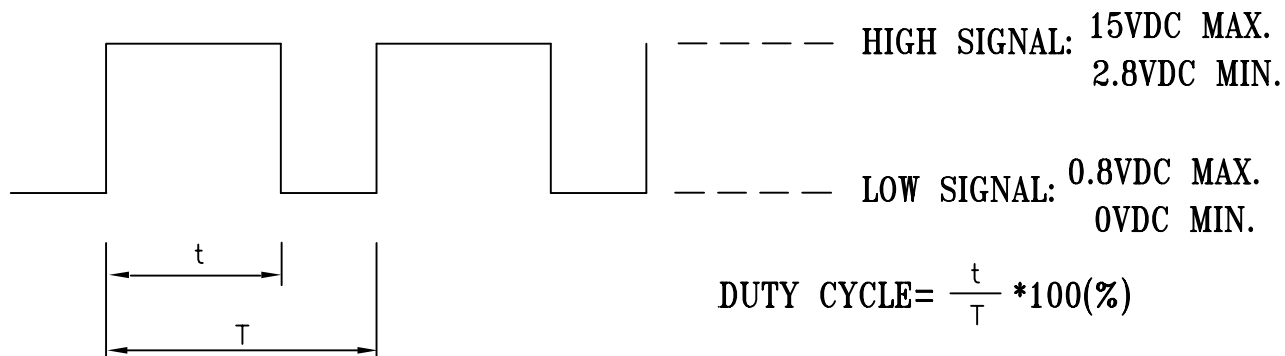
*8 POLES

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11. PWM CONTROL SIGNAL:

SIGNAL VOLTAGE RANGE: 0~15VDC



- THE PREFERRED OPERATING POINT FOR THE FAN IS 25 KHZ.
- AT 100% DUTY CYCLE,THE ROTOR WILL SPIN AT MINIMUM SPEED.
- AT 0% DUTY CYCLE,THE ROTOR WILL STOP.
- WITH CONTROL SIGNAL LEAD DISCONNECTED,THE FAN WILL SPIN AT MAXIMUM SPEED.

12. PWM DUTY VS SPEED (RPM) :

PWM DUTY	SPEED R.P.M. (REF.)	CURRENT (A)
100%	5400±8%	1.85
75%	4200±10%	1.05
50%	2850±10%	0.50
25%	1450±200	0.18
0%	0	0