

SPECIFICATION FOR APPROVAL

Customer: COMTECH

 Description: DC FAN

 Customer P/N: REV:

 Delta Model NO.: THA1224BE-CH50

 Sample Rev: ENGINEER TEMP SPEC_X01 Issue NO:

 Sample Issue Date: OCT.18.2012 Quantity:

1. SCOPE:

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

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	24 VDC
OPERATION VOLTAGE	18 - 27 VDC
INPUT CURRENT	4.50 (MAX. 5.40) A
INPUT POWER	108.00 (MAX. 129.60) W
SPEED	7600 ± 10% R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	9.010 (MIN. 8.109) M ³ /MIN. 318.19 (MIN. 286.37) CFM
MAX.AIR PRESSURE (AT ZERO AIRFLOW)	78.50 (MIN. 63.59) mmH ₂ O 3.091 (MIN. 2.504) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	72.0 (MAX. 76.0) dB-A
INSULATION TYPE	UL: CLASS A

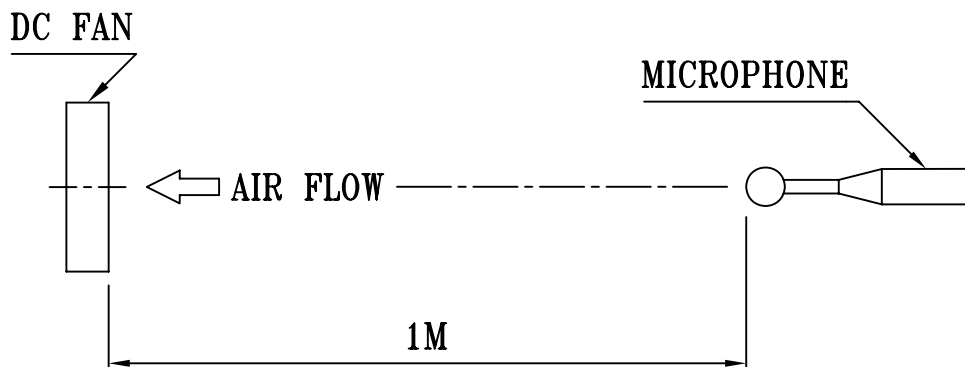
(continued)

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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 (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 SHUT DOWN	THE CURRENT WILL SHUT DOWN, WHEN LOCKING ROTOR
LEAD WIRE	UL 1007 -F- AWG #22 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) UL 1007 -F- AWG #24 BLUE WIRE (-F00) YELLOW WIRE (-PWM)

- NOTES: 1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.
2. STANDARD AIR PROPERTY IS AIR AT (Td) 20°C TEMPERATURE, (RH) 50% 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.

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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 ----- 500 GRAMS
- 3-6. ROTOR WEIGHT ----- 140 GRAMS
- 3-7. INGRESS PROTECTION RATING ----- IP55

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE ----- -10 TO +70 DEGREE C
- 4-2. STORAGE TEMPERATURE ----- -40 TO +70 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.

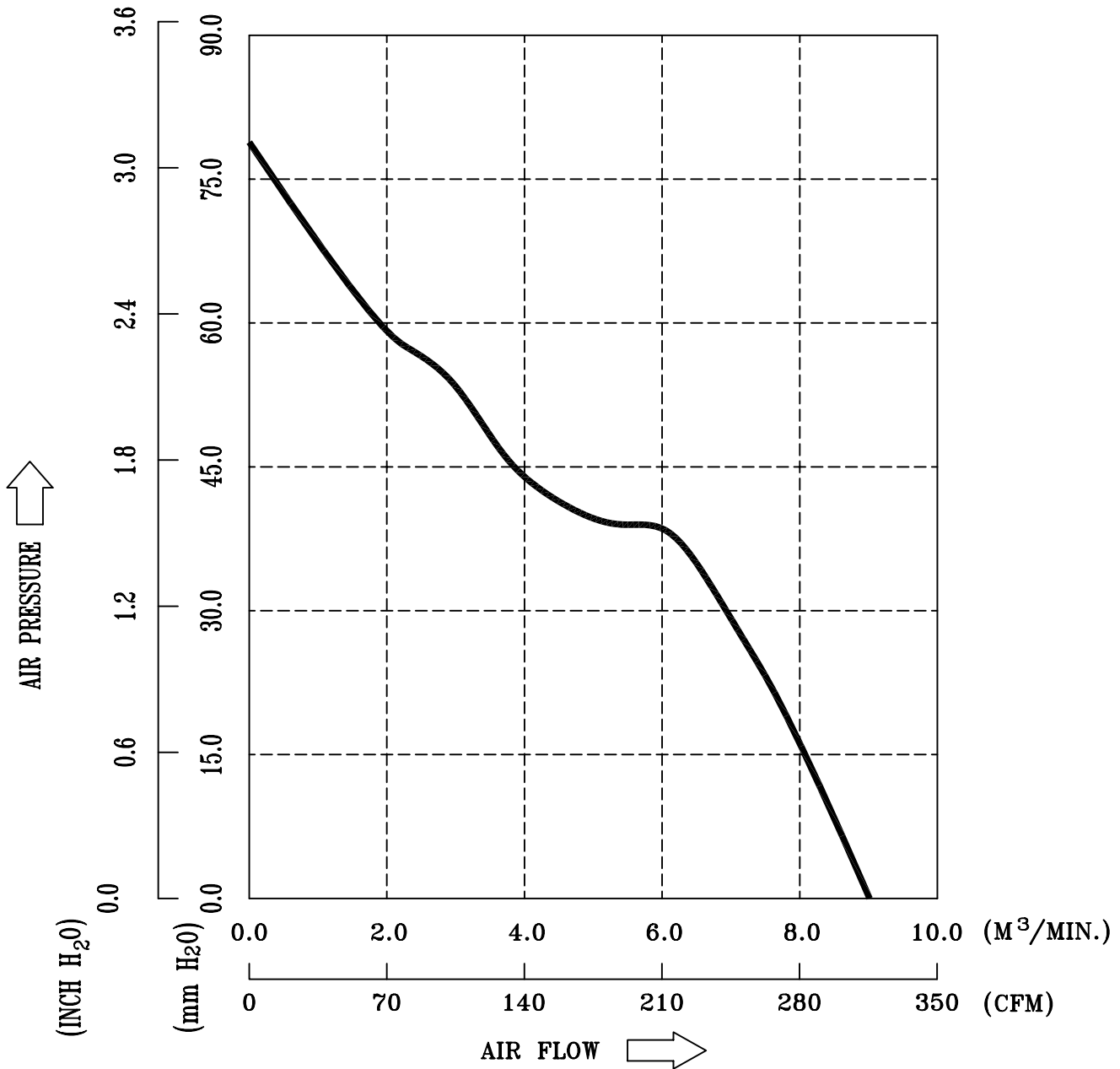
7. PRODUCTION LOCATION

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

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8. P & Q CURVE:



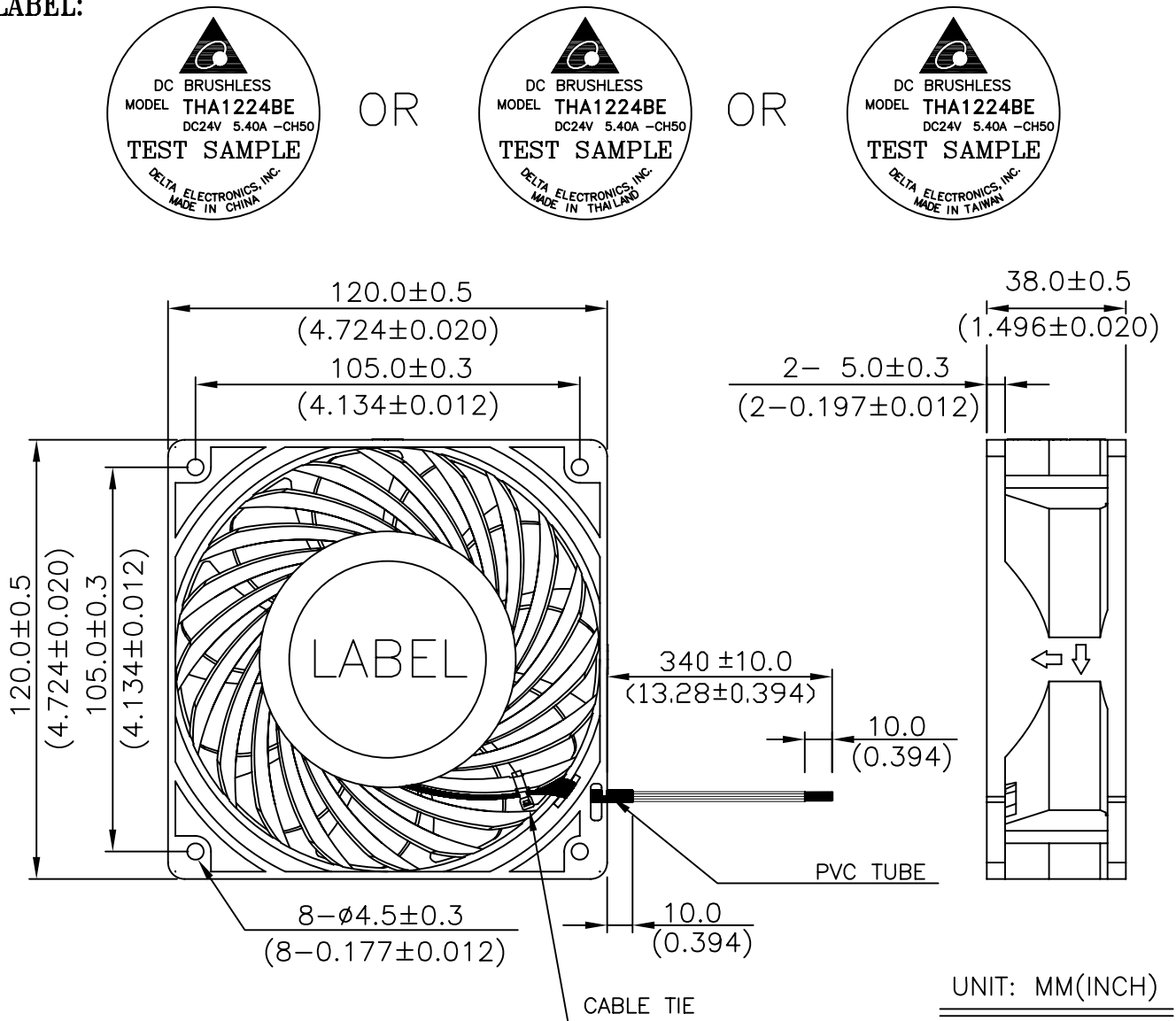
* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH

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9. DIMENSIONS DRAWING

LABEL:



1. THIS PRODUCT IS RoHS COMPLIANT

2. LEAD WIRE:

UL 1007 AWG #22

BLACK WIRE NEGATIVE(-)

RED WIRE POSITIVE(+)

UL 1007 AWG #24

BLUE WIRE (F00)

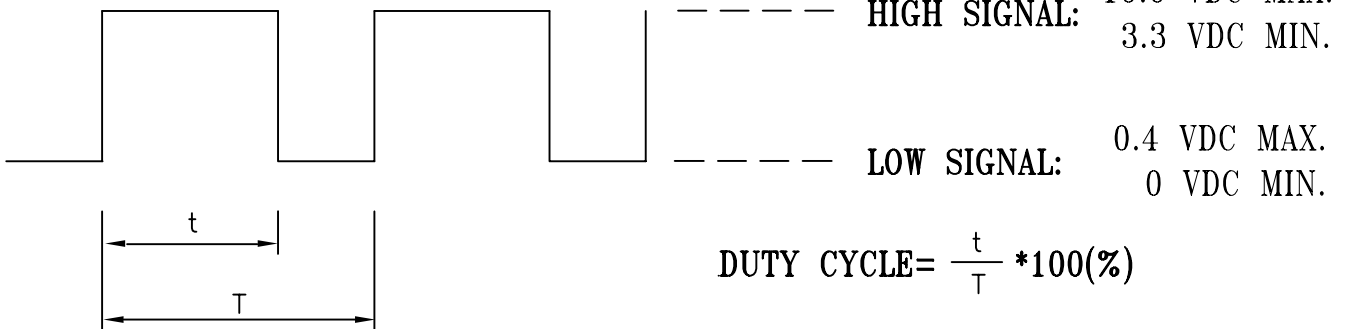
YELLOW WIRE (PWM)

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11. PWM CONTROL SIGNAL:

SIGNAL VOLTAGE RANGE: 0~10VDC



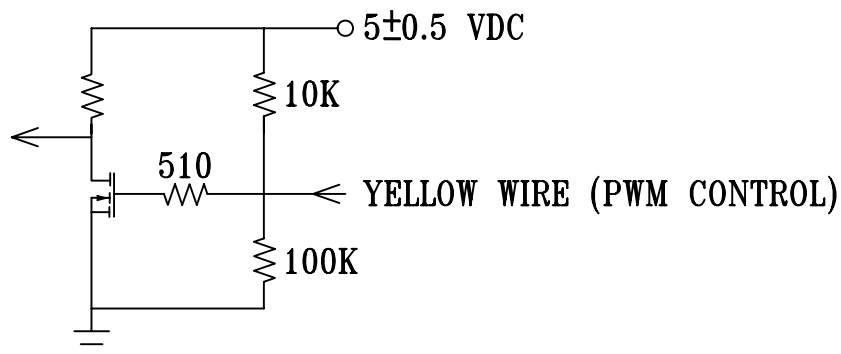
- THE FREQUENCY FOR CONTROL SIGNAL OF THE FAN SHALL BE ABLE TO ACCEPT AT 15KHZ ~ 25KHZ(REF.) WITH DIFFERENT SPEED PERFORMANCE.
- THE PREFERRED OPERATING POINT FOR THE FAN IS 20K HZ.
- AT 100% DUTY CYCLE & 24VDC,THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- AT 0% DUTY CYCLE & 24VDC,THE ROTOR WILL SPIN AT STOP.
- WITH CONTROL SIGNAL LEAD DISCONNECTED,THE FAN WILL SPIN AT MAXIMUM SPEED.
- AT DC24V ,20KHZ ,30% DUTY CYCLE ,THE FAN WILL BE ABLE TO START FROM A DEAD STOP .

12. SPEED VS PWM CONTROL SIGNAL:

(AT 24VDC ; PWM FREQUENCY=20KHZ ; TEMP.: 25 DEG.C)

DUTY CYCLE (%)	SPEED R.P.M. (REF.)	CURRENT (A) TYP.
100	7600 ± 10%	4.50
50	4450 ± 10%	0.96
0	0	0.03

13. PWM CONTROL LEAD WIRE INPUT IMPEDANCE:



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