



SPECIFICATION FOR APPROVAL

Customer. _____

Description. DC BLOWER

Part No. _____ REV. _____

Delta Model No. TCA1048AB0C REV. 02

Sample Issue No. _____

Sample Issue Date. AUG.11 2016

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, SHANG YING ROAD, KUEI SAN INDUSTRIAL ZONE TAOYUAN
SHIEN, TAIWAN, R.O.C.

TEL:886-(0)3-3591968

FAX:886-(0)3-3591991

DELTA ELECTRONICS, INC.
252, SHANG YING ROAD, KUEI SAN
TAOYUAN HSIEN 333, TAIWAN, R. O. C.

TEL : 886-(0)3-3591968
FAX : 886-(0)3-3591991

STATEMENT OF DEVIATION

<input checked="" type="checkbox"/> NONE
<input type="checkbox"/> DESCRIPTION :

DELTA ELECTRONICS, INC.
 252, SHANG YING ROAD, KUEI SAN
 TAOYUAN HSIEN 333, TAIWAN , R.O.C.

TEL : 886-(0)3-3591968
 FAX : 886-(0)3-3591991

SPECIFICATION FOR APPROVAL

Customer:

Description:	DC BLOWER		
Customer P/N:		REV:	
Delta Model NO.:	TCA1048AB0C	Delta Safety Model No:	TCA1048A
Smample Rev:	02	Issue NO:	
Sample Issue Date:	AUG.11 2016	Quantity:	

1. SCOPE:

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

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	48.0 VDC
OPERATION VOLTAGE	36.0-60.0 VDC
INPUT CURRENT (AVG)	0.39 (MAX. 0.47) A (SAFETY CURRENT ON LABEL: 0.47A)
INPUT POWER (AVG)	18.72 (MAX. 22.56) W
SPEED	6700±10% R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	1.945 (MIN. 1.751) M ³ /MIN. 68.67 (MIN. 61.80) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	48.12 (MIN. 38.98) mmH ₂ O 1.895 (MIN. 1.535) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	65.0 (MAX. 69.0) dB-A
INSULATION TYPE	UL:CLASS A

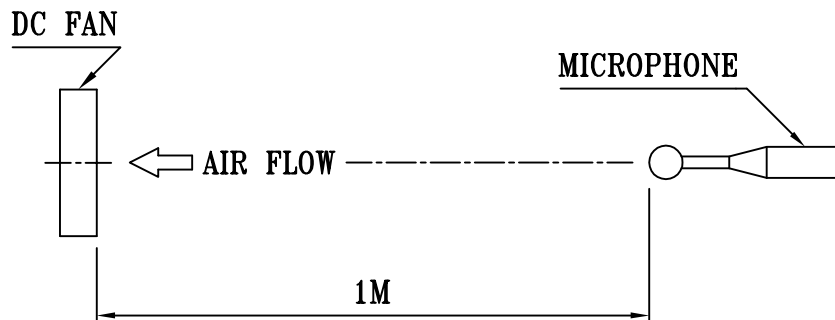
(continued)

PART NO:

DELTA MODEL: TCA1048AB0C

INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN PILLOW AND (+) TERMINAL)
DIELECTRIC STRENGTH	5 mA MAX. AT 500 VAC 50/60 Hz ONE MINUTE, (BETWEEN PILLOW AND (+) TERMINAL)
LIFE EXPECTANCE (L10) AT LABEL VOLTAGE	70,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	COUNTER CLOCKWISE VIEW FROM NAME PLATE SIDE

- 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 ANECHOIC CHAMBER WITH B & K SOUND LEVEL METER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

PART NO:

DELTA MODEL: TCA1048AB0C

3. MECHANICAL:

- 3-1. DIMENSIONS ----- SEE DIMENSIONS DRAWING
- 3-2. PILLOW ----- ALUMINUM
- 3-3. IMPELLER ----- PLASTIC UL: 94V-0
- 3-4. BEARING SYSTEM ----- TWO BALL BEARINGS
- 3-5. WEIGHT ----- 136 GRAMS(REF.)
- 3-6. ROTOR WEIGHT ----- 64 GRAMS(REF.)
- 3-7. INGRESS PROTECTION ----- IP55

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, PBB0s, CFCs, PBBEs, PBDPEs AND HCFCs.

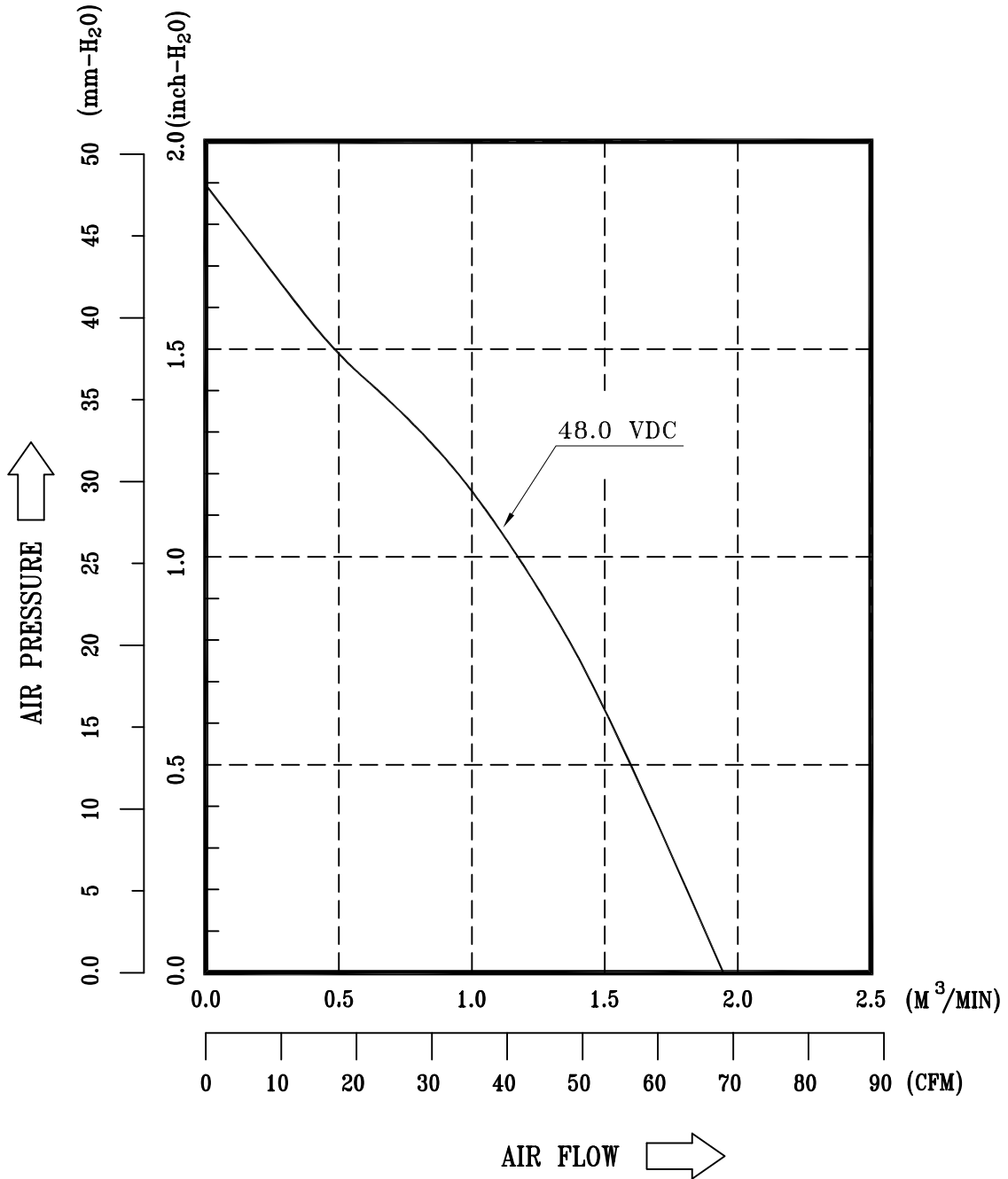
7. PRODUCTION LOCATION

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

PART NO:

DELTA MODEL: TCA1048AB0C

8. P & Q CURVE:



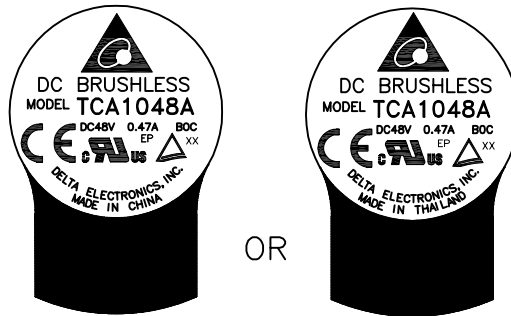
* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH

PART NO:

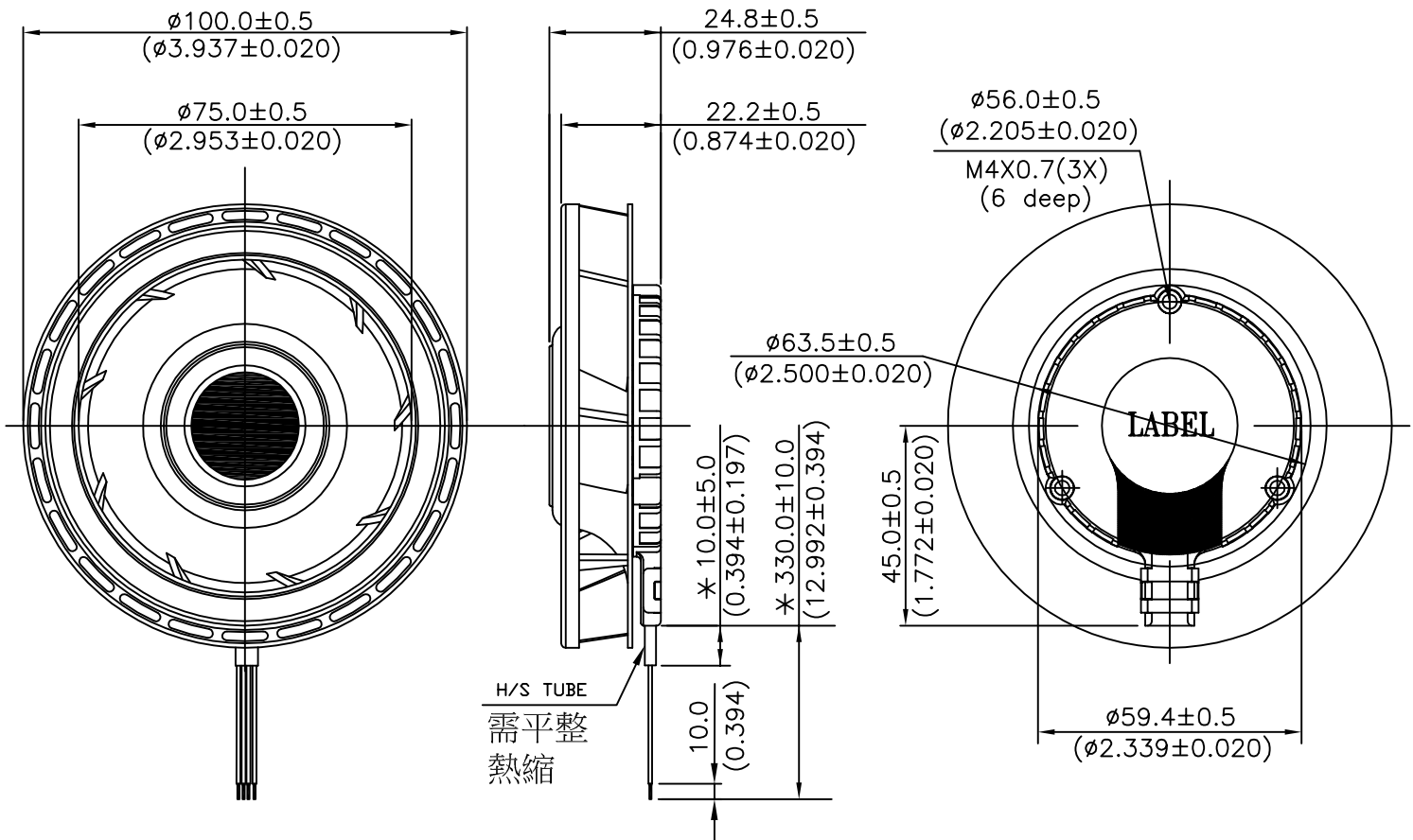
DELTA MODEL: TCA1048AB0C

9. DIMENSION DRAWING:

LABEL:



OR



UNIT: mm(INCH)

* NOTES:

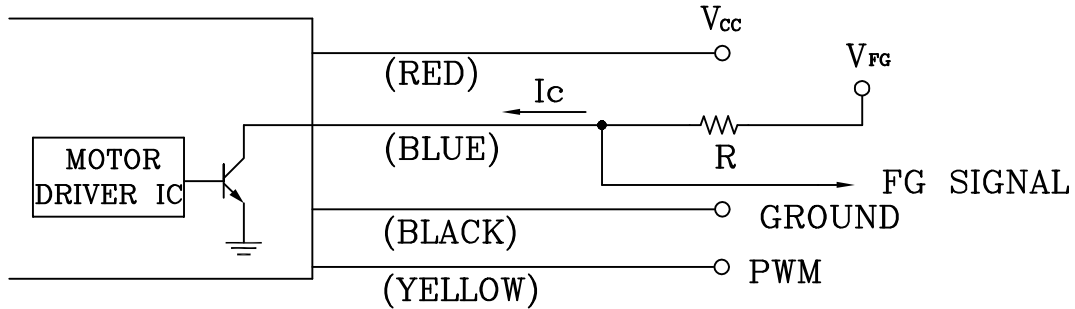
1. LEAD WIRE UL:1007 AWG#26
RED WIRE ----(+)
YELLOW WIRE ----(PWM)
BLUE WIRE ----(F00)
BLACK WIRE ----(-)
2. H/S TUBE: T4.0*0.25 125°C 600V BLACK UL, CSA APPROVED.
3. THIS PRODUCT IS RoHS COMPLIANT
4. ADD LABEL P/N: 3266117400 STICK THE LABEL ON IMPELLER HUB SMOOTHLY,CASE CAN NOT EXPOSE OUTSIDE.

PART NO:

DELTA MODEL: TCA1048AB0C

10. FREQUENCY GENERATOR (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:

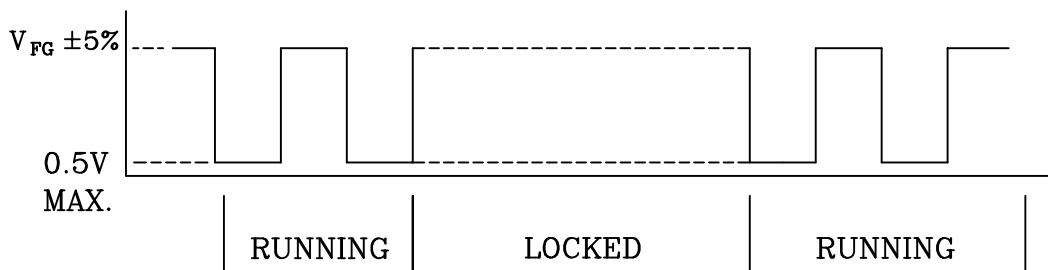
$$V_{CE}(\text{sat}) = 0.5V \text{ MAX.}$$

$$V_{FG} = 60.0VDC \text{ MAX.}$$

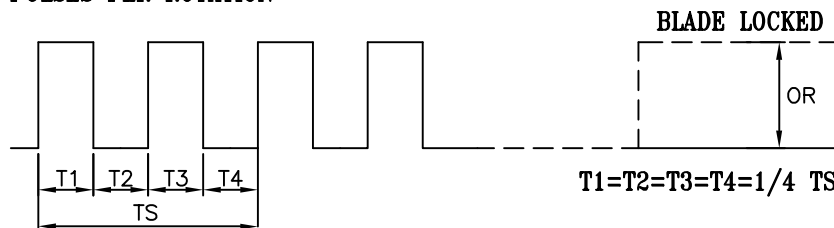
$$I_c = 5mA \text{ MAX.}$$

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

3. FREQUENCY GENERATOR WAVEFORM:



2 PULSES PER ROTATION



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

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

*VOLTAGE LEVEL AFTER BLADE LOCKED

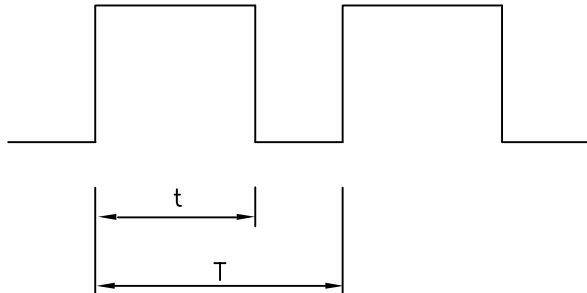
*2 PULSES

PART NO:

DELTA MODEL: TCA1048AB0C

11. PWM CONTROL SIGNAL:(TEST AT RATED VOLTAGE ; 25 DEGREE C)

SIGNAL VOLTAGE RANGE: 0~10VDC



----- HIGH SIGNAL: 10.0 VDC MAX.
3.3 VDC MIN.

----- LOW SIGNAL: 0.4 VDC MAX.
0 VDC MIN.

$$\text{DUTY CYCLE} = \frac{t}{T} * 100(\%)$$

- THE FREQUENCY FOR CONTROL SIGNAL OF THE FAN SHALL BE ABLE TO ACCEPT A 600HZ~30K HZ. WITH DIFFERENT SPEED PERFORMANCE.
- THE PREFERRED OPERATING POINT FOR THE FAN IS 1 KHZ.
- AT 48V % 100% DUTY CYCLE,THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- AT 48V % 0% DUTY CYCLE,THE ROTOR WILL STOP.
- WITH CONTROL SIGNAL LEAD DISCONNECTED,THE FAN WILL SPIN AT MAXIMUM SPEED.
- AT DC 48V 1KHZ 25% DUTY CYCLE ,THE FAN WILL BE ABLE TO START FROM A DEAD STOP .

12. SPEED VS PWM CONTROL SIGNAL: (AT RATED VOLTAGE ; 25 DEGREE C ; PWM SIGNAL WITH 5 VDC TTL OR CMOS LEVELS & 1 KHZ)

DUTY CYCLE (%)	SPEED R.P.M. (REF.)	CURRENT (A) TYP.
100	6700±10%	0.39
0	0	0.02

13. PWM CONTROL LEAD WIRE INPUT IMPEDANCE:

