



## SPECIFICATION FOR APPROVAL

Customer \_\_\_\_\_

Description DC FAN

Part No. \_\_\_\_\_ REV. \_\_\_\_\_

Delta Model No. AFC0612DE-AF00 REV. 01

Sample Issue No. \_\_\_\_\_

Sample Issue Date MAY.15.2007

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

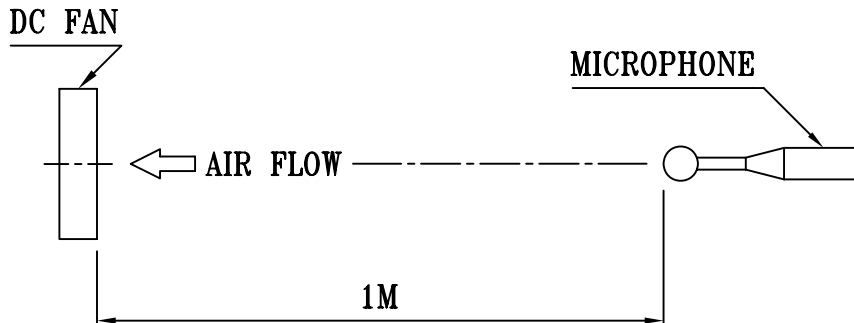


PART NO:

DELTA MODEL: AFC0612DE-AF00

INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL)
DIELECTRIC STRENGTH	5 mA MAX. AT 500 VAC 60 Hz ONE MINUTE, (BETWEEN FRAME AND (+) TERMINAL)
EXTERNAL COVER	OPEN TYPE
LIFE EXPECTANCE	70,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLATE SIDE
OVER CURRENT SHUT DOWN	THE CURRENT WILL SHUT DOWN WHEN LOCKING ROTOR.
LEAD WIRE	UL 1061 -F- AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) BLUE WIRE FREQUENCY(-F00) YELLOW WIRE SPEED CONTROL(-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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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

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.

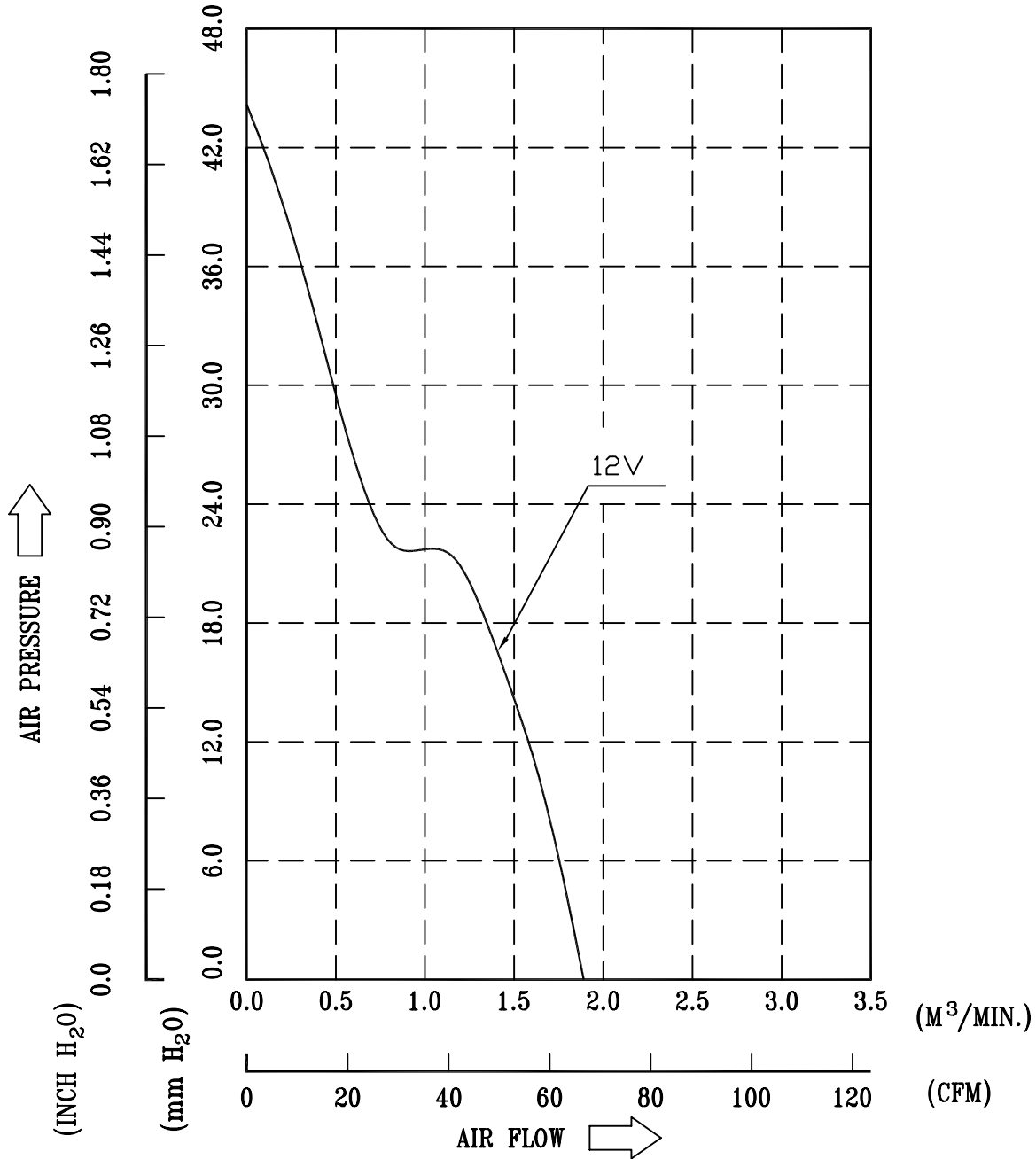
7. PRODUCTION LOCATION

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

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8. P & Q CURVE:



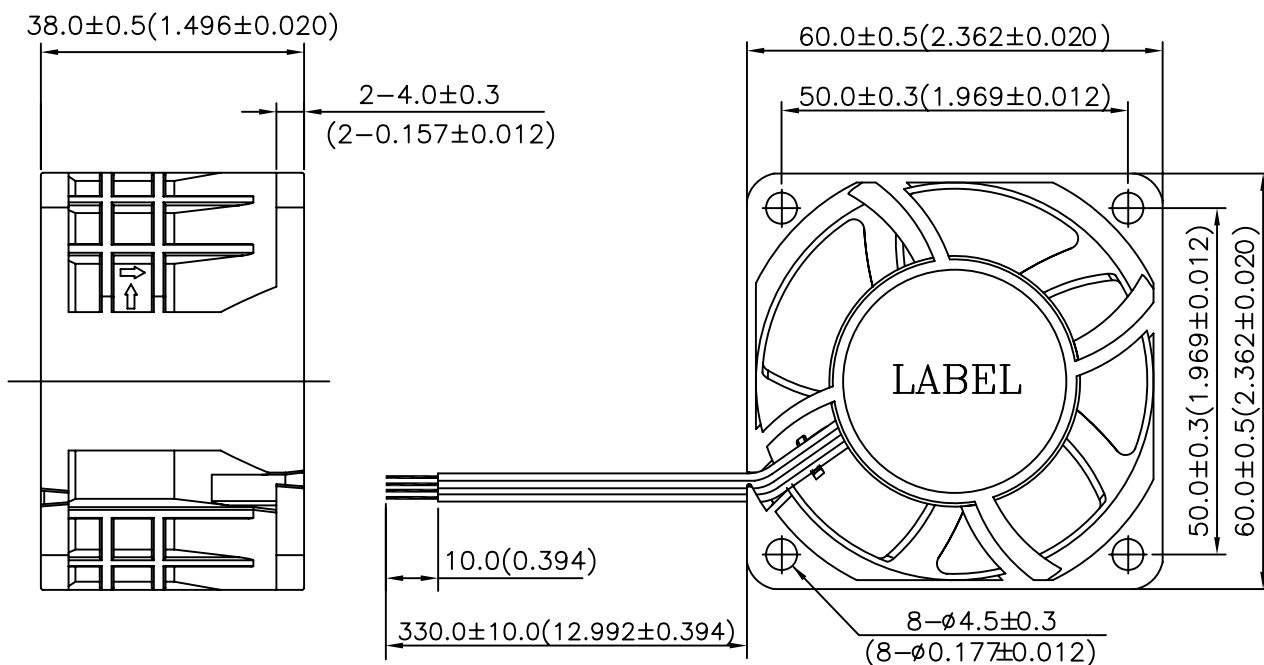
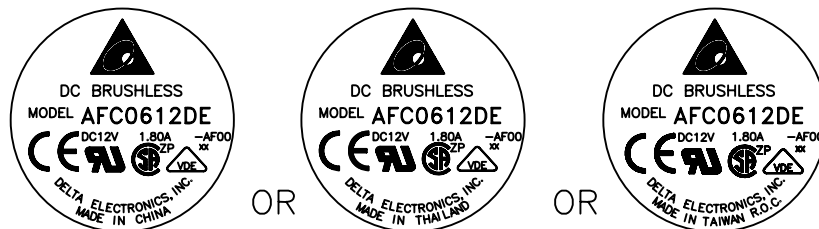
\* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE  
TEMPERATURE ----- ROOM TEMPERATURE  
HUMIDITY ----- 65%RH

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9. DIMENSION DRAWING:

LABEL:



UL 1061 -F- AWG #24  
BLACK WIRE NEGATIVE(-)  
RED WIRE POSITIVE(+)  
BLUE WIRE FREQUENCY(-F00)  
YELLOW WIRE SPEED CONTROL(-PWM)

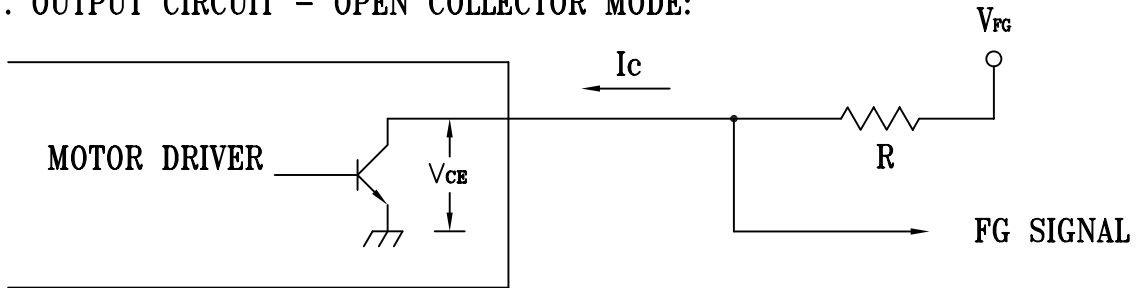
UNIT: mm (INCH)

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10. FREQUENCY GENERATOR (FG) SIGNAL:

1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



CAUTION:

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

2. SPECIFICATION:

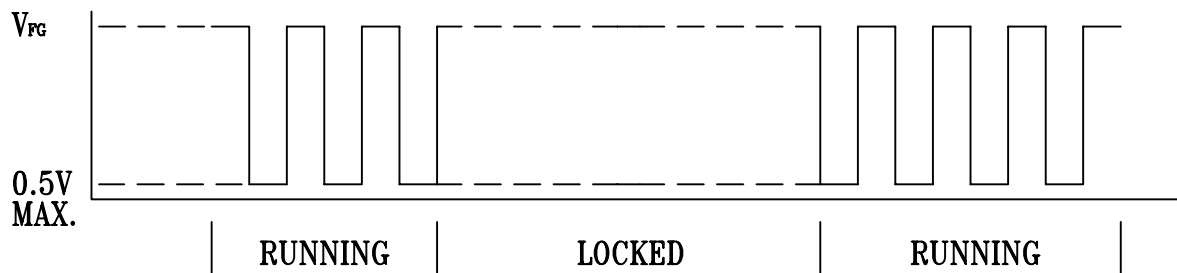
$V_{CE}(\text{sat})=0.5\text{V MAX.}$

$V_{FG} =13.2\text{VDC MAX.}$

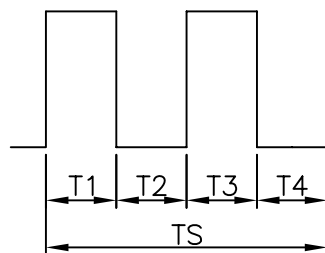
$I_c =5\text{mA MAX.}$

$R \geq V_{FG}/I_c$

3. FREQUENCY GENERATOR WAVEFORM:

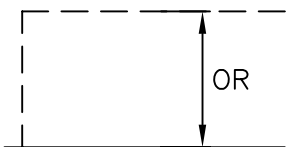


FAN RUNNING FOR 4 POLES



$T1=T2=T3=T4=1/4 TS$

BLADE LOCKED



$N=R.P.M$

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

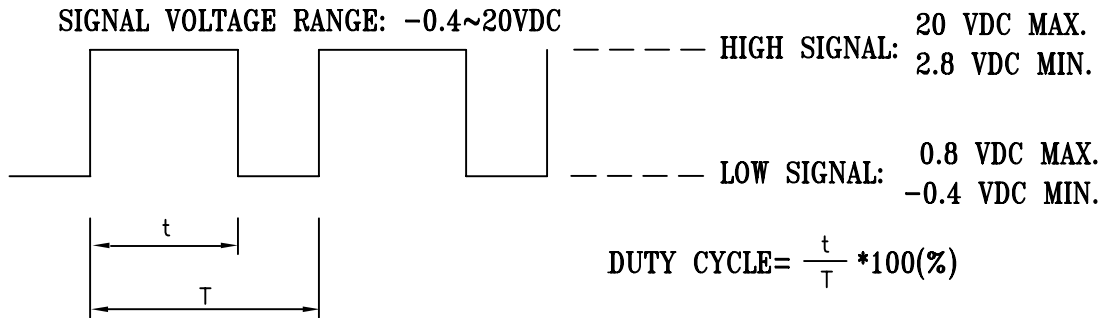
\*VOLTAGE LEVEL AFTER BLADE LOCKED

\*4 POLES

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11. PWM CONTROL SIGNAL:

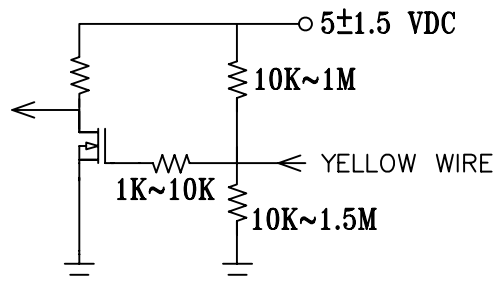


- THE FREQUENCY FOR CONTROL SIGNAL OF THE FAN SHALL BE ABLE TO ACCEPT A 30HZ~300K HZ.
- THE PREFERRED OPERATING POINT FOR THE FAN IS 20K HZ.
- AT 100% DUTY CYCLE,THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- AT 0% DUTY CYCLE,THE ROTOR WILL SPIN AT MINIMUM SPEED.
- WITH CONTROL SIGNAL LEAD DISCONNECTED,THE FAN WILL SPIN AT MAXIMUM SPEED.
- AT 20K HZ 25% DUTY CYCLE ,THE FAN WILL BE ABLE TO START FROM A DEAD STOP .

12. SPEED VS PWM CONTROL SIGNAL: (AT RATED VOLTAGE & PWM FREQUENCY=20KHZ)

DUTY CYCLE (%)	SPEED R.P.M. (REF.)	CURRENT (A) REF.
100	12000	1.50
50	6000	0.35
0	0	0.01

13. PWM CONTROL LEAD WIRE INPUT IMPEDANCE:



- 13-1. THE FAN SPEED WILL DEFAULT TO MAXIMUM WHEN THE SPEED CONTROLL INPUT IS LEFT UNCONNECTED.