



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Application:

Intel LGA1156 Core i7-800(45nm 95W)
 Intel LGA1156 Nehalem(45nm 95W) / Westmere
 (32nm 87W) CPU Lynnfield & Clarkdale sequence
 (Low Profile M/B mounting hole pitch 75x 75mm)

Thermal & Mechanical Spec.:

Thermal performance for 95W & 87W CPU
 HSK Assembly Weight: 252 g (ref.)
 Clipping Force: 15.9 Kgf (ref.)

Component Specification:

1. Heat Sink

Type: Thermal Shrink with Cu Core
 Material: Aluminum A6063 & Copper C1100
 or Equivalent.

Dimension: 90*90*19.05 mm

2. Thermal interface material

 Material: Dow Corning TC-5630 or Equivalent.

3. Fan

(90x90x25 mm with Thermistor & PWM Control)

Rated Voltage: 12 V

Life Time:

Superflo bearing 50000 hrs

Connector:

a. Lead wire: UL 10368 AWG #26, 

pin 1: black wire-----(-)

pin 2: yellow wire-----(+)

pin 3: green wire----- (F00)

pin 4: blue wire----- (PWM)

b. Housing: Molex 47054-1000 or equivalent

c. Terminal: Molex 2759T 08-50-0113 or equivalent

* All readings are typical values at rated voltage.

* Specifications are subject to change without notice

Picture:





APPROVAL SHEET

Customer Name .:

Model Name.:

COOLER

Model Name.:

FHS-A9025S19

Customer Part No.:

Spec Issue Date .:

10/25/2015

Spec Revision :

07

PLEASE SEND ONE COPY OF THIS SPECIFICATION BACK AFTER YOU
SIGNED APPROVAL FOR PRODUCTION PRE-ARRANGMENT.

Approved By:

Date:

Approval	Check	Designer
Alex-Hsia	Charles Chen	Skyler-Huang



Delta Electronics Corp.

REV.	Description	Drawn	Checked	Approved	Issue Date
00	ISSUE SPEC	Skyler-Huang03/19'10	Charles Chen03/19'10	Alex-Hsia 03/19'10	
01	1.The wire is changed from UL 10368 AWG#22 to UL 10368 AWG#26	HIKARU 06/15'11	Charles Chen06/15'11	Alex-Hsia 06/15'11	
02	1.Add RoHS Certification	HIKARU 09/21'11	Charles Chen09/21'11	Alex-Hsia 09/22'11	
03	1. Modify the Package spec 2. Modify Fan label on Page 7 3. Change the Fan P/N	Skyler-Huang07/13'12	Charles Chen07/13'12	Alex-Hsia 07/13'12	
04	1. Modify HSK cross cutting feature on Page 1 &7&10	Skyler-Huang09/03'12	Charles Chen09/03'12	Alex-Hsia 09/03'12	
05	1.Modify the Package spec 2.Change the Fan P/N 3.Updated the Rohs 4.Modify the cable length to 250mm	Skyler-Huang 6/10'13	Charles Chen06/10'13	Alex-Hsia 06/10'13	
06	1.Updated the RoHS	Reek.Li 10/17/'13	Charles Chen10/17/'13	Charles Chen10/17/'13	
07	1. Change TIM from TC-1996 to TC-5630 2. Update TC-5630 RoHS	Skyler.Huang10/25'15	Charles Chen10/25'15	Charles Chen10/25'15	
Description: SAMPLE REVISION CODE LIST					
Part No.					REV
DELTA MODEL : FHS-A9025S19			TOTAL 97 PAGE		07



Delta Electronics Corp.

CONTENTS

Item	Element Description	Page	Note
1	Specification	5	
2	Print	6	
3	Packing Plan	12	
4	Fan Specification	15	
5	RoHS Certification	26	



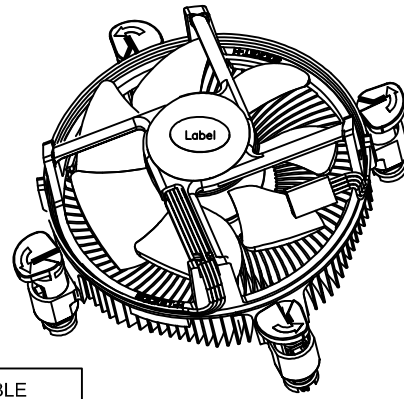
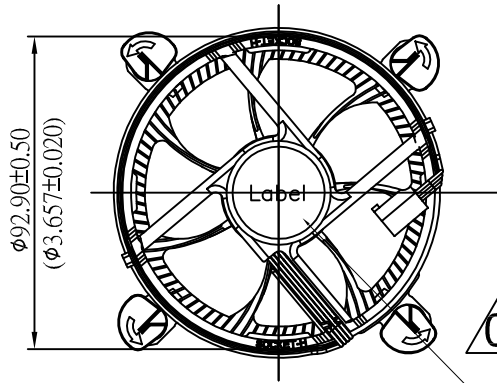
Delta Electronics Corp.

2. PRINT

Assembly Drawing

Parts Drawing

DRAWING:

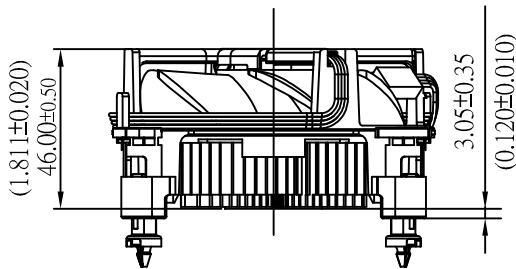


05

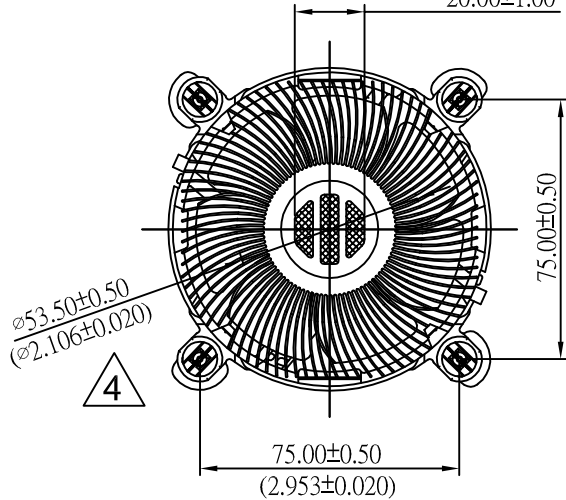
MODIFY THE CABLE LENGTH FROM 360MM TO 250 MM

FAN LABEL P/N:3266799400

3



(0.787 ± 0.039)
 20.00 ± 1.00



4

07

Dow Corning TC-5630 P/N:4021107300

*STENCIL THICKNESS=0.20(TYP.) 0.22(MAX.)

TIM WEIGHT ON HSK MUST BE 112mg+/-25mg

UNIT: $\frac{\text{mm}}{\text{(INCH)}}$



台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

DELTA MODEL:
FHS-A9025S19

Drawn:
Skyler Huang

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CUSTOMER NAME: -----
CUSTOMER P/N: -----

DIMENSIONAL TOLERANCES		HOLES : ±0.05		ANGLES : ±0.5°	
()	()	()	()	()	()
<30	±0.25	DECIMALS	UP~100 ±0.2	250~300 ±0.4	UP~800 ±1.5
>30~100	±0.35	X	100~150 ±0.25	300~350 ±0.45	800~900 ±2.4
>100~300	±0.5	XX	150~200 ±0.3	350~400 ±0.5	900~OVER ±3.1
ABOVE 300	±0.6	XXX	200~250 ±0.35		



Description: PRODUCTION SPEC.
(PHYSICAL DIMENSION)

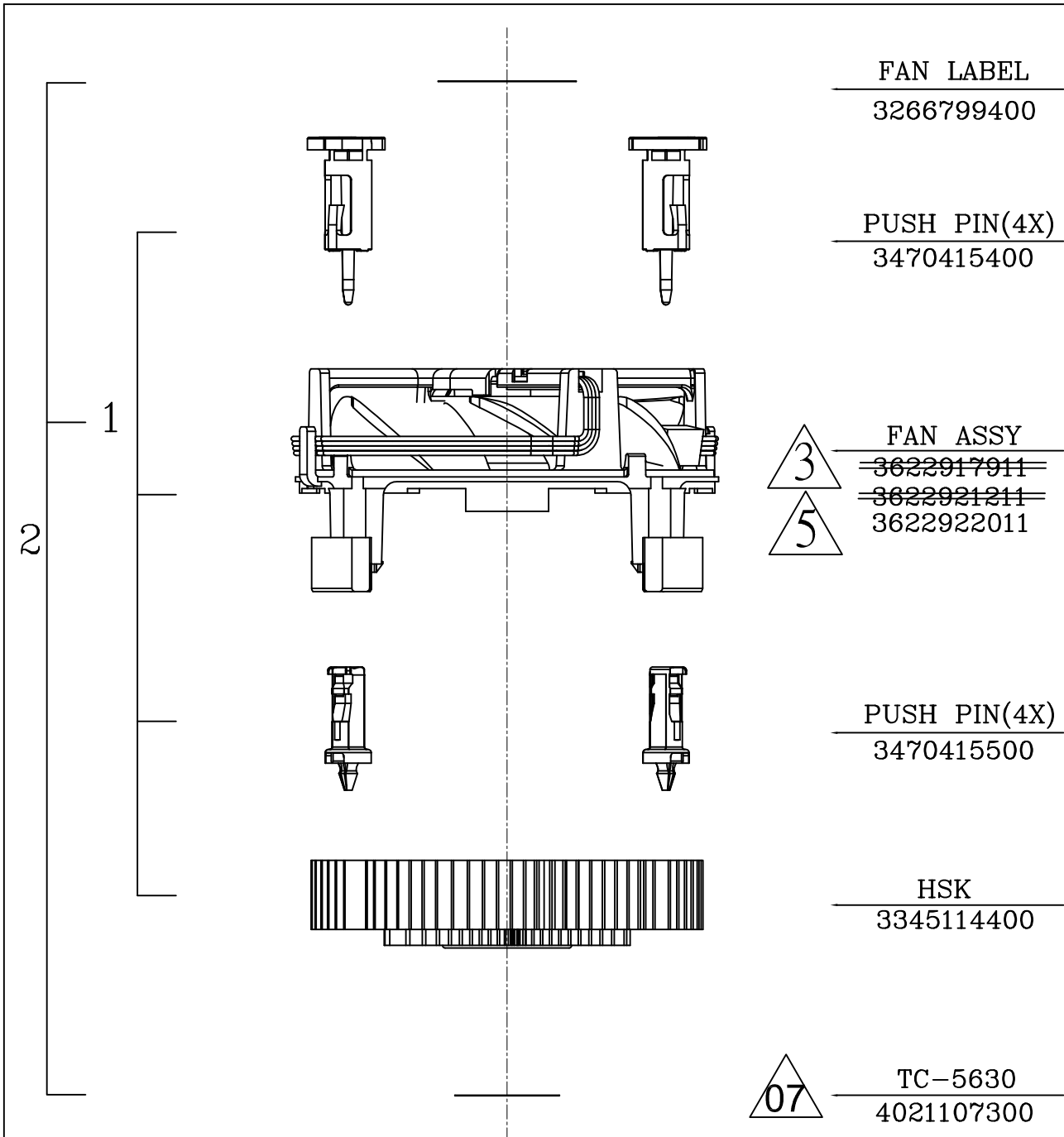
A4
SIZE

Part No.
FHS-A9025S19-PD

REV.

SCALE --- UNIT mm USED ON COOLER

SHEET 1 OF 2 ISSUE DATE:



FAN LABEL
3266799400



PUSH PIN(4X)
3470415400

FAN ASSY
~~3622917911~~
~~3622921211~~
3622922011

PUSH PIN(4X)
3470415500

HSK
3345114400

TC-5630
4021107300

 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	DELTA MODEL: FHS-A9025S19		Drawn: Skyler Huang	
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DIMENSIONAL TOLERANCES () () ()		HOLES : ±0.05 ANGLES : ±0.5° () ()		 Description: PRODUCTION SPEC. (ASSEMBLY ORDER)
<30 ±0.25 DECIMALS UP~100 ±0.2 250~300 ±0.4 UP~800 ±1.5 >30~100 ±0.35 X ±0.3 100~150 ±0.25 300~350 ±0.45 800~900 ±2.4 >100~300 ±0.5 XX ±0.2 150~200 ±0.3 350~400 ±0.5 900~OVER ±3.1 ABOVE 300 ±0.6 XXX ±0.1 200~250 ±0.35		Part No. FHS-A9025S19-AS		
SCALE ---	UNIT mm	USED ON	COOLER	SIZE A4 SHEET 1 OF 1 ISSUE DATE:



Delta Electronics Corp.

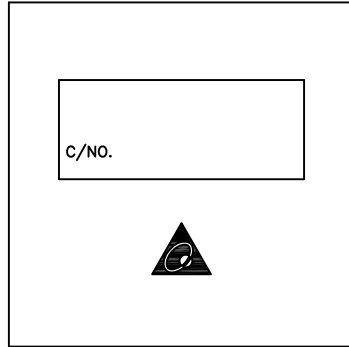
3. PACKING PLAN

Packing Specification

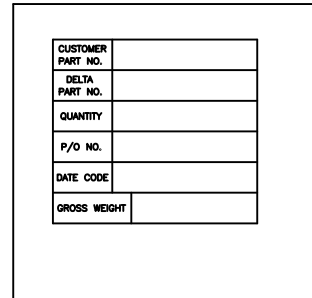
CARTON ILLUSTRATE	SIZE	524(L)*225(w)*475(H)(mm)	PACKING QUANTITY	6LAYERS/CARTON
	MATERIAL	3 LAYERS"AB" FLUTE	CARTON WEIGHT	0.62 kg (REF.)

CARTON OUTSIDE ILLUSTRATE

FRONT



BACK

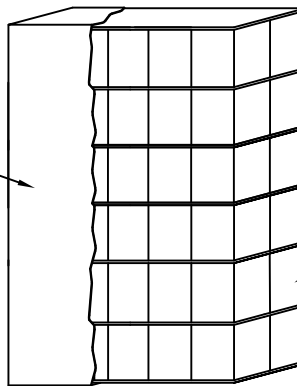


(ONE LABEL PER CARTON)

PET TRAY PACKING ILLUSTRATE	SIZE	94(L)*94(w)*30(H)(mm)	PACKING QUANTITY	1PCS/PET TRAY
	MATERIAL	PET TRAY		
	MATERIAL WEIGHT	6g (REF.)		



CARTON



PAPER PAD(7X)

BOX(60X)



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DELTA ELECTRONICS, INC.

DELTA MODEL:
FHS-A9025S19

Drawn:
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CUSTOMER NAME: -----
CUSTOMER P/N: -----

DIMENSIONAL TOLERANCES		HOLES : ±0.05	ANGLES : ±0.5°
()	() ()	()	()
<30	±0.25	DECIMALS	UP~100 :±0.2
>30~100	±0.35	X	100~150 :±0.25
>100~300	±0.5	XX	150~200 :±0.3
ABOVE 300	±0.6	XXX	200~250 :±0.35
			250~300 :±0.4
			300~350 :±0.45
			350~400 :±0.5
			400~500 :±0.5
			500~600 :±0.5
			600~900 :±2.4
			900~OVER :±3.1



Description: PRODUCTION SPEC.
(PACKING ASSMBLY)

A4
SIZE

Part No.
FHS-A9025S19-PA

REV.

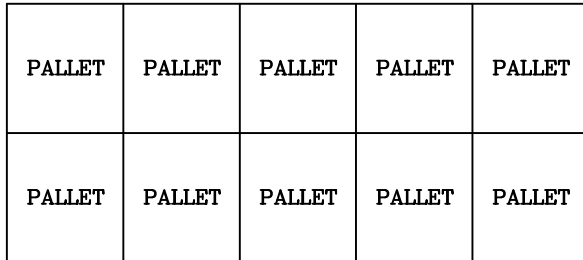
SCALE --- UNIT mm USED ON COOLER

SHEET 1 OF 2 ISSUE DATE:

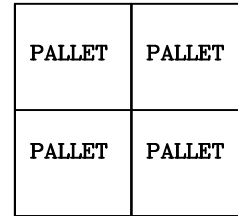
PART NO.	FHS-A9025S19		
BASIC DATA	QUANTITY/CARTON	60PCS (6 LAYERS/CARTON, 10PCS/LAYER) $\triangle 3$	
	PRODUCTION NET WEIGHT	15.1kg (REF.)	
	PRODUCTION GROSS WEIGHT	17.8kg (REF.)	
20(ft)CONTAINER ILLUSTRATE	SIZE	5.889(L)*2.352(w)*2.386(H)m	PACKING QUANTITY
	CONTAINER	STEEL	20PALLETS/CONTAINER

CONTAINER FORM

CONTAINER LOADING MATHOD



TOP VIEW

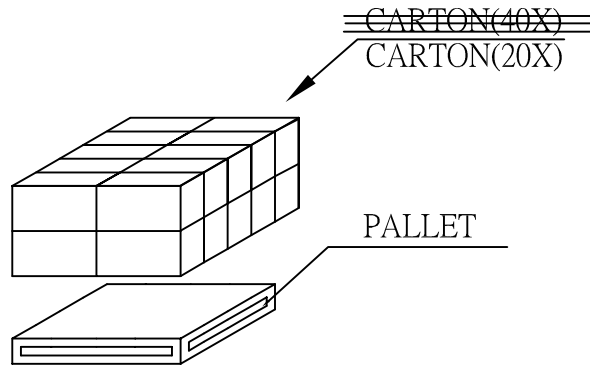


FRONT VIEW

PALLET LOADING ILLUSTRATE	SIZE	117(L)*107(w)*13(H)cm	PACKING QUANTITY	20 CARTONS/PALLET
	PALLET	WOOD		

PALLET ILLUSTRATE

PALLET LOADING MATHOD



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DELTA ELECTRONICS, INC.

DELTA MODEL:
FHS-A9025S19

Drawn:
Skyler Huang

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CUSTOMER NAME: -----
CUSTOMER P/N: -----

DIMENSIONAL TOLERANCES		HILES : ± 0.05	ANGLES : $\pm 0.5^\circ$
()	()	()	()
<30 : ± 0.25	DECIMALS	UP~100 : ± 0.2	250~300 : ± 0.4
>30~100 : ± 0.35	X : ± 0.3	100~150 : ± 0.25	300~350 : ± 0.45
>100~300 : ± 0.5	XX : ± 0.2	150~200 : ± 0.3	350~400 : ± 0.5
ABOVE 300 : ± 0.6	XXX : ± 0.1	200~250 : ± 0.35	900~OVER : ± 3.1



Description: PRODUCTION SPEC.
(PACKING ASSMEBLY)

A4
SIZE

Part No.
FHS-A9025S19-PA

REV.

SCALE --- UNIT mm USED ON COOLER

SHEET 2 OF 2 ISSUE DATE:



Delta Electronics Corp.

4. FAN

Fan Specification



SPECIFICATION FOR APPROVAL

Customer T M P B U

Description DC FAN

Part No. _____ REV. _____

Delta Model No. AUC0912D-DB55 REV. 00

Sample Issue No. _____

Sample Issue Date FEB.21.2013

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

SPECIFICATION FOR APPROVAL

Customer: TMPBU

 Description: DC FAN

 Customer P/N: REV:

 Delta Model NO.: AUC0912D-DB55 Delta Safety Model NO.: AUC0912D-8L2V

 Sample Rev: 00 Issue NO:

 Sample Issue Date: FEB.21.2013 Quantity:

1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN. THE FAN MOTOR IS WITH SINGLE PHASES AND FOUR POLES.

2. CHARACTERS:

ITEM	DESCRIPTION	
SENSOR TEMPERATURE	30°C	40°C
RATED VOLTAGE	12.0 VDC	
OPERATION VOLTAGE	10.8 - 13.2 VDC	
START UP CURRENT	MAX. 0.60A	MAX. 0.75A
INPUT CURRENT	0.07 (MAX. 0.14) A (CURRENT ON SAFETY LABEL 0.60A)	0.16 (MAX. 0.60) A (CURRENT ON SAFETY LABEL 0.60A)
INPUT POWER	0.84 (MAX. 1.68) W	1.68 (MAX. 7.20) W
SPEED (FAN ONLY)	2050±10% R.P.M.	3200±10% R.P.M.
SPEED (FAN ON SINK)	2000±10% R.P.M.	3150±10% R.P.M.
MAX. AIR FLOW (FAN ONLY) (AT ZERO STATIC PRESSURE)	0.537 (MIN. 0.483) M ³ /MIN. 18.96 (MIN. 17.06) CFM	0.914 (MIN. 0.823) M ³ /MIN. 32.29 (MIN. 29.06) CFM
MAX. AIR PRESSURE (FAN ONLY) (AT ZERO AIRFLOW)	1.53 (MIN. 1.24) mmH ₂ O 0.060 (MIN. 0.049) inchH ₂ O	3.61 (MIN. 2.92) mmH ₂ O 0.142 (MIN. 0.115) inchH ₂ O
ACOUSTICAL NOISE(ON SINK AVG.)	26.0 (MAX. 30.0) dB-A	36.0 (MAX. 40.0) dB-A
INSULATION TYPE	UL: CLASS A	

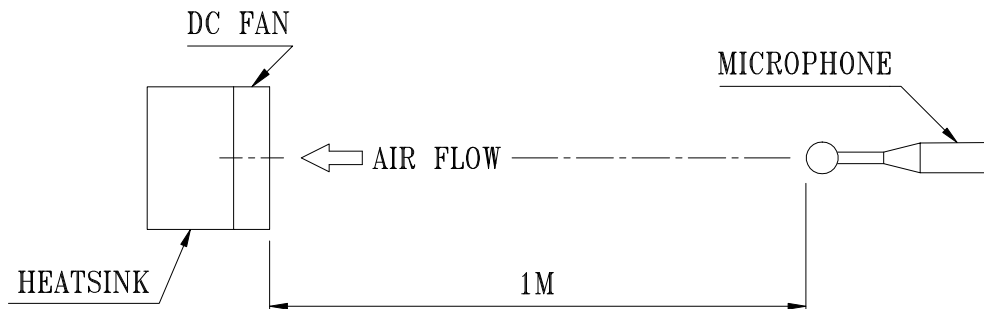
(continued)

PART NO:

DELTA MODEL: AUC0912D-DB55

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 (AT LABEL VOLTAGE)	80,000 HOURS CONTINUOUS OPERATION AT 45 °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 10368 -F- AWG #26 BLACK WIRE:NEGATIVE(-) YELLOW WIRE:POSITIVE(+) GREEN WIRE:TACHOMETER OUTPUT (F00) BLUE WIRE:SPEED CONTROL (PWM)

- 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: AUC0912D-DB55

3. MECHANICAL:

- 3-1. DIMENSIONS ----- SEE DIMENSIONS DRAWING
- 3-2. FRAME ----- PLASTIC UL: 94V-0
(THE HALOGEN SUBSTANCE CONTENT IS LESS THAN 1500 PPM FOR USING EDX ...ETC)
- 3-3. IMPELLER ----- PLASTIC UL: 94V-0
(THE HALOGEN SUBSTANCE CONTENT IS LESS THAN 1500 PPM FOR USING EDX ...ETC)
- 3-4. BEARING SYSTEM ----- SUPERFLO BEARING
- 3-5. WEIGHT ----- 82 GRAMS

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE ----- -10 TO +70 DEGREE C
- 4-2. STORAGE TEMPERATURE ----- -35 TO +80 DEGREE C
- 4-3. OPERATING HUMIDITY --- 85% RELATIVE HUMIDITY WITH 55 DEGREE C
- 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.

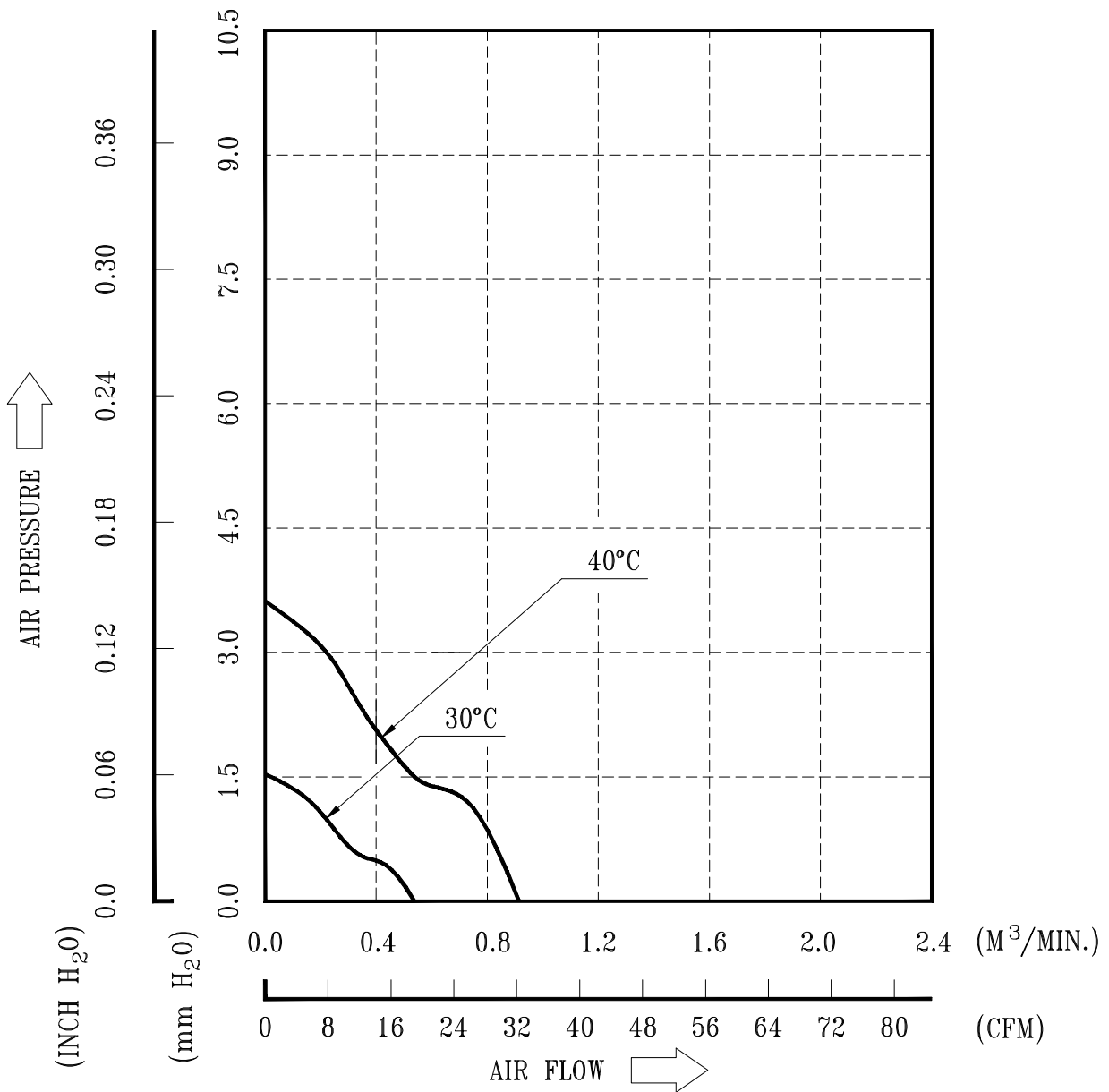
7. PRODUCTION LOCATION

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

PART NO:

DELTA MODEL: AUC0912D-DB55

8. P & Q CURVE:
PWM 100% DUTY CYCLE

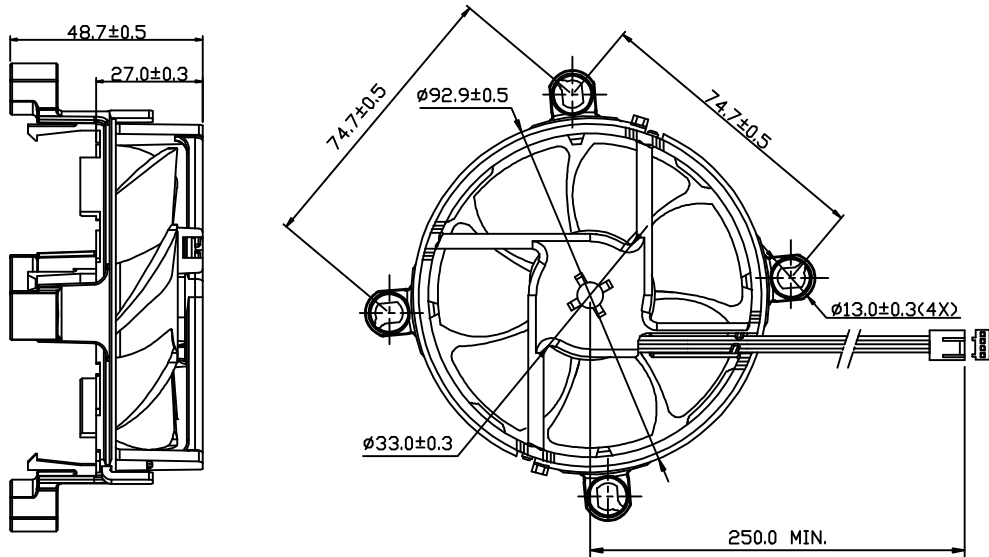


* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH

PART NO:

DELTA MODEL: AUC0912D-DB55

9. DIMENSION DRAWING:



UNIT: MM

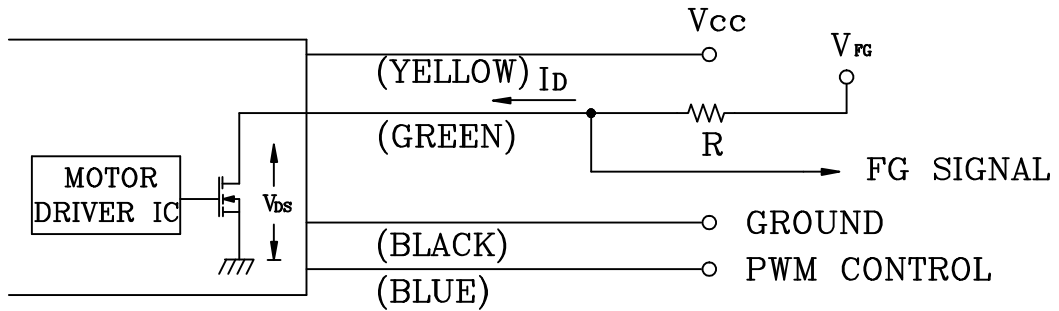
- NOTE :
1. LEAD WIRE: UL 10368 -F- AWG #26
PIN 1 : BLACK WIRE: NEGATIVE(-)
PIN 2 : YELLOW WIRE: POSITIVE(+)
PIN 3 : GREEN WIRE: TACHOMETER OUTPUT (F00)
PIN 4 : BLUE WIRE: SPEED CONTROL (PWM)
 2. HOUSING : MOLEX 47054-1000 OR EQUIVALENT
 3. TERMINAL : MOLEX 2759T 08-50-0113 OR EQUIVALENT
 4. THIS PRODUCT IS RoHS COMPLIANT
 5. DELTA'S RESTRICTIONS ON HALOGEN APPLY ONLY TO BROMINATED AND CHLORINATED COMPOUNDS. NO OTHER HALOGEN IS RESTRICTED. SUBSTANCES RESTRICTIONS FOR HALOGEN-FREE(INCLUDE FAN PLASTIC PARTS, PWB BOARD, IC, ELECTRICAL MATERIALS & CABLE ASSY),
 - a. BROMINE(Br) ≤ 900 PPM.
 - b. CHLORINE(Cl) ≤ 900 PPM.
 - c. (Br) + (Cl) ≤ 1500 PPM.

PART NO:

DELTA MODEL: AUC0912D-DB55

10. FREQUENCY GENERATOR (FG) SIGNAL:

10-1. OUTPUT CIRCUIT - OPEN DRAIN MODE:



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

10-2. SPECIFICATION:

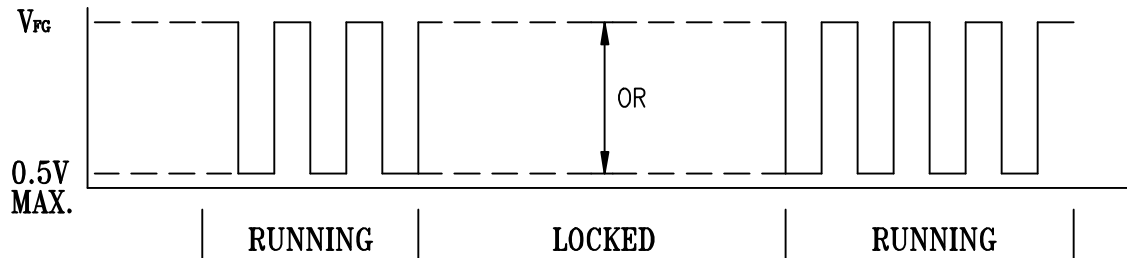
V_{ds} (LINEAR)=0.5V MAX.

V_{FG} =5.0V TYP. (V_{cc} MAX.)

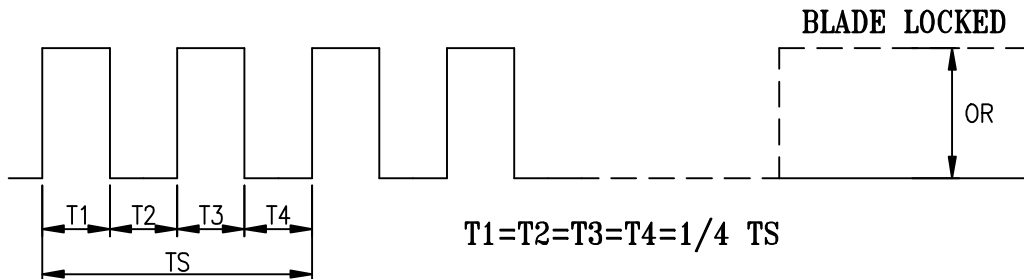
I_b =5mA MAX.

$R \geq V_{FG} / I_b$

10-3. FREQUENCY GENERATOR WAVEFORM:



FAN RUNNING FOR 4 POLES



$N=R.P.M$

$TS=60/N(SEC)$

*VOLTAGE LEVEL AFTER BLADE LOCKED

*4 POLES

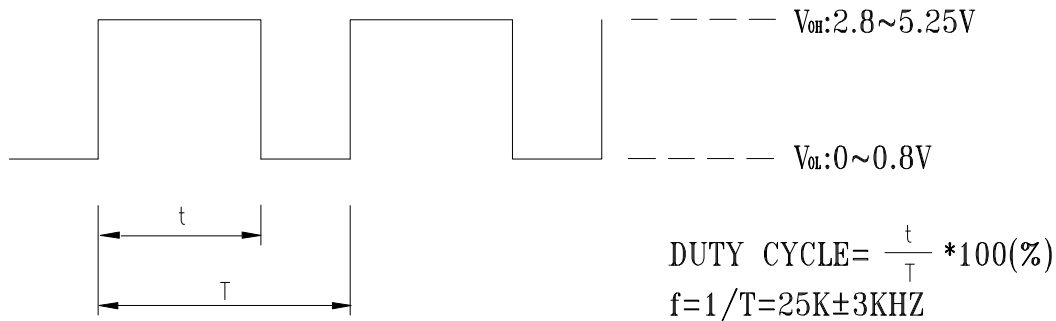
A00

PART NO:

DELTA MODEL: AUC0912D-DB55

11. PWM CONTROL FUNCTION:(FAN ON SINK)

11-1 SIGNAL DESCRIPTION:



- AT 25K HZ 30% DUTY CYCLE ,THE FAN WILL BE ABLE TO START FROM A DEAD STOP .

11-2 SPEED CONTROL

TEST CONDITION : INPUT VCC=12V PWM FREQUENCY=25KHZ

11-2-1 TEMPERATURE CONTROL

BELOW 30 DEGREE C,THE FAN SPEED IS 2000RPM.

ABOVE 40 DEGREE C,THE FAN SPEED IS 3150RPM.

BETWEEN 30~40 DEGREE C,THE FAN SPEED IS 2000RPM~3150RPM.

11-2-2 PWM CONTROL

BELOW 30 DEGREE C

BETWEEN 0%~20% TO 100% DUTY CYCLE,THE FAN SPEED IS 1000RPM TO 2000RPM.

ABOVE 40 DEGREE C

BETWEEN 0%~20% TO 100% DUTY CYCLE,THE FAN SPEED IS 1000RPM TO 3150RPM.

TEMPERATURE (°C)	DUTY CYCLE (%)	SPEED (R.P.M.)
30	0~20	1000±200
30	100	2000±10%
40	0~20	1000±200
40	100	3150±10%

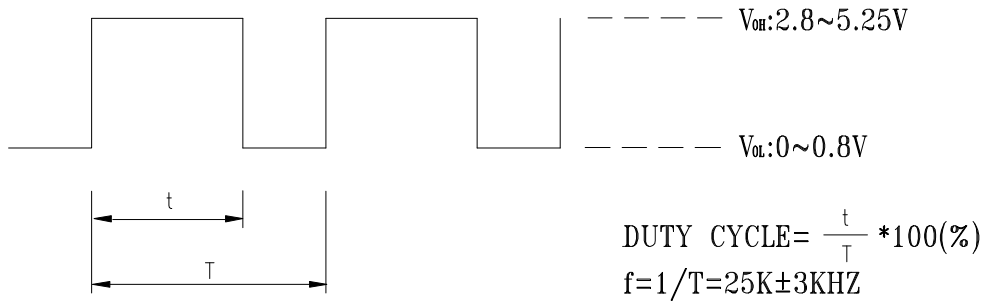
- IF THE CONTROL SIGNAL IS DISCONNECT THE FAN WILL GO TO TEMPERATURE CONTROL SPEED.

PART NO:

DELTA MODEL: AUC0912D-DB55

12. PWM CONTROL FUNCTION:(FAN ONLY)

12-1 SIGNAL DESCRIPTION:



- AT 25K HZ 30% DUTY CYCLE ,THE FAN WILL BE ABLE TO START FROM A DEAD STOP .

12-2 SPEED CONTROL

TEST CONDITION : INPUT VCC=12V PWM FREQUENCY=25KHZ

12-2-1 TEMPERATURE CONTROL

BELOW 30 DEGREE C,THE FAN SPEED IS 2050RPM.

ABOVE 40 DEGREE C,THE FAN SPEED IS 3200RPM.

BETWEEN 30~40 DEGREE C,THE FAN SPEED IS 2050RPM~3200RPM.

12-2-2 PWM CONTROL

BELOW 30 DEGREE C

BETWEEN 0%~20% TO 100% DUTY CYCLE,THE FAN SPEED IS 1000RPM TO 2050RPM.

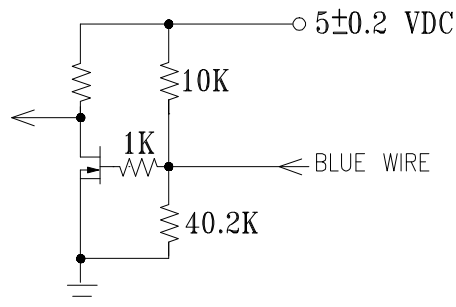
ABOVE 40 DEGREE C

BETWEEN 0%~20% TO 100% DUTY CYCLE,THE FAN SPEED IS 1000RPM TO 3200RPM.

TEMPERATURE (°C)	DUTY CYCLE (%)	SPEED (R.P.M.)
30	0~20	1000±200
30	100	2050±10%
40	0~20	1000±200
40	100	3200±10%

- IF THE CONTROL SIGNAL IS DISCONNECT THE FAN WILL GO TO TEMPERATURE CONTROL SPEED.

13. PWM CONTROL LEAD WIRE INPUT IMPEDANCE:



Application Notice

- 1. Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.**
- 2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.**
- 3. Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fan was hard-dropped to the production floor.**
- 4. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.**
- 5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.**
- 6. It is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.**
- 7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.**
- 8. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.**
- 9. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.**
- 10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.**
- 11. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.**
- 12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.**
- 13. Be certain to connect an “ 4.7μF or greater” capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.**