

Model Name: FHS-A9025S17

Application:

- Intel LGA775 Conroe-L Celeron CPU
- E1000/400 sequence

Thermal & Mechanical Spec.:

- Thermal performance for 35W CPU
- HSK Assembly Weight: 205 g (ref.)
- Clipping Force: 20 Kgf (ref.)

Component Specification:

1. Heat Sink

Type: Extruded HSK Material: Aluminum A6063 or Equivalent. Dimension: 90*90*19.05 mm

- 2. Thermal interface material Material: Dow Corning TC-5630 or Equivalent.
- 3. Fan (90x90x25 mm with single speed)

Rated Voltage: 12 V Life Time: Superflo bearing 50000 hrs

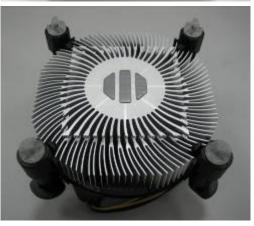
Connector:

- a. <u>Lead wire</u>: UL 1430 AWG#26 pin 1: black wire-----(-) pin 2: yellow wire-----(+)
 - pin 3: green wire-----(F00)
- b. Housing: Molex 2695-03 22-01-3037 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

DELTA ELECTRONICS, INC. 252, Shang Ying Road, Kuei San TAOYUAN SHIEN 333, TAIWAN,R.O.C. TEL: 886-3-3591968 EXT 2073 FAX: 886-3-3591991 **DELTA PRODUCTS CORPORATION** 4405 CUSHING PARKWAY FREMONT, CA 94538, U.S.A. TEL: 1-510-668-5100 FAX: 1-510-668-0680 DELTA ELECTRONICS(JAPAN), INC. DELTA SHIBADAIMON BLDG. 2-1-14 SHIBADAIMON, MINATO-KU, TOKYO, 105-0012, JAPAN TEL: 81-3-5733-1111 FAX: 81-3-5733-1211

Pictures







DELTA ELECTRONICS EUROPE LTD. 2 YOUNG PLACE KELVIN INDUSTRIAL ESTATE EAST KILBRIDE, GLASGOW G75 OTD, U.K. TEL: 44-1355-588888 FAX: 44-1355-588889

Date: 27-Apr-07



APPROVAL SHEET

Model Name.:	COOLER				
Delta Part No.:	Part No.: FHS-A9025S17				
Customer Part No	.:				
Spec Issue Date .:	01/05/201	6			
Spec Revision :	03				
	DPY OF THIS SPECIFICAT AL FOR PRODUCTION PH				
	AL FOR PRODUCTION PE				
SIGNED APPROV Approved By Date	AL FOR PRODUCTION PR	RE-ARRANGMENT.			
SIGNED APPROVA Approved By	AL FOR PRODUCTION PE				



REV.	Description	Drawn	Checked	Approved	Issue Date
00	ISSUE SPEC	Skyler-Huang12/29'09	Charles. Chen 12/29'09	Alex-Hia 12/29'09	
01	1. Modify the Package spec	Skyler-Huang08/09'12	Charles. Chen 08/09'12	Alex-Hsia 08/09'12	
02	1. Modify the Package spec	Skyler-Huang06/10'13	Charles. Chen 06/10'13	Alex-Hsia 06/10'13	
03	1.Change the TIM to TC-5630	Skyler-Huang1/05'16	Charles. Chen 1/05'16	Alex-Hsia 1/05'16	
Descriptio					
Part No.	SAMPLE REV.	ISION CODE LIST			
					REV
DELTA MC			ΤΟΤΑΙ		02
	FHS-A9025S17		IOTAL	23 PAGE	03



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

Delta Electronics Corp. 1. SPECIFICATION

Characters

Item	Description
Scope	THIS SPECIFICATION DEFINES THE ELECTRICAL AND
	MECHANICAL CHARACTERISTICS OF THE FAN HEATSINK
Application	INTEL P4 CPU COOLER
Specification	
a: Thermal Resistance	0.640 (°C/W) (REF.)
b: total weight	205 g (REF.)
c: clip force	20 kgf (REF.)

BOM

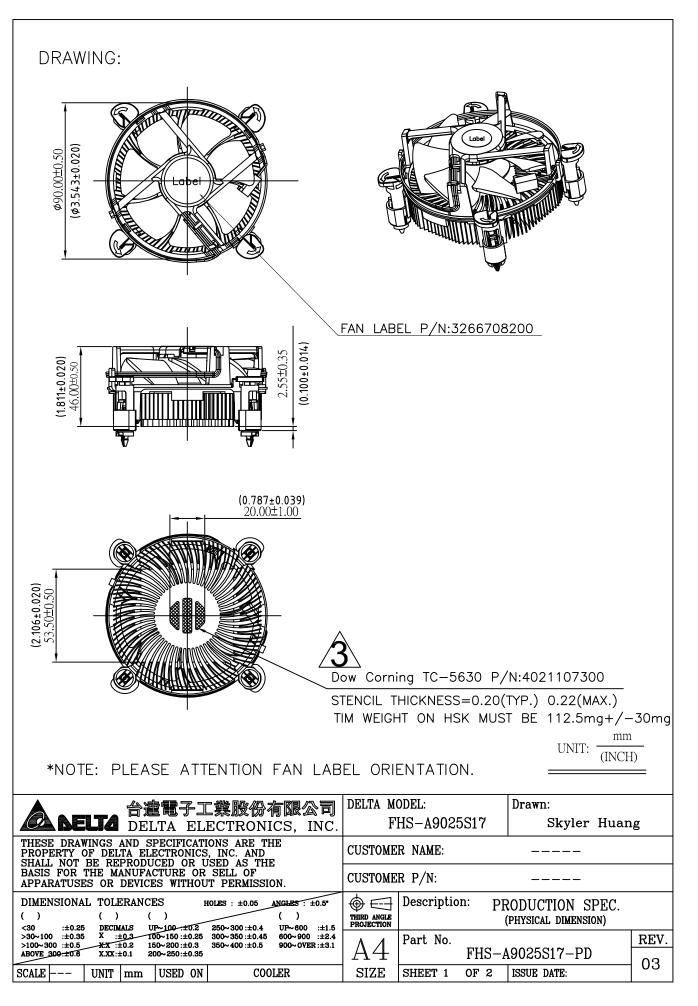
Item	Part Name	Material	Part NO.	Q'TY	Remark
1	FAN	PBT	3622916811	1	
2	HSK	AL A6063	3346208500	1	
3	FASTENER CAP	PC	3470415400	4	
4	FASTENER BASE	PC	3470415500	4	
5	LABEL	PE	3266708200	1	
6	TIM	DOW TC-1996	4021107300	0.1125g	Rev03

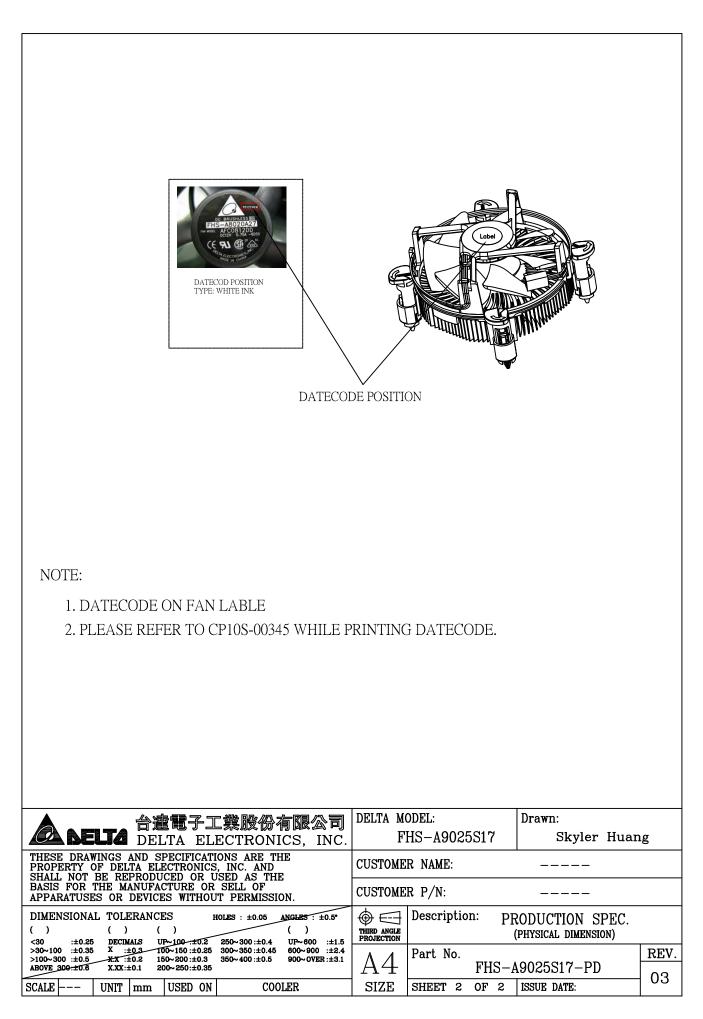


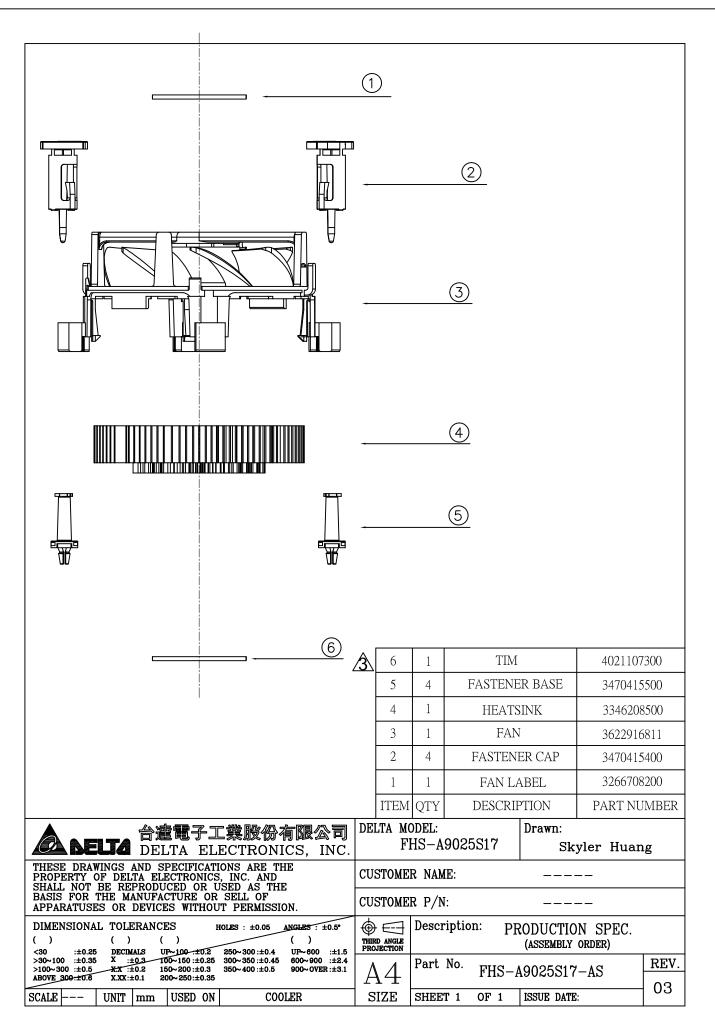
2. PRINT

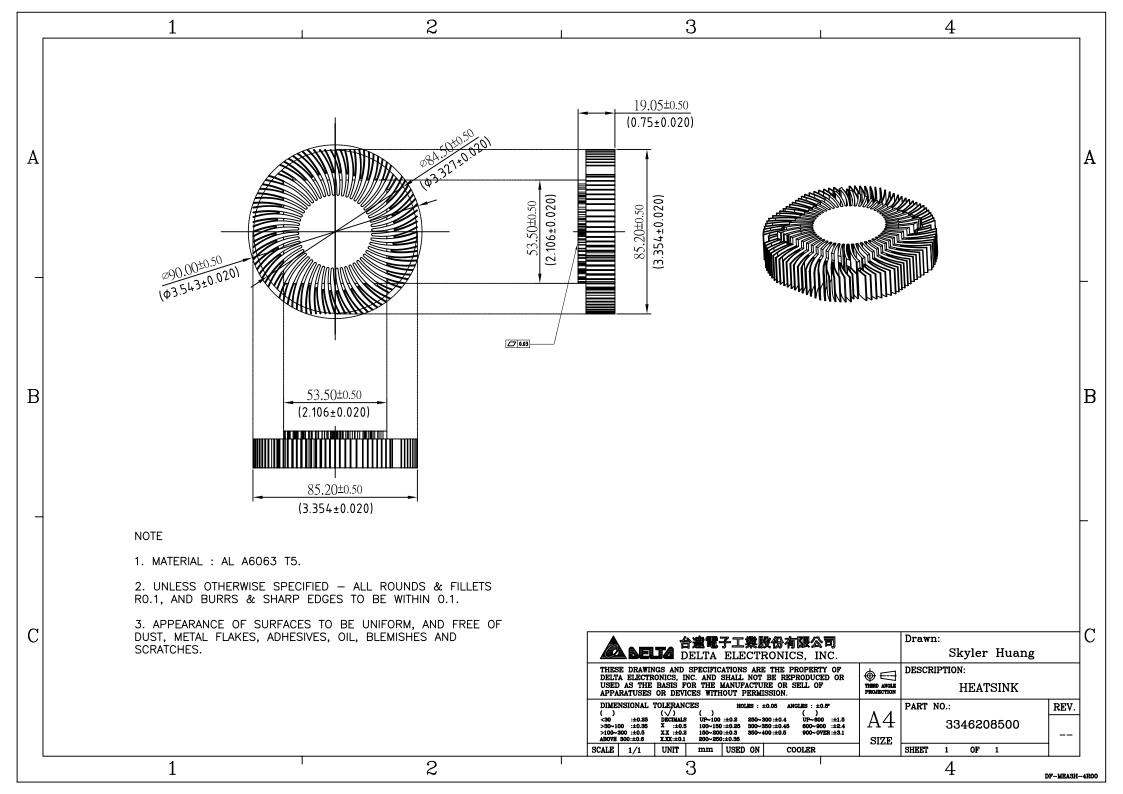
Assembly Drawing

Parts Drawing





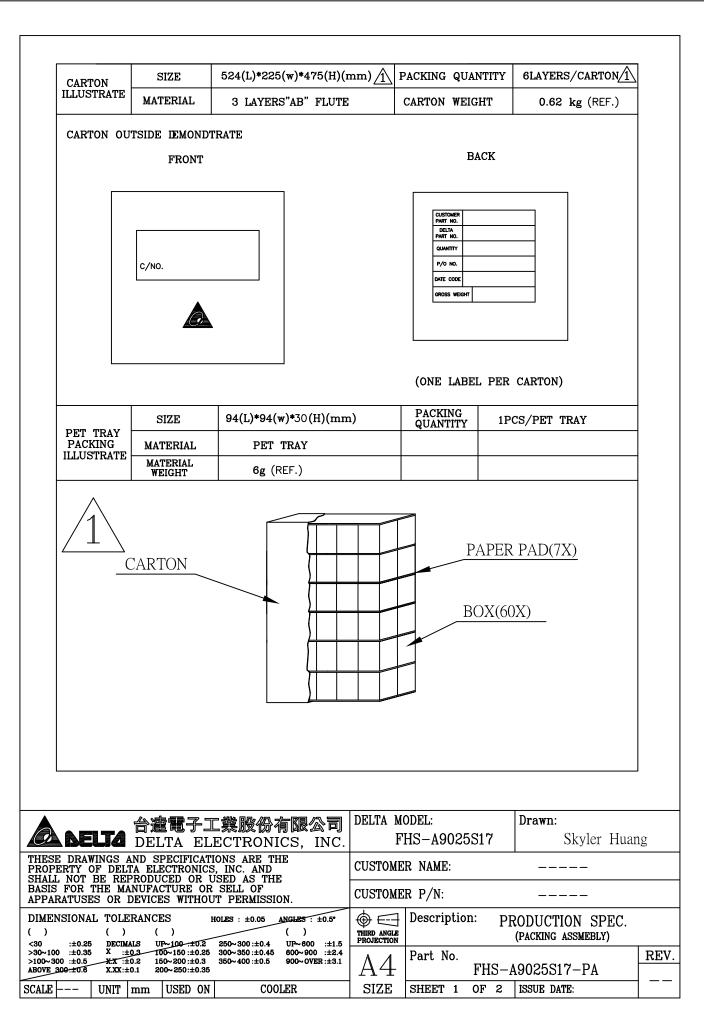




	1	2	3	4
A	3	7		
		0000±1.00		-
B -		NOTES: 1. THICKNESS: 0.20mm 2. VENDOR P/N: DOW CORNING TC-5630 3. COLOR: GRAY. 4. THERMAL CONDUCTIVITY: 4.5 W/m-*C 5. THERMAL CONTACT RESISTANCE: 0.06 *C 6. GROSS WEIGHT: 112.5±30 mg 7. VENDOR : DOW CORNING 8. MUST MEET DELTA'S SPEC : 10000-01	C−cm²/₩ @40psi	
C			And the second	Drawn: Skyler Huang DESCRIPTION: THERMAL INTERFACE PART NO.: A4 4021107300 03
	1	2	scale 1/1 UNIT mm USED ON COOLER	SHEET 1 OF 1 4



Packing Specification



	RT NO.		FHS-A9	02551	.7						
			QUANTIT	Y/CA	RTON	601	PCS (6 1	AYER	RS/CART	ON, 10P	PCS/LAYER)
D 4 GI G				3kg (RE							
Ι	DATA				OSS WEIGH		lkg (RE				
		_ SI	ZE	5	.889(L)*2.3			1	– PACKIN QUANTI	1.20	PALLETS/CONTAINER
	t)CONTAINE LUSTRATE		TAINER		STEEL				QUANTI	.11	
СС	ONTAINER F		ITAINER	LOAD	ING MATHC	D			2	<u>}</u>	
	PALLET	PALLE	ET PAI	LET	PALLET	PALLET				PALLET	PALLET
	PALLET	PALLE	ET PAI	LET	PALLET	PALLET			-	PALLET	F PALLET
			 ТОР	VIEW	 ,				L	FRO	NT VIEW
								-+	DACIZI		
	LLET LOADIN		SIZE	1	17(L)*107(n		cm		PACKIN QUANTI		CARTONS/PALLET
	USTRATE		PALLET		WOO	DD					
P	ALLET ILLUS	STRATE	5			PA	LLET LO	ADING	G MATHO	D	
	6									CAR CAR PAL	<u>TON(40X)</u> TON(20X)
)ELT4	A ELE	CTR	的有限。 ONICS,	s Pj	DELTA M F		: A9025S		Drawn: Skyler Hua
ß		D SPEC	JFICATIO	NS AF	KE THE AND	C	CUSTOME				
RTY NC FO	RAWINGS ANI Y OF DELTA DT BE REPRO R THE MANU JSES OR DE	ELECT ODUCEI JFACTU	JRE OR S	ELL (OF	0	USTOME	R P/	'N:		
RTY NC FO ATU	Y OF DELTA)T BE REPRO	ELECT ODUCEI JFACTU VICES ANCES	WITHOUT	ELL (OF AISSION.	±0.5° +		· · ·	'N: cription:	1 14	ODUCTION SPEC. Packing assmebly)



4. FAN

Fan Specification



SPECIFICATION FOR APPROVAL

Customer	TMP BU	
Description	DC FAN	
Part No		_R E V
Delta Model No	AUB0912M-8J29	REV. 00
Sample Issue No	J	
Sample Issue Da	te SEP.09.2008	
BACK AFTER	ONE COPY OF THIS YOU SIGNED A PRE-ARRANGMENT.	
APPROVED BY:		

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 SANTAOYUAN HSIEN 333, TAIWAN, R. O. C.FAX : 886-(0)3-3591991

SPECIFICATION FOR APPROVAL

Customer:	TMP BU	
Description:	DC FAN	
Customer P/N:		REV:
Delta Model NO.:	AUB0912M-8J29	
Sample Rev:	00	Issue NO:
Sample Issue Date:	SEP.09.2008	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
RATED VOLTAGE	12.0 VDC
OPERATION VOLTAGE	10.8 - 13.2 VDC
START UP CURRENT	MAX. 1.2 A
INPUT CURRENT	0.09 (MAX. 0.20) A
INPUT POWER	1.08 (MAX. 2.40) W
SPEED (FAN ONLY)	2250±10% R.P.M.
SPEED (FAN ON SINK)	2200±10% R.P.M.
MAX. AIR FLOW (FAN ONLY) (AT ZERO STATIC PRESSURE)	0.619 (MIN. 0.557) M ³ /MIN. 21.86 (MIN. 19.67) CFM
MAX. AIR PRESSURE (FAN ONLY) (AT ZERO AIRFLOW)	1.86 (MIN. 1.51) mmH20 0.073 (MIN. 0.059) inchH20
ACOUSTICAL NOISE(ON SINK AVG.)	27.0 (MAX. 31.0) dB-A
INSULATION TYPE	UL: CLASS A

(continued)

page: 1

PART NO:

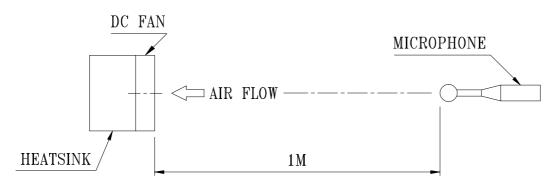
DELTA MODEL:

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	50,000 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 1430 -F- AWG #26 BLACK WIRE:NEGATIVE(-) YELLOW WIRE:POSITIVE(+) GREEN WIRE:TACHOMETER OUTPUT (F00)

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.

PART NO: AUB0912M-8J29 DELTA MODEL: 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 ------ SUPERFLO BEARING 3-5. WEIGHT ----- 82 GRAMS 4. ENVIRONMENTAL: 4-1. OPERATING TEMPERATURE ------10 TO +60 DEGREE C 4-2. STORAGE TEMPERATURE ------ -40 TO +70 DEGREE C 4-3. OPERATING HUMIDITY ----- 5 TO 95 % 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.

PART NO: DELTA MODEL: AUB0912M-8J29

7.0 0.246.00.205.00.164.0 AIR PRESSURE 0.123.01<u>2.0 VDC</u> 0.082.00.041.00.00.0 1.4 (M³/MIN.) (INCH H₂0) 0.0 0.4 0.6 0.8 1.20.2 1.0 $(mm H_20)$ 8 0 16243240 48 (CFM) AIR FLOW * TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE TEMPERATURE ----- ROOM TEMPERATURE HUMIDITY ----- 65%RH

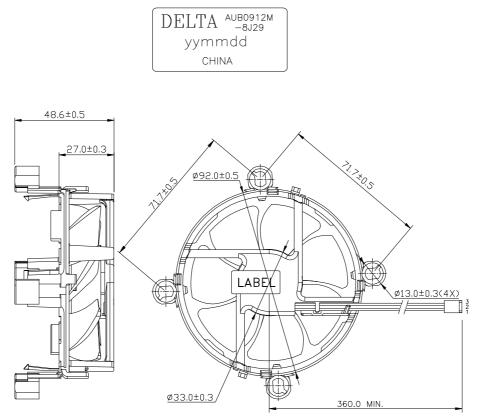
8. P & Q CURVE:

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PART NO: DELTA MODEL: AUB0912M-8J29

9. DIMENSION DRAWING:

LABEL:



NOTE :

UNIT: MM

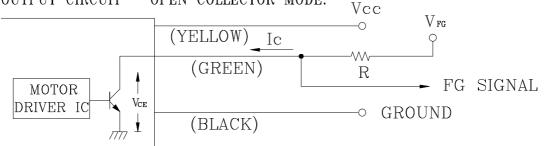
LEAD WIRE: UL 1430 -F- AWG #26
 PIN 1 : BLACK WIRE: NEGATIVE(-)
 PIN 2 : YELLOW WIRE: POSITIVE(+)
 PIN 3 : GREEN WIRE: TACHOMETER OUTPUT (F00)

 HOUSING : MOLEX 2695-03 22-01-3037 OR EQUIVALENT
 TERMINAL : MOLEX 2759T 08-50-0113 OR EQUIVALENT
 THIS PRODUCT IS RoHS COMPLIANT
 page: 5

PART NO: DELTA MODEL: AUB0912M-8J29

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.

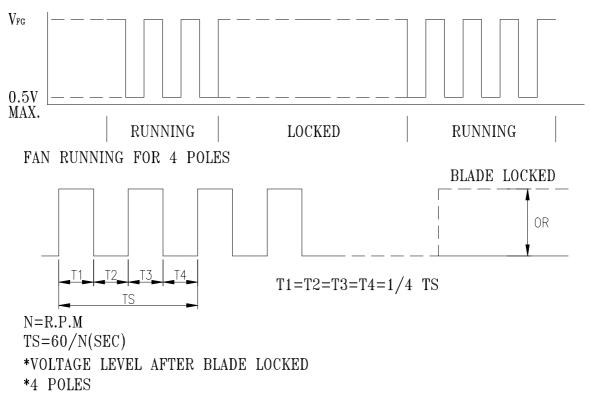
2. SPECIFICATION:

 $V_{CE}(sat)=0.5V$ $V_{FG}=5.0V$ TYP. (Vcc MAX.)

Ic = 10 mA MAX.

 $\mathrm{R}{\geq}V_{\mathrm{FG}}/\mathrm{I}$ c

3. FREQUENCY GENERATOR WAVEFORM:





- 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 fans are 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, as there is no foolproof method to protect against such error.
- 7. Delta fans 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 relative (ambient) temperature and humidity conditions of 25°C, 65%. The test value is only for fan performance itself.
- 13. Be certain to connect an "over 4.7μF" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.

Mouser Electronics

Authorized Distributor

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Delta Electronics: FHS-A9025S17