

# Product Data Sheets

Customer : \_\_\_\_\_

Part No. : \_\_\_\_\_

CoolerMaster Model No. : ECC-00682-N1-GP

Edition: A1

Issued Date: 2012.08.20

| Revision History : |              |                 |                                      |
|--------------------|--------------|-----------------|--------------------------------------|
| Date of Release    | Revision No. | Description     |                                      |
|                    |              |                 |                                      |
|                    |              |                 |                                      |
|                    |              |                 |                                      |
| Customer           |              | Cooler Master   |                                      |
| Approved by        |              | DCC             | Checked by      Drafted by           |
|                    |              |                 | 周慧華              許靜                  |
| Date:              |              | Date: 2012/8/20 | Date: 2012/8/20      Date: 2012/8/20 |



**Cooler Master Co., Ltd.**

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## 2. Product BOM

| No | Material Code | Material      | Unit | QTN        |
|----|---------------|---------------|------|------------|
| 1  | 600007170-GP  | HS Assembly   | PCS  | 1          |
| 2  | 150007410-GP  | SCREW         | PCS  | 4          |
| 3  | 150005630-GP  | SCREW         | PCS  | 4          |
| 4  | 450002180-GP  | SPRING        | PCS  | 4          |
| 5  | 200007180-GP  | GASKET        | PCS  | 4          |
| 6  | 300002012-GP  | E-RING        | PCS  | 4          |
| 7  | 520000080-GP  | ShinEtsu 7783 | PCS  | 0.301/1000 |
| 8  | 359000530-GP  | LABEL         | KGS  | 1          |
| 9  | 500000380-GP  | DRIER         | PCS  | 1          |
| 10 | 600022100-GP  | PLATE         | PCS  | 1          |
| 11 | 450005420-GP  | TRAY          | PCS  | 2          |
| 12 | 310003752-GP  | FAN COVER     | PCS  | 1          |
| 13 | 104018840-GP  | TRAY          | PCS  | 2/14       |
| 14 | 104019600-GP  | TRAY          | PCS  | 2/14       |
| 14 | 112001540-GP  | PARTITION     | PCS  | 3/14       |
| 15 | 111004140-GP  | CARTON        | PCS  | 1/14       |



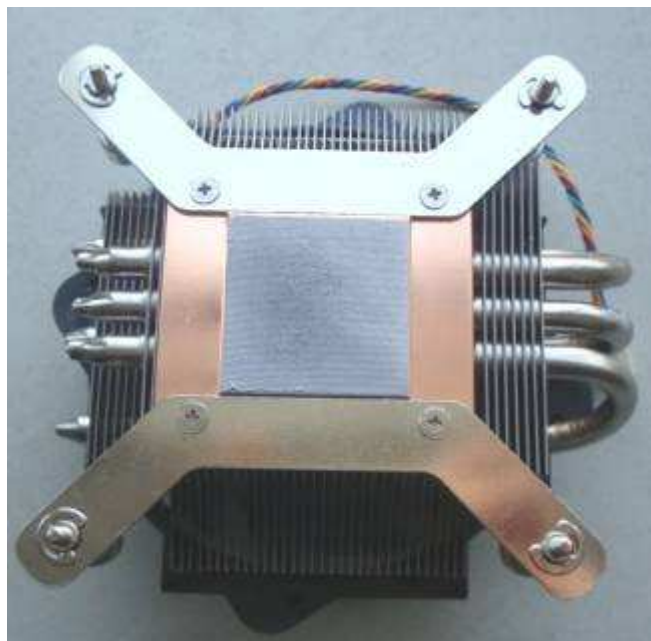
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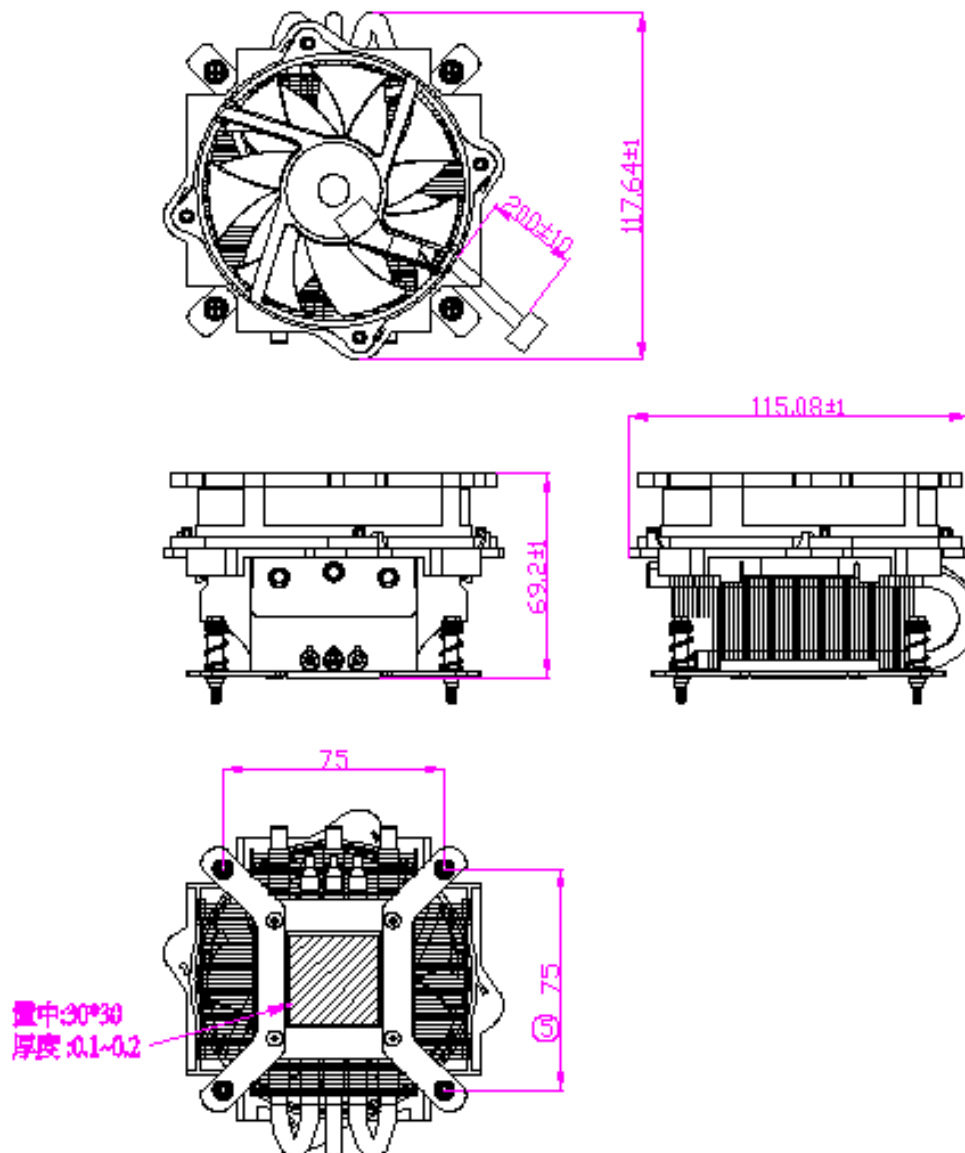
### 3. Whole photo





## 4. Specification & Dimension

### HS Assembly



#### General Dimension Tolerances (Unit : mm )

|              |   |     |       |
|--------------|---|-----|-------|
| 0            | — | 30  | ± 0.2 |
| 31           | — | 60  | ± 0.3 |
| 61           | — | 100 | ± 0.4 |
| 101 and Over |   |     | ± 0.5 |
| Angles       |   |     | ± 2°  |



## Heat Sink

### Aluminum Fin

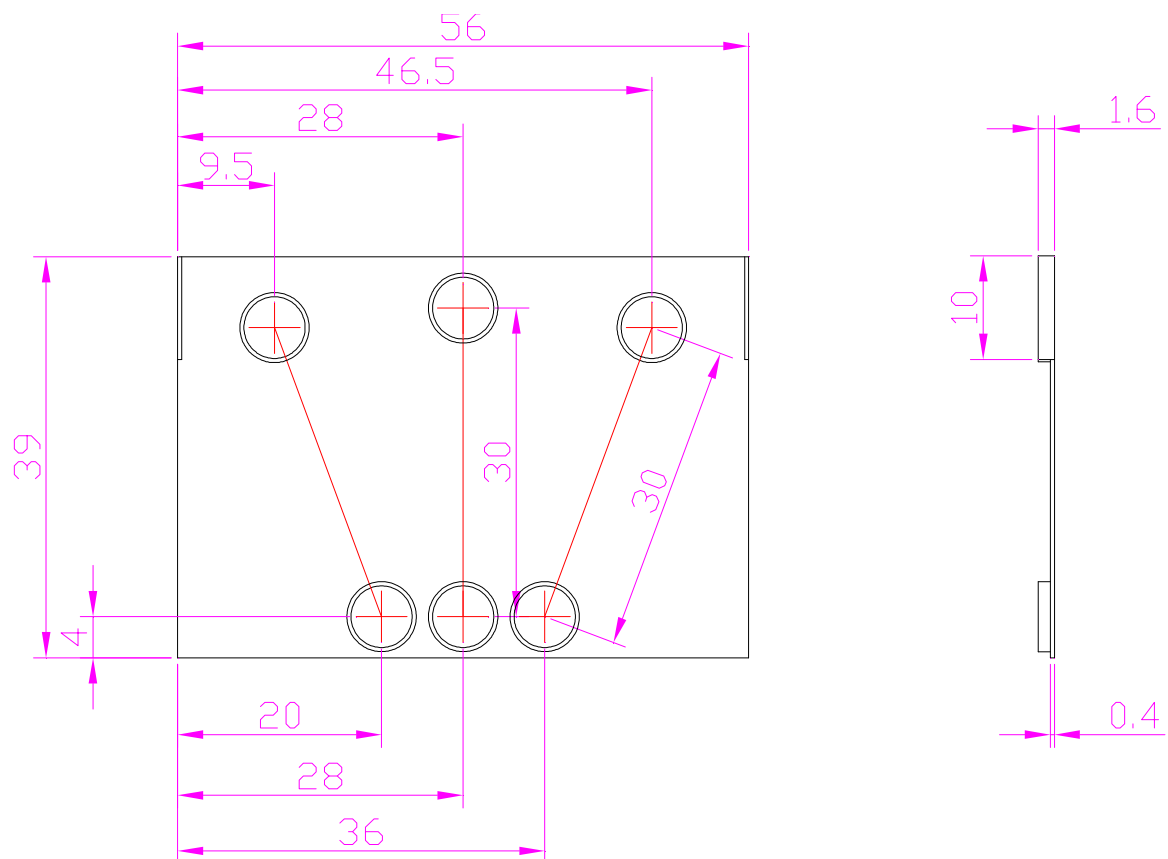
Material : Aluminum Alloy 1050

Chemistry Ingredient & Temper Designation :

Finished : Nickel plating

| COMPONENT          | Al   | Si   | Fe  | Cu   | Mn          | Mg   | Ti   | Other | Flatness   |
|--------------------|------|------|-----|------|-------------|------|------|-------|------------|
| SPECIFIED<br>VALUE | 99.5 | 0.25 | 0.4 | 0.05 | 0.05Ma<br>x | 0.05 | 0.03 | 0.03  | 0.1mm<br>↓ |

### FIN A

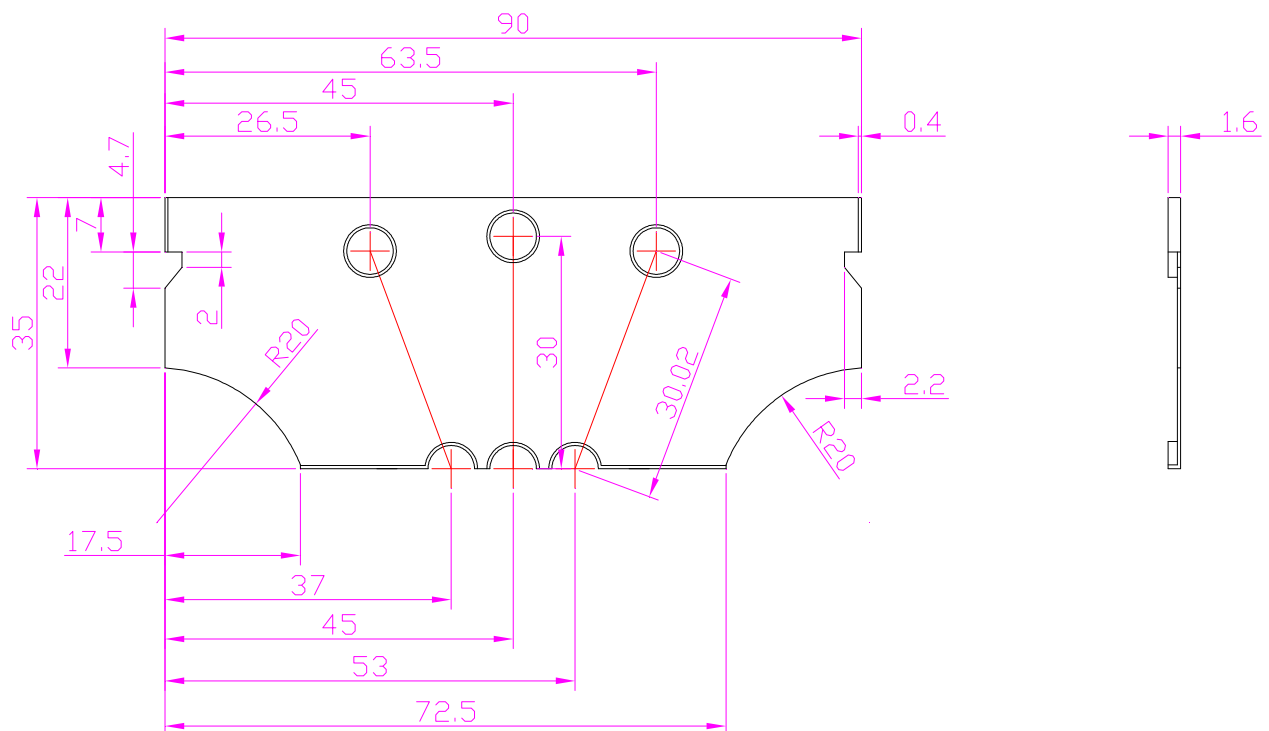


#### General Dimension Tolerances (Unit : mm )

|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |



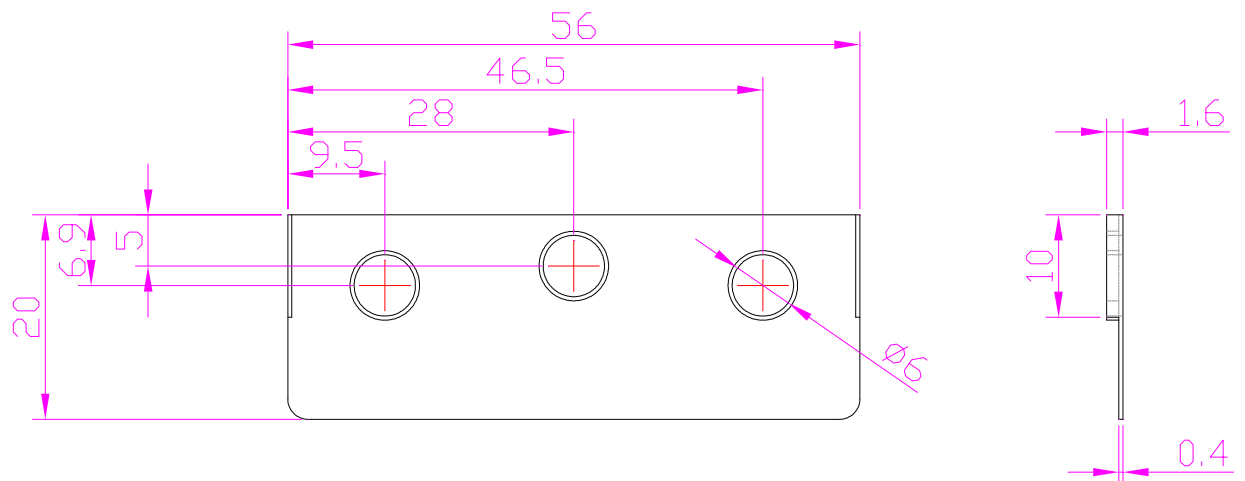
## FIN B



### General Dimension Tolerances (Unit : mm )

|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |

## FIN C



General Dimension Tolerances (Unit : mm )

|        |     |      |               |
|--------|-----|------|---------------|
| 0      | —   | 30   | $\pm 0.2$     |
| 31     | —   | 60   | $\pm 0.3$     |
| 61     | —   | 100  | $\pm 0.4$     |
| 101    | and | Over | $\pm 0.5$     |
| Angles |     |      | $\pm 2^\circ$ |



## Base

Cu Column Material : Copper Alloy C1100

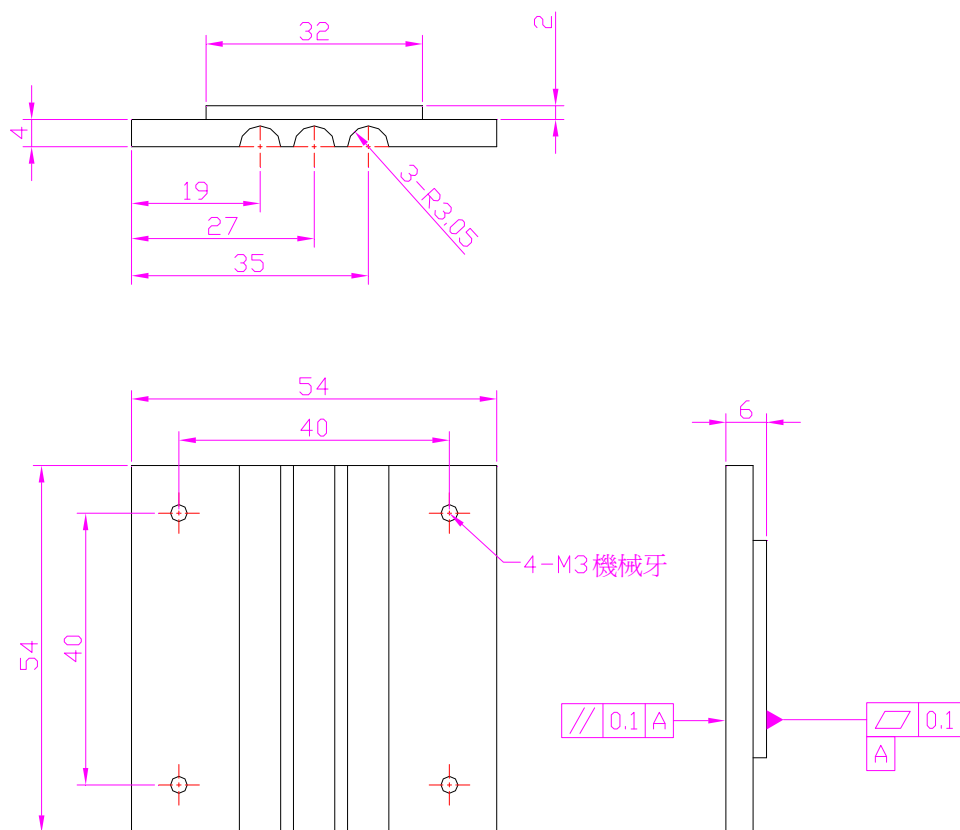
Finish : Anti-Oxidation

Mechanical Characteristics :

| Alloy No. | Tensile strength<br>(26~32kgf/mm <sup>2</sup> ) | Hardness Test<br>(80~100HV) | Elongation<br>(%) |
|-----------|-------------------------------------------------|-----------------------------|-------------------|
| C1100     | 26329                                           | 88                          | 98                |

Chemistry Ingredient & Temper Designation :

| Value            | Cu       | Pd | Fe | Sn | Zn  | P |
|------------------|----------|----|----|----|-----|---|
| SPECIFIED VALUES | 99.95Max | 0  | 0  | 0  | REN | 0 |



### General Dimension Tolerances (Unit : mm )

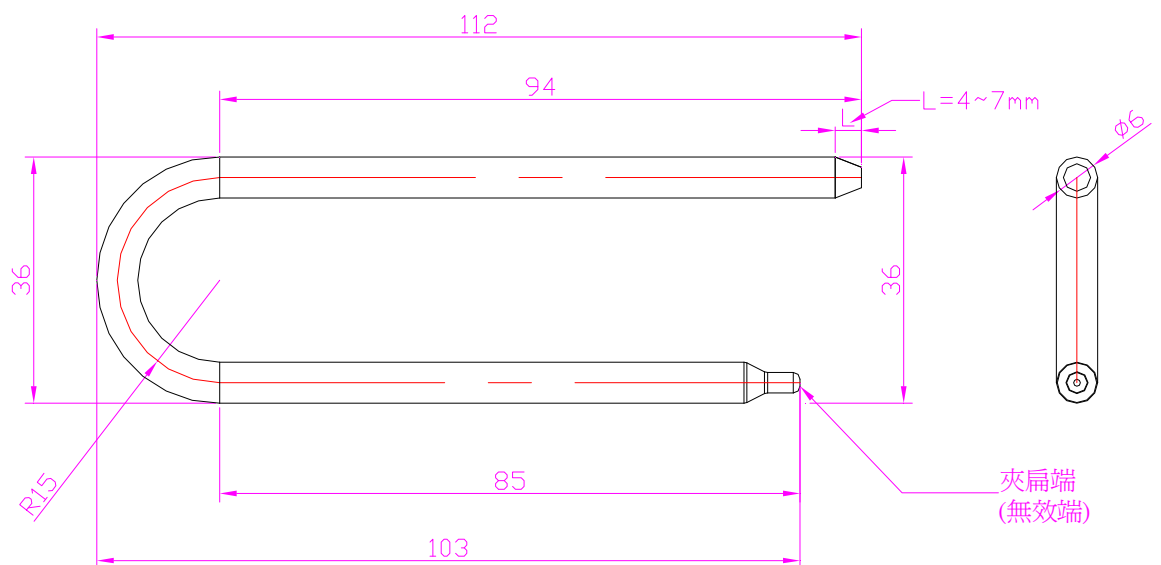
|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |

## Heat Pipe

SIZE (mm) :  $\phi$  6\*226mm

## Surface Finishing : Anti-Oxidation

Drawing & Dimension :



General Dimension Tolerances (Unit : mm )

|        |     |      |               |
|--------|-----|------|---------------|
| 0      | —   | 30   | $\pm 0.2$     |
| 31     | —   | 60   | $\pm 0.3$     |
| 61     | —   | 100  | $\pm 0.4$     |
| 101    | and | Over | $\pm 0.5$     |
| Angles |     |      | $\pm 2^\circ$ |

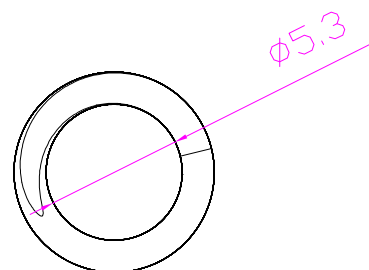
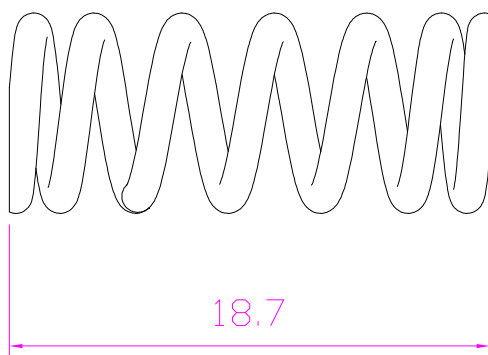




## Spring

### Mechanical Characteristics:

| Specification | Size  |
|---------------|-------|
| SWP           | 1.1mm |



#### General Dimension Tolerances (Unit : mm )

|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |



## E-ring

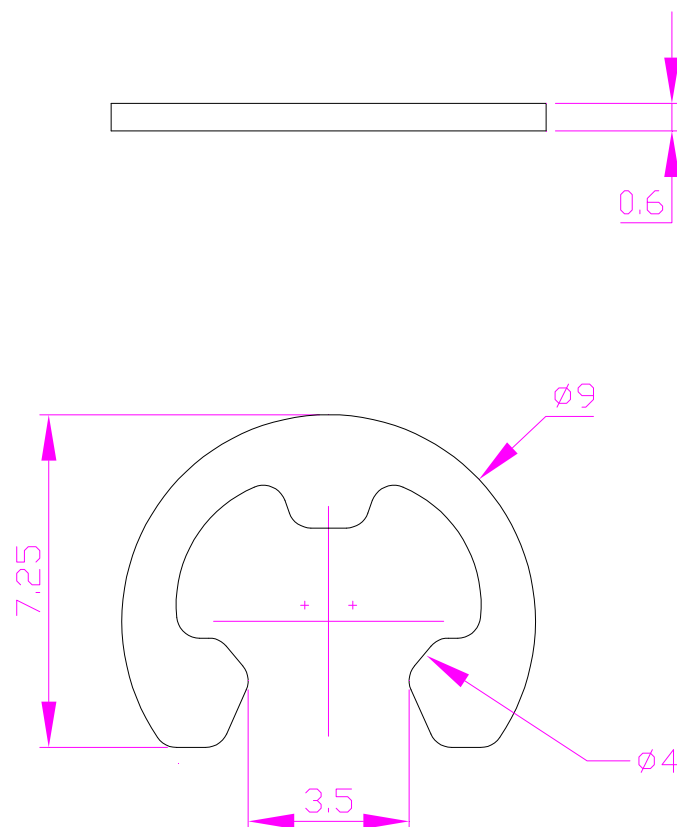
Material: SK5

Finish: Nickel Plated

Hardness: 45~50 HRC

### Chemistry Ingredient Characteristics: (%)

| Value            | C   | Si   | Mn  | P    | S    |
|------------------|-----|------|-----|------|------|
| Specified values | 0.9 | 0.35 | 0.5 | 0.03 | 0.03 |



#### General Dimension Tolerances (Unit : mm )

|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |



## CLIP

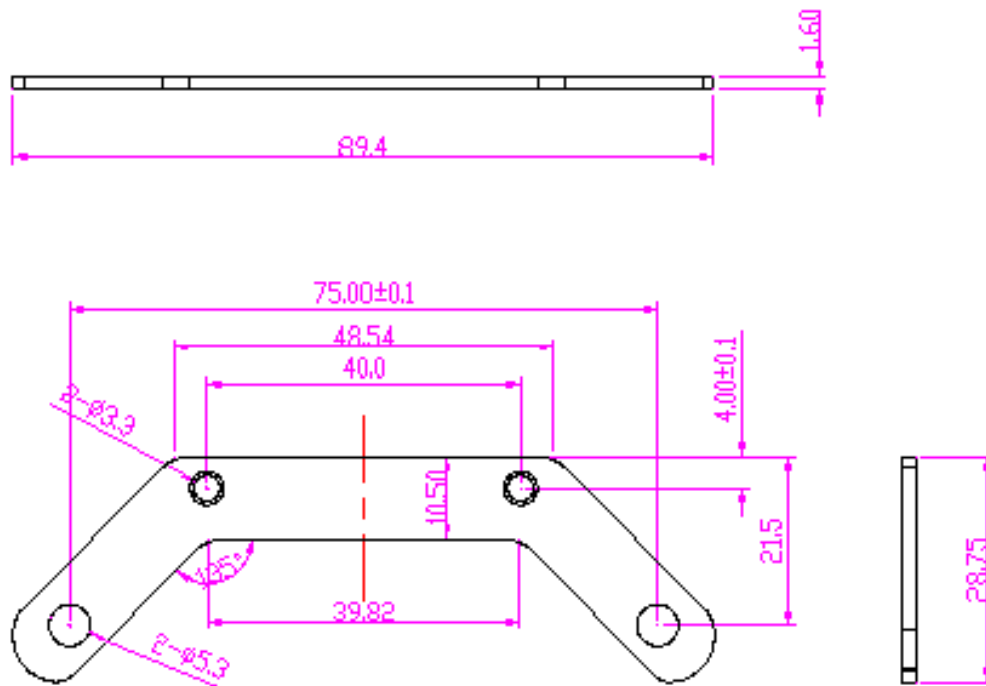
Material: SK7

Finish: Nickel Plated

Hardness: 45~55 HRC

### Chemistry Ingredient Characteristics: (%)

| Value            | C   | Si   | Mn  | P    | S    |
|------------------|-----|------|-----|------|------|
| Specified values | 0.9 | 0.33 | 0.7 | 0.03 | 0.03 |



#### General Dimension Tolerances (Unit : mm )

|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |

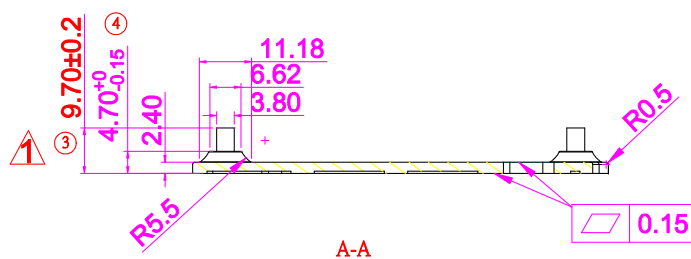
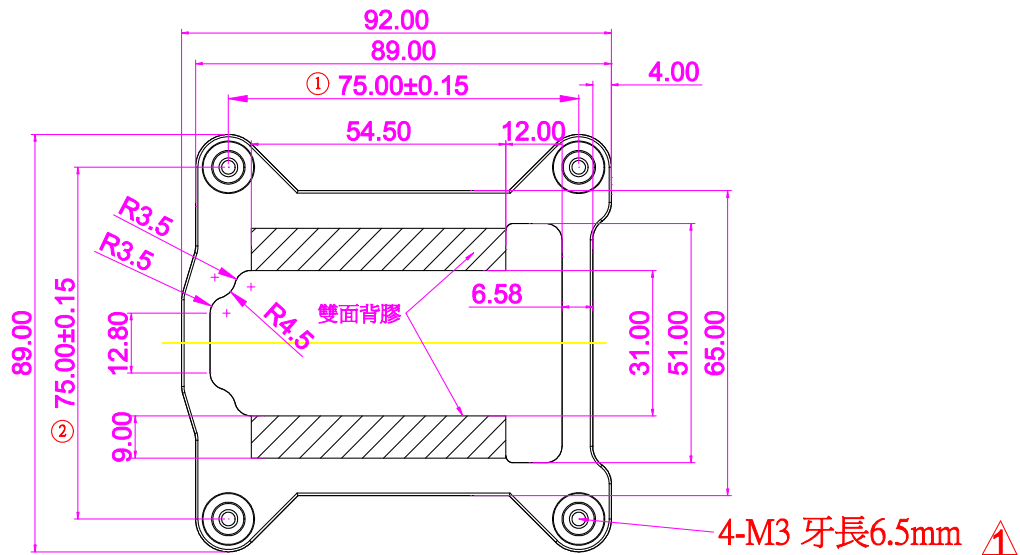


## Back Plate

Material : SPCC

Boss Material: PPS

Thickness : 2mm



### General Dimension Tolerances (Unit : mm )

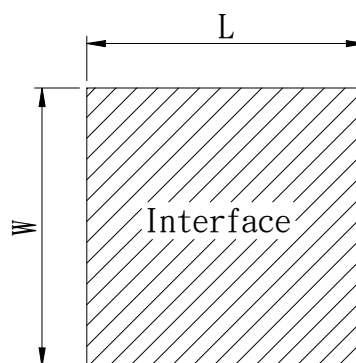
|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |



## Interface

SIZE (mm): L\*W = 34\*34

| Specification | Brand     |
|---------------|-----------|
| 7783          | Shin-Etsu |



### General Dimension Tolerances (Unit : mm )

|        |     |      |       |
|--------|-----|------|-------|
| 0      | —   | 30   | ± 0.2 |
| 31     | —   | 60   | ± 0.3 |
| 61     | —   | 100  | ± 0.4 |
| 101    | and | Over | ± 0.5 |
| Angles |     |      | ± 2°  |



# Cooler Master Co., Ltd.

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## FAN

Delta Electronics Component Co., Ltd.  
Xi Nan District Shi Jie Town,  
Dong Guan City. Guangdong Province,  
China. P. R. C.

TEL : 86-769-6329008  
FAX : 86-769-6631589

### SPECIFICATION FOR APPROVAL

|                    |                |           |       |
|--------------------|----------------|-----------|-------|
| Customer:          | COOLERMASTER   |           |       |
| Description:       | DC FAN         |           |       |
| Customer P/N:      | 200007180-GP   | REV:      | 02    |
| Delta Model NO.:   | AFB0912VH-4E91 |           |       |
| Sample Rev:        | 02             | Issue NO: | 5307  |
| Sample Issue Date: | MAR-12-2005    | Quantity: | 10PCS |

#### 1. SCOPE:

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

FOLLOWING DATA IS BASED ON PROTOTYPE SAMPLES, ONLY FOR REFERENCE.

#### 2. CHARACTERS:

| ITEM                                       | DESCRIPTION                                                                      |
|--------------------------------------------|----------------------------------------------------------------------------------|
| RATED VOLTAGE                              | 12.0 VDC                                                                         |
| OPERATION VOLTAGE                          | 7.0 - 12.5 VDC                                                                   |
| INPUT CURRENT                              | 0.40 (MAX. 0.60) A                                                               |
| INPUT POWER                                | 4.80 (MAX. 7.20) W                                                               |
| SPEED (REF.)                               | 4500 R.P.M.±10%                                                                  |
| MAX. AIR FLOW<br>(AT ZERO STATIC PRESSURE) | 1.634 (MIN. 1.471 ) M <sup>3</sup> /MIN.<br>57.70 (MIN. 51.93 ) CFM              |
| MAX. AIR PRESSURE<br>(AT ZERO AIRFLOW)     | 8.60 (MIN. 6.97 ) mmH <sub>2</sub> O<br>0.338 (MIN. 0.274 ) inchH <sub>2</sub> O |
| ACOUSTICAL NOISE (AVG.)                    | 47.5 (MAX. 51.5) dB-A                                                            |
| INSULATION TYPE                            | UL: CLASS A                                                                      |

(continued)

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A00



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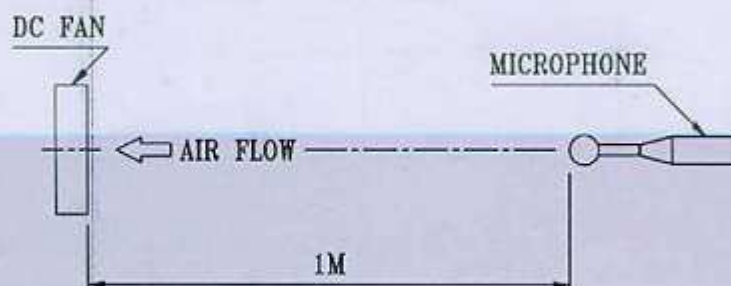
www.coolermaster.com

PART NO: 200007180-GP

DELTA MODEL: AFB0912VH-4E91

|                        |                                                                                                                                               |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| INSULATION STRENGTH    | 10 MEG OHM MIN. AT 500 VDC<br>(BETWEEN FRAME AND (+) TERMINAL)                                                                                |
| DIELECTRIC STRENGTH    | 5 mA MAX. AT 500 VAC 60 Hz<br>ONE MINUTE, (BETWEEN FRAME AND<br>(+) TERMINAL)                                                                 |
| EXTERNAL COVER         | OPEN TYPE                                                                                                                                     |
| LIFE EXPECTANCE        | 70,000 HOURS CONTINUOUS OPERATION<br>AT 40 °C WITH 15 ~ 65 %RH.                                                                               |
| ROTATION               | CLOCKWISE VIEW<br>FROM NAME PLATE SIDE                                                                                                        |
| OVER CURRENT SHUT DOWN | THE CURRENT WILL SHUT DOWN WHEN<br>LOCKING ROTOR                                                                                              |
| LEAD WIRE              | UL 1061 -F- AWG #26<br>BLACK WIRE:NEGATIVE(-)<br>RED WIRE:POSITIVE(+)<br>YELLOW WIRE:TACHOMETER OUTPUT (FOO)<br>BLUE 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: 200007180-GP

DELTA MODEL: AFB0912VH-4E91

### 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 ----- 90 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 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

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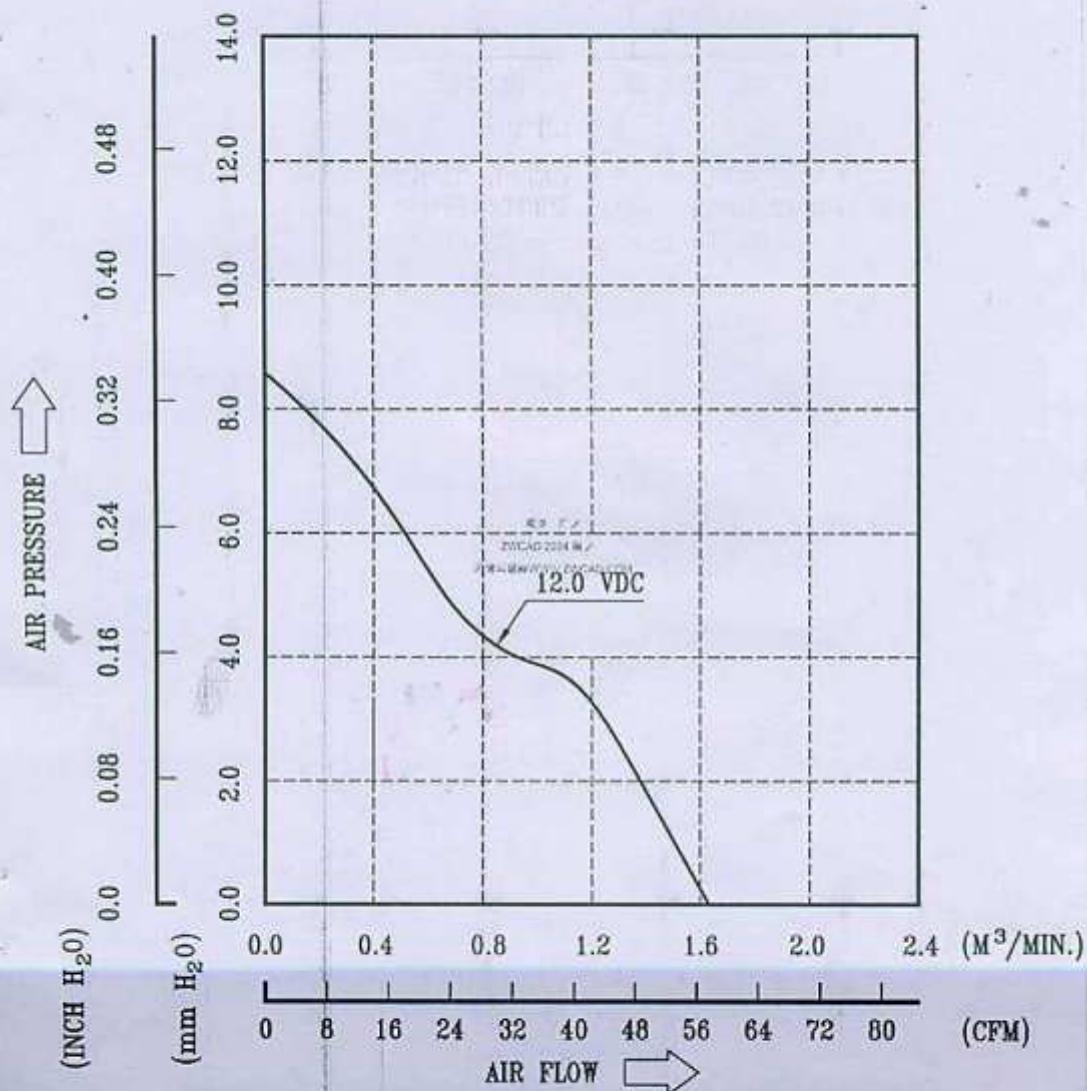
A00



PART NO: 200007180-GP

DELTA MODEL: AFB0912VH-4E91

## 9. P & Q CURVE:



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



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PART NO: 200007180-GP

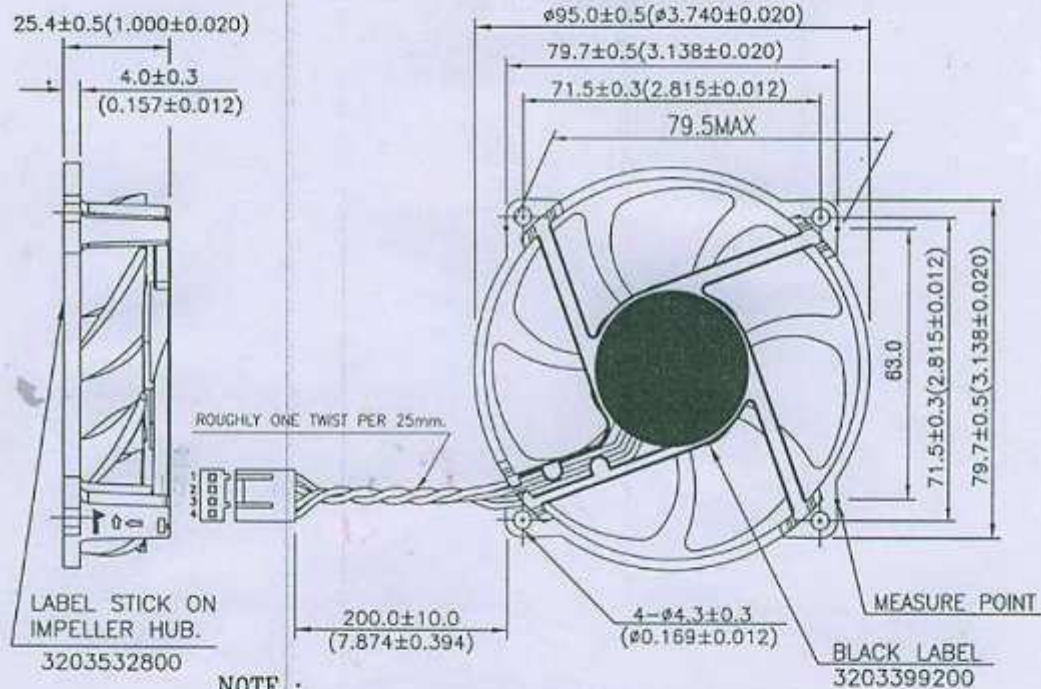
DELTA MODEL: AFB0912VH-4E91

## 10. DIMENSION DRAWING:

LABEL:



OR



NOTE :

1. LEAD WIRE UL 1061 AWG #26  
PIN 1 : BLACK WIRE: NEGATIVE(-) UNIT: MM(INCH)  
PIN 2 : RED WIRE: POSITIVE(+)  
PIN 3 : YELLOW WIRE: TACHOMETER OUTPUT (F00)  
PIN 4 : BLUE WIRE: SPEED CONTROL (PWM)
2. HOUSING : WIESON G2510C888-001 OR EQUIVALENT
3. TERMINAL : WIESON G2511-T1 OR EQUIVALENT
4. LEAD FREE MODEL

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A00



CSA INTERNATIONAL

## CERTIFICATION RECORD

The company named below has been authorized by CSA to represent the products listed in this record as "CSA Certified" and to affix the CSA Mark to these products according to the terms and conditions of the CSA Service Agreement and applicable CSA program requirements (including additional Markings).

File No: 091949 0 000

Class No: 3812 01 FANS AND BLOWERS

### SUBMITTOR

4510824 Delta Electronics, Inc.  
31-1 Shien Pam Rd  
Kuei Shan Industrial Zone  
Taoyuan Hsien, 333  
Taiwan

### FACTORIES

4510824 Delta Electronics, Inc.  
31-1 Shien Pam Rd  
Kuei Shan Industrial Zone  
Taoyuan Hsien, 333  
Taiwan

4554827 Delta Electronics Component  
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Yue Yun Central Rd  
Xinan District Shijie Town  
Dongguan, Guangdong 511724  
China

4562908 Delta Electronics Components  
(Thailand) Ltd.  
699 SOI E5 E.P.Z  
Bangpoo Ind Estate Sukhumvit Rd  
Km 37 Praksa District Amphur  
Samutprakran, 10280  
Thailand

November 17, 2000(Replaces August 17, 2000)

### CATEGORIES:

- Extra Low Voltage Fans and Ventilators

### Notes:

1. The above categories are components of other certified equipment, where the suitability of the combination is to be determined by CSA International.

DDO No. 548 99/04/08



GPWV2.E132003-Fans,Electric-Component

第1頁, 共7頁



## Online Certifications Directory

### GPWV2.E132003 Fans,Electric-Component

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### Fans,Electric-Component

#### Guide Information

#### DELTA ELECTRONICS INC

14TH FL  
266 2ND WEN-HWA RD,SEC 1  
LINKOU  
TAIPEI HSIEN 244,TAIWAN

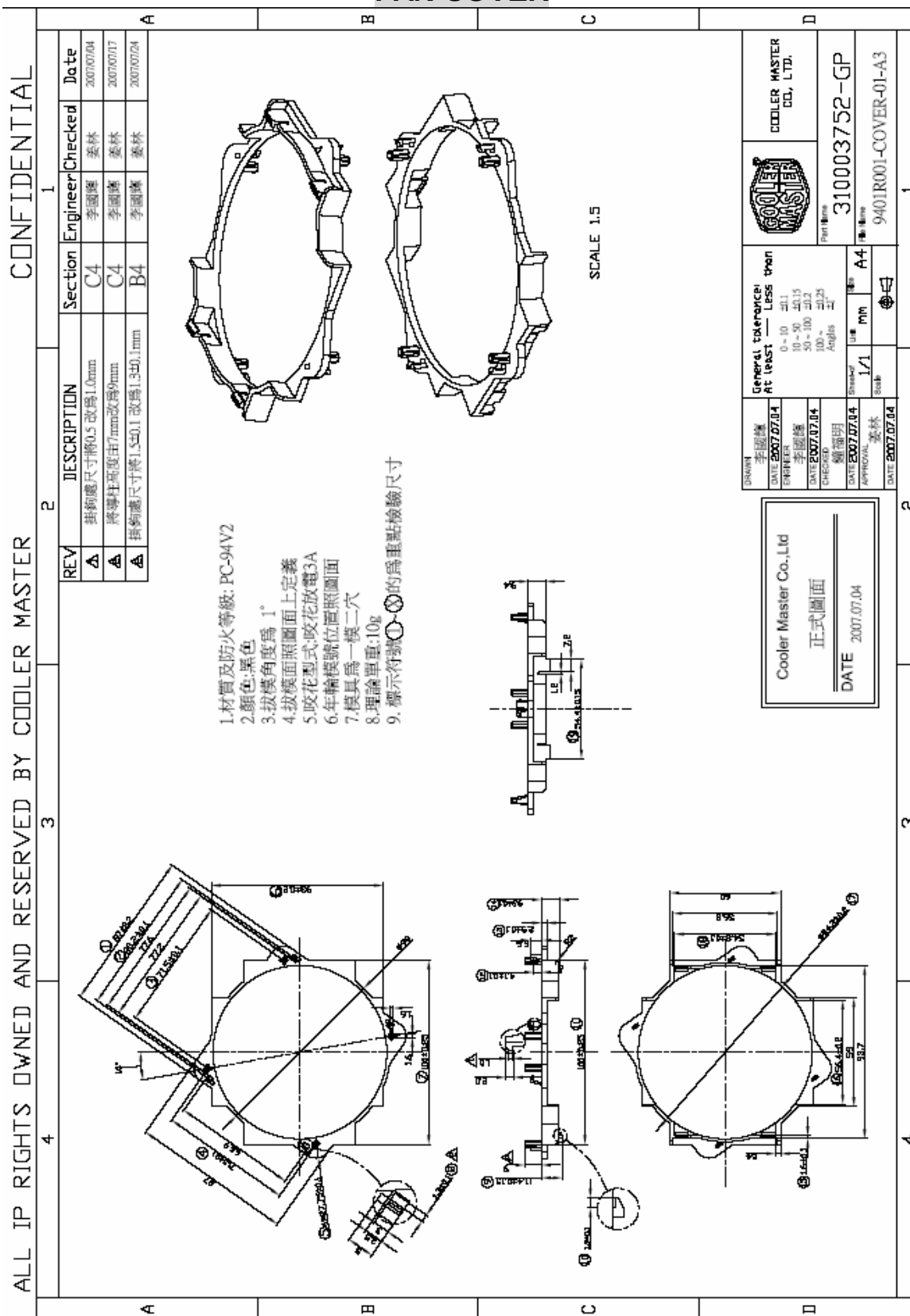
E132003

Model AFB followed by 0405,0412,followed by HA,HHA,LA or MA;Model AFB followed by 0505, followed by HB,LB or MB; Model AFB followed by 0512, followed by HB, HHB LB or MB;Model AFB followed by 0605, followed by H, L or M, followed by R00, R05,RR 0 or RR05;Model AFB followed by 0605 or 0805, followed by H,L or M; Model AFB followed by 0612, 0624, followed by EH, SH VH; Model AFB0612LB; Model AFB followed by 0612, 0624, 0812, 0824, 0912 or 0924, followed by H,HB, HH, HHB, LB, LLB, MB, SHB or VHB; Models ASB0412MA,ASB0412LA, ASB0405MA; Model ASB followed by 0405,0412,followed by HA, HHA, LA or MA; Model ASB followed by 0505, followed by HB, LB or MB;Model ASB followed by 0512, 0524, followed by HB, HHB,LB or MB; Model ASB followed by 0812, 0824, followed by HB, HHB, LB,LLB, MB, SHB or VHB; Model ASB followed by 0612 or 0624,followed by H,HH, L or M; Model ASB followed by 0812,followed by L or M; Model ASB followed by 0912 or 0924, followed by H, L, or M; Model AUB followed b0505,0512 or 0524, followed by HB, HHB, LB or MB, Model AUB followed by 0612, 0624, followed by H, HH, L or M; Model AUB followed by 0912, K 0924,followed by H, HH, L,M or VH; Model AUB followed by 0612 or 0624, followed by L, M, H or HH; Model AUB followed by 0812 or 0824, followed by HB, HHB, LB, LLB, MB, SHB or VHB; Model AUB followed by 0924, followed by L, M, H, HH or VH, Model BFB followed by 1212, followed by H, HH, L, LL, M or VH;Model BFB followed by 1224, followed by H, HH, L, LL, M or VH; Model BFB followed by 1248, followed by H,HH, L, LL, M; Model BFC followed by 1012,followed by A, B or C; Model DFB followed by 0405 or 0412,followed by H, L, LL, M; Model DFB followed by 0612, 0812, 0912, 0824 or 0924,followed by H, L or M;Model DFB followed by 0612,0812,0824,0912 or 0924, followed by HH; Model DFB followed by 0424,

.../showpage.html?name=GPWV2.E132003&ccnshortitle=Fans,+Electric+-Component&objid=102002/3/15



## FAN COVER





# Cooler Master Co., Ltd.

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[www.coolermaster.com](http://www.coolermaster.com)

## Package

### Bulk Package

7 pcs in one layer,  
total 2 layer in one carton,14 pcs/ctn



Carton Size : 622x369x184 (mm)

Weight :9.2kg





# Cooler Master Co., Ltd.

TEL: +886 (2) 32340050 FAX : +886 (2) 32340051

www.coolermaster.com

## 5. CE

CE NVLAP Certificate No: EC621413

**SPORTON LAB.**

# CERTIFICATE

**EQUIPMENT :** Cooler  
**MODEL NO. :** XXXXXXXXXXXXXXX (X=0-9, a-z, blank or "-")  
**APPLICANT :** Cooler Master Co., Ltd.  
9F, No. 786, Chung-Cheng Rd., Chung-Ho City,  
Taipei Hsien, 235 Taiwan, R.O.C.

**SPORTON LAB.** **I HEREBY CERTIFY THAT:**

THE MEASUREMENTS SHOWN IN THIS TEST REPORT WERE MADE IN ACCORDANCE WITH THE PROCEDURES GIVEN IN EUROPEAN COUNCIL DIRECTIVE 89/336/EEC. THE EQUIPMENT WAS PASSED THE TEST PERFORMED ACCORDING TO European Standard EN 55022:1998/A1:2000/A2:2003 Class B, EN 61000-3-2:2000, EN 61000-3-3:1995/A1:2001 and EN 55024:1998/A1:2001/A2:2003 ( IEC 61000-4-2:1995/A2:2000, IEC 61000-4-3:1995/A2:2002, IEC 61000-4-4:1995/A2:2001, IEC 61000-4-5:1995/A1:2000, IEC 61000-4-6:1996/A1:2000, IEC 61000-4-8:1993/A1:2000, IEC 61000-4-11:1994/A1:2000 ). THE TEST WAS CARRIED OUT ON Feb. 16, 2006 AT SPORTON INTERNATIONAL INC. LAB.

*Jones Chan* Feb 24, 2006  
Jones Chan  
Supervisor



# Cooler Master Co., Ltd.

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## 6. UL



**UL International, L.L.C.**  
**Taiwan Branch**

**美商優力安全認證有限公司台灣分公司**

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電話: 886-2-2896-7790  
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<http://www.ul.com.tw>

### NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

May 12, 2006

MS. Juyu Chen  
Cooler Master Co Ltd  
9th FL 786 Chung-Cheng Rd  
Chung-Ho, Taipei Hsien 235  
Taiwan

Fax number: 02-32340051  
E-mail: [juyu-chen@coolermaster.com.tw](mailto:juyu-chen@coolermaster.com.tw)

Reference: File E189887 Project 06CA23884 P.O. Number U621412  
Product: UL/CUL Investigation For COOLER FAN, employing the revise model designation A1A2-A3A4A5-A6A7A8A9, B1B2-B3B4B5-B6B7B8B9, C1C2-C3C4C5-C6C7C8C9 to A1A2-A3A4A5-A6A7A8A9-A10A11, B1B2-B3B4B5-B6B7B8B9-B10B11, C1C2-C3C4C5-C6C7C8C9-C10C11; and alternate model designation X1X2-X3X4X5-X6X7X8X9-X10X11.

Dear Ms. Chen,

Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.

UL's investigation of your product has been completed under the above project number and the subject product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Recognized Marking and/or Recognized Component Mark only at the factory under UL's Follow-Up Service Program to the subject product, which is constructed as described below:

Similar to products covered in the UL Follow-Up Services Procedure, File E189887, Volume X1, Report Reference No. E189887-A1-UL-1, except for employing the revise model designation A1A2-A3A4A5-A6A7A8A9, B1B2-B3B4B5-B6B7B8B9, C1C2-C3C4C5-C6C7C8C9 to A1A2-A3A4A5-A6A7A8A9-A10A11, B1B2-B3B4B5-B6B7B8B9-B10B11, C1C2-C3C4C5-C6C7C8C9-C10C11; and alternate model designation X1X2-X3X4X5-X6X7X8X9-X10X11

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this Notice and all attached material to each manufacturing location as currently authorized in File E189887, Volume X1.

This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent to the indicated manufacturing locations in the near future. Please note that Follow-Up Services Procedures are sent to the manufacturers only unless the Applicant specifically requests this document.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Sincerely,

Jay Hsu

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Reviewed by:

Wisely Lin

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