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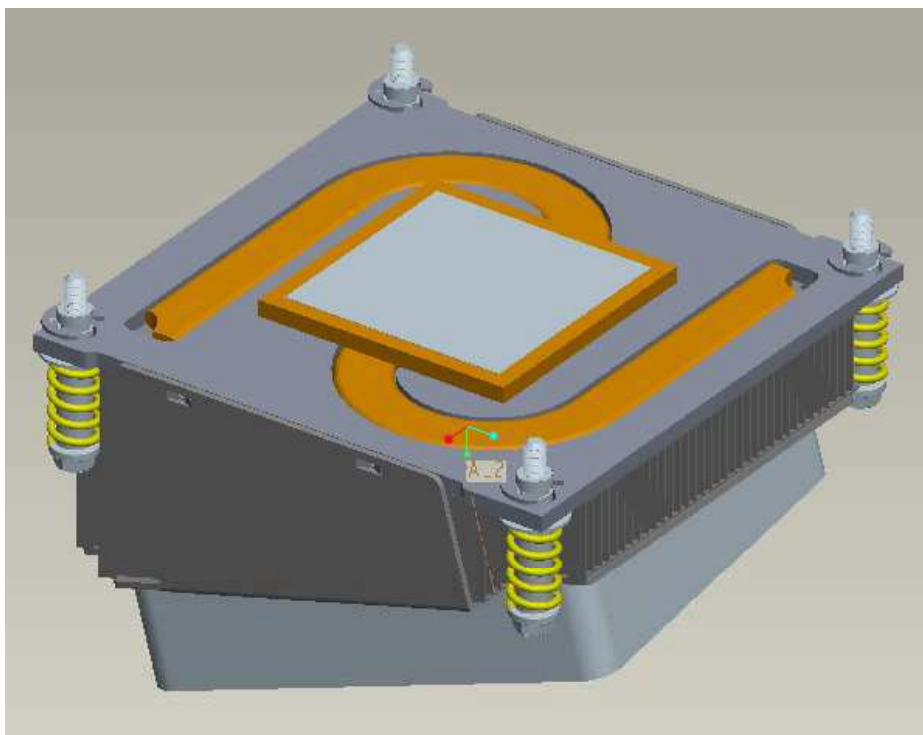
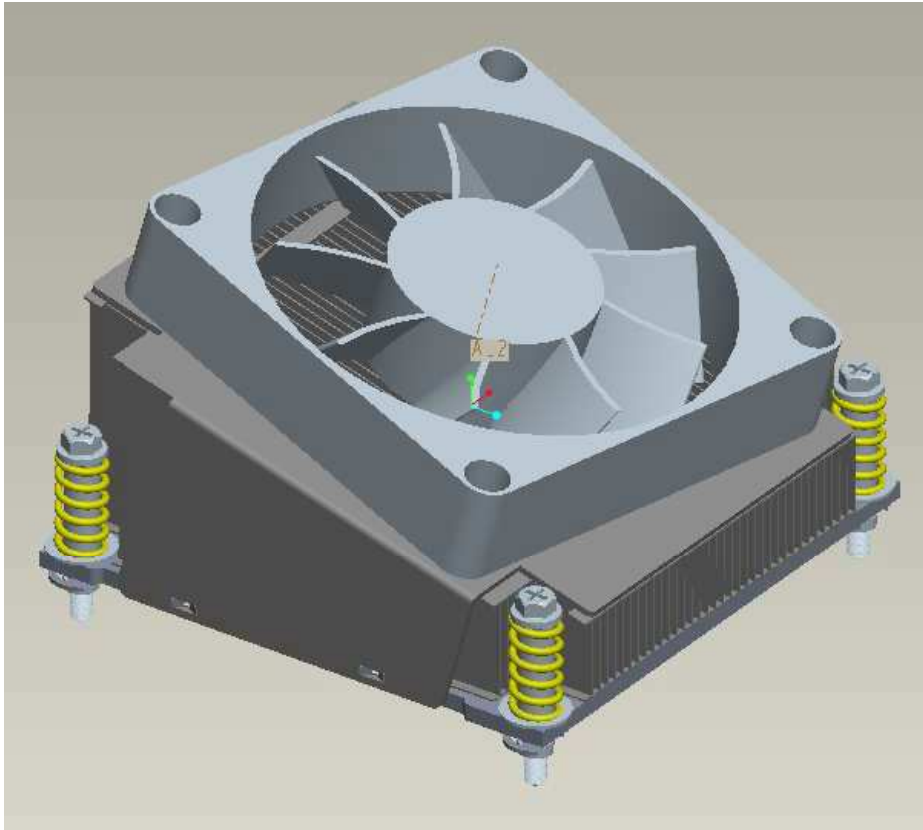


2. Product BOM

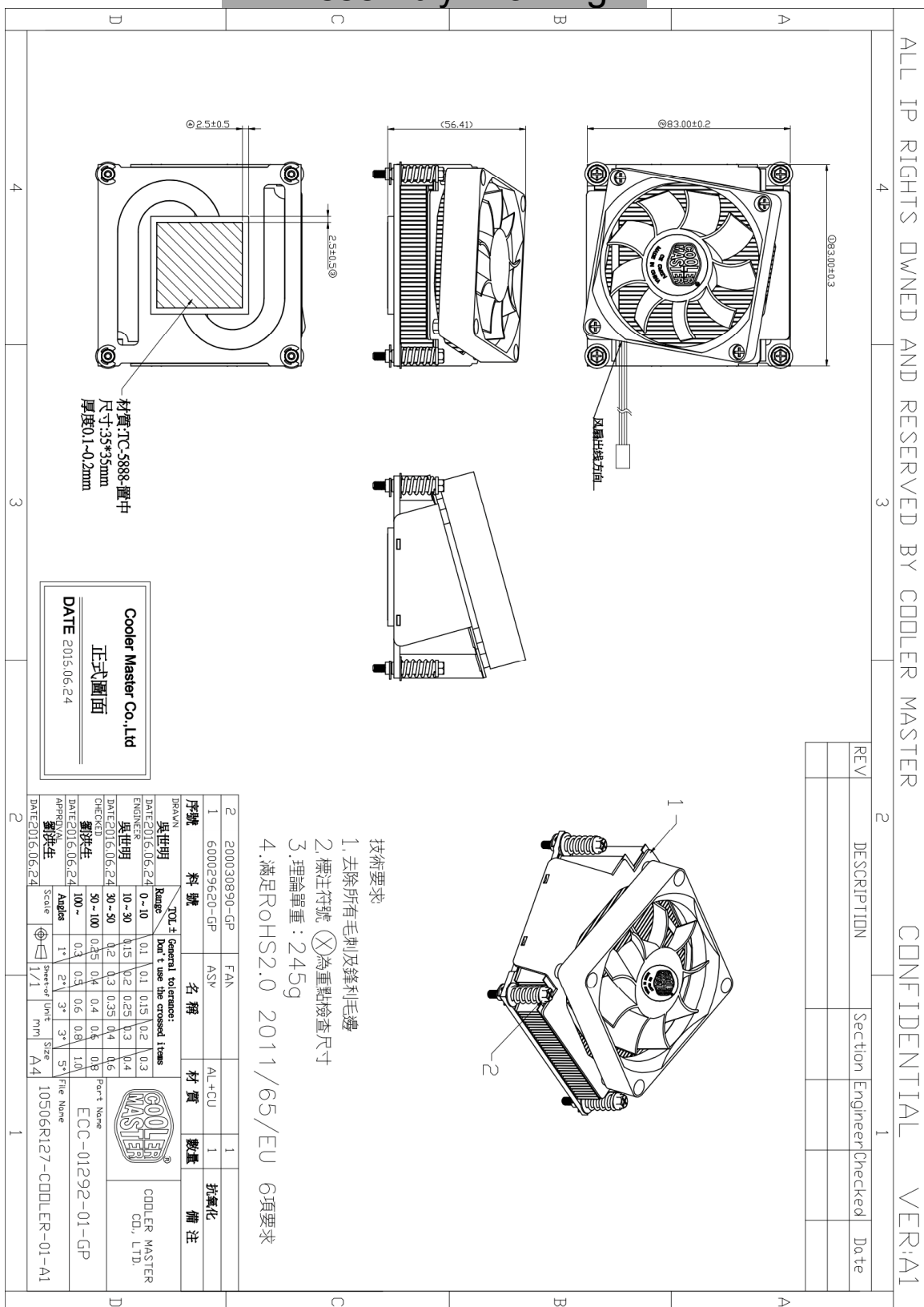
NO.	PART NO	PART NAME	QTY
1	600029620-GP	COOLER	1
1.1	600030160-GP	ASM	1
1.1.1	250061730-01-GP	BASE 01	1
1.1.2	280013930-GP	FIN	1
1.1.3	261017930-GP	PIPE	2
1.1.4	270017000-GP	BASE 02	1
1.1.5	310023810-GP	COVER	1
1.1.6	500006290-GP	低溫錫膏	
1.2	150023080-GP	CPU SCREW	4
1.3	450013950-GP	CPU SPRING	4
1.4	300011060-GP	SPU WASHER	4
1.5	300002012-GP	CPU ERING	4
1.6	359000530-GP3	FAN LABEL	1
1.7	150043470-GP	FAN SCREW	4
1.8	520001400-GP3	TC-5888	
2	200030890-GP	FAN	1



3. Product Photo

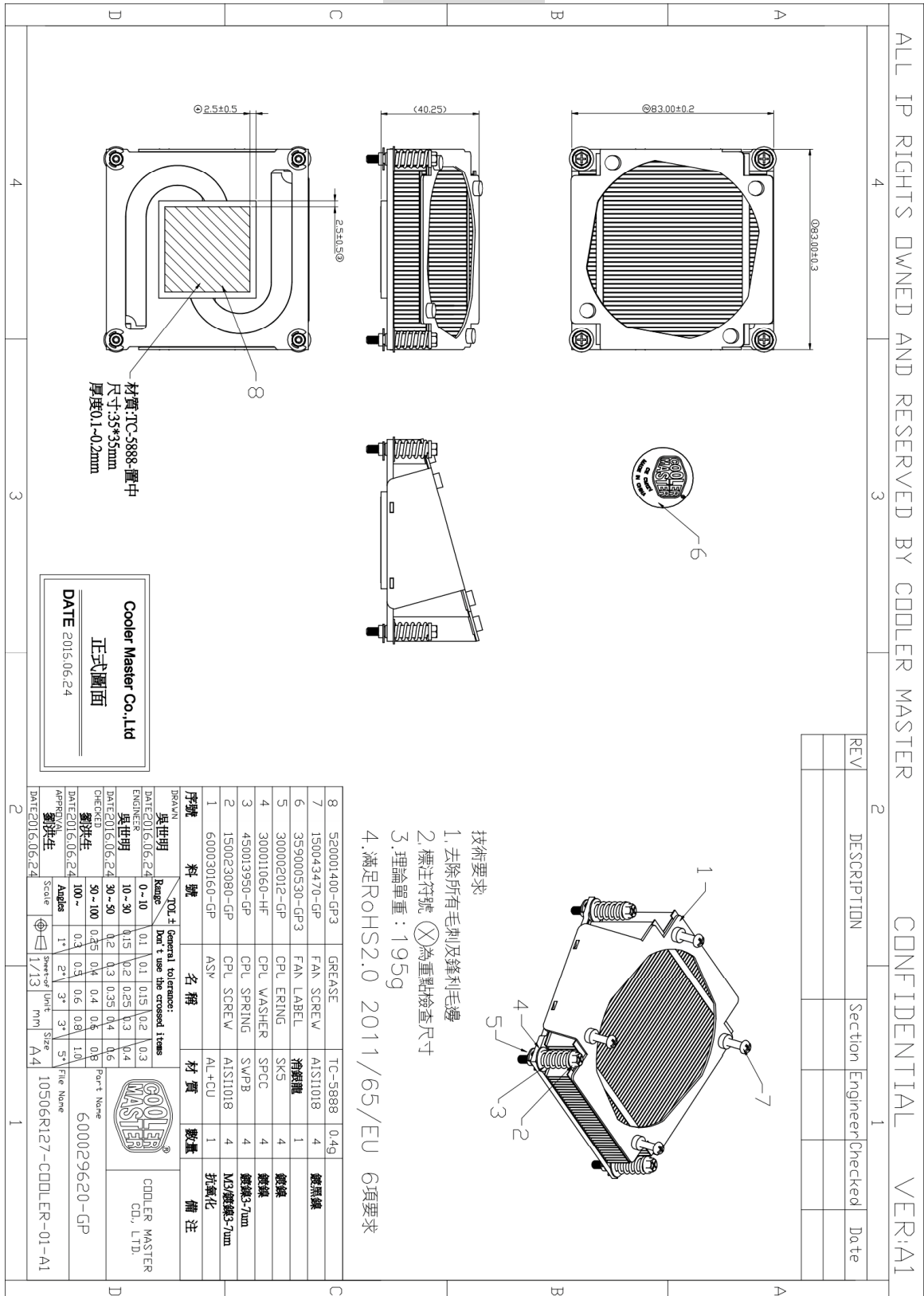


4.Assembly Drawing



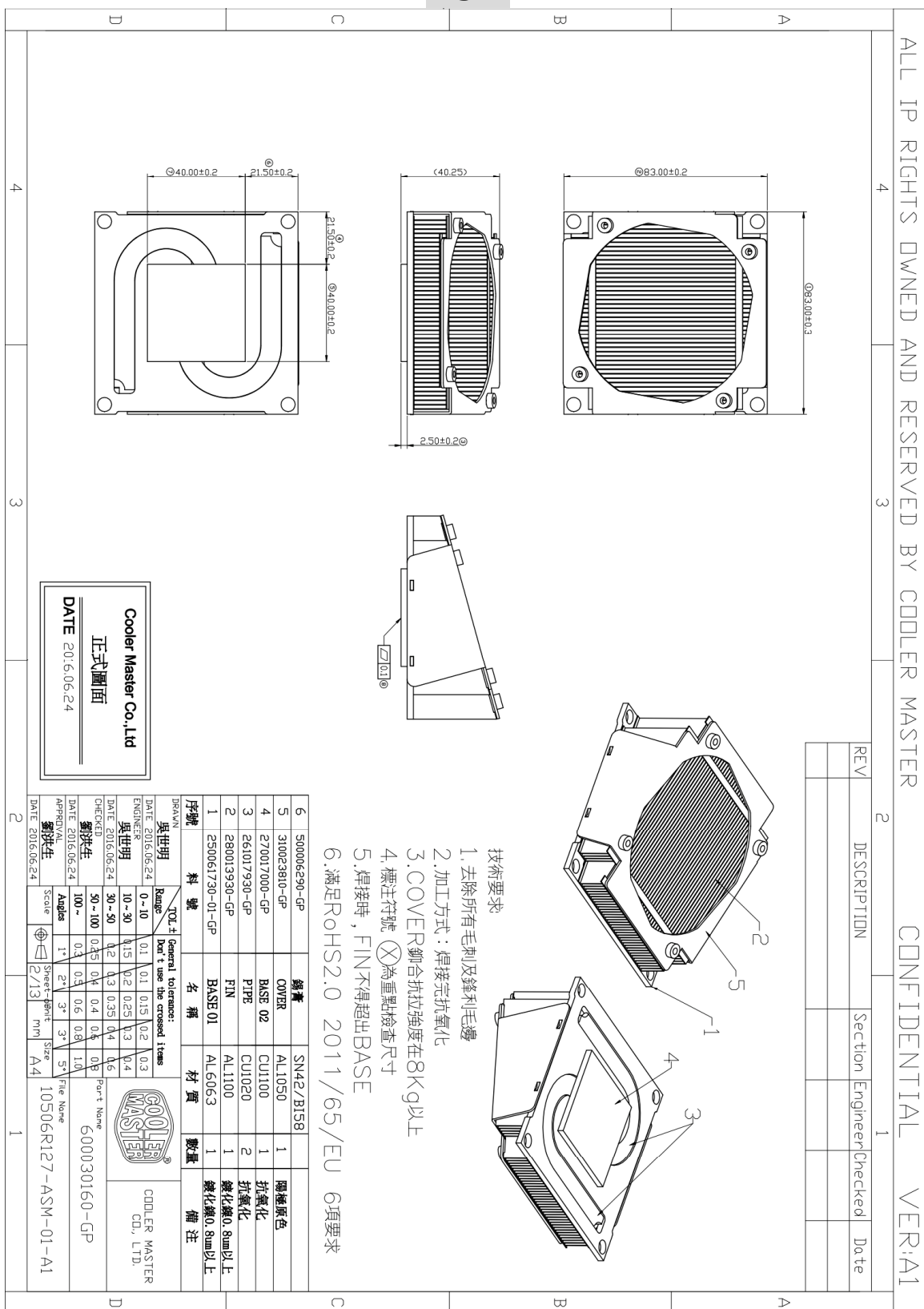


5. Specification & Drawing COOLER



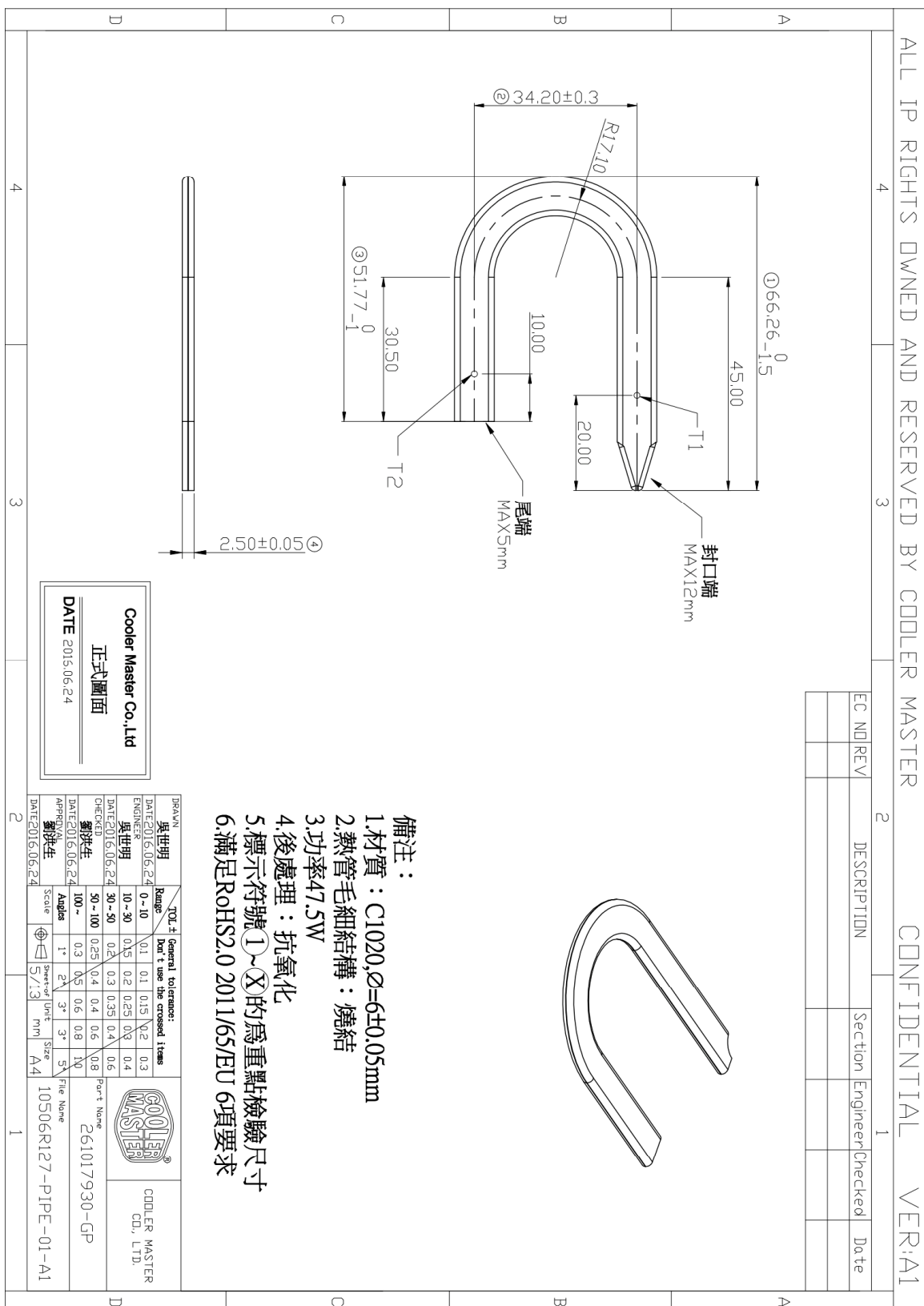


ASM











BASE 02

ALL IP RIGHTS OWNED AND RESERVED BY COOLER MASTER				CONFIDENTIAL				VER:A1	
4		3		2		1			
EC NO	REV	DESCRIPTION		Section	Engineer	Checked	Date		

① 40.00±0.2

② 40.00±0.2

③ 2.50±0.1

④ C.1

Cooler Master Co., Ltd.
正式圖面
DATE 2015.06.24

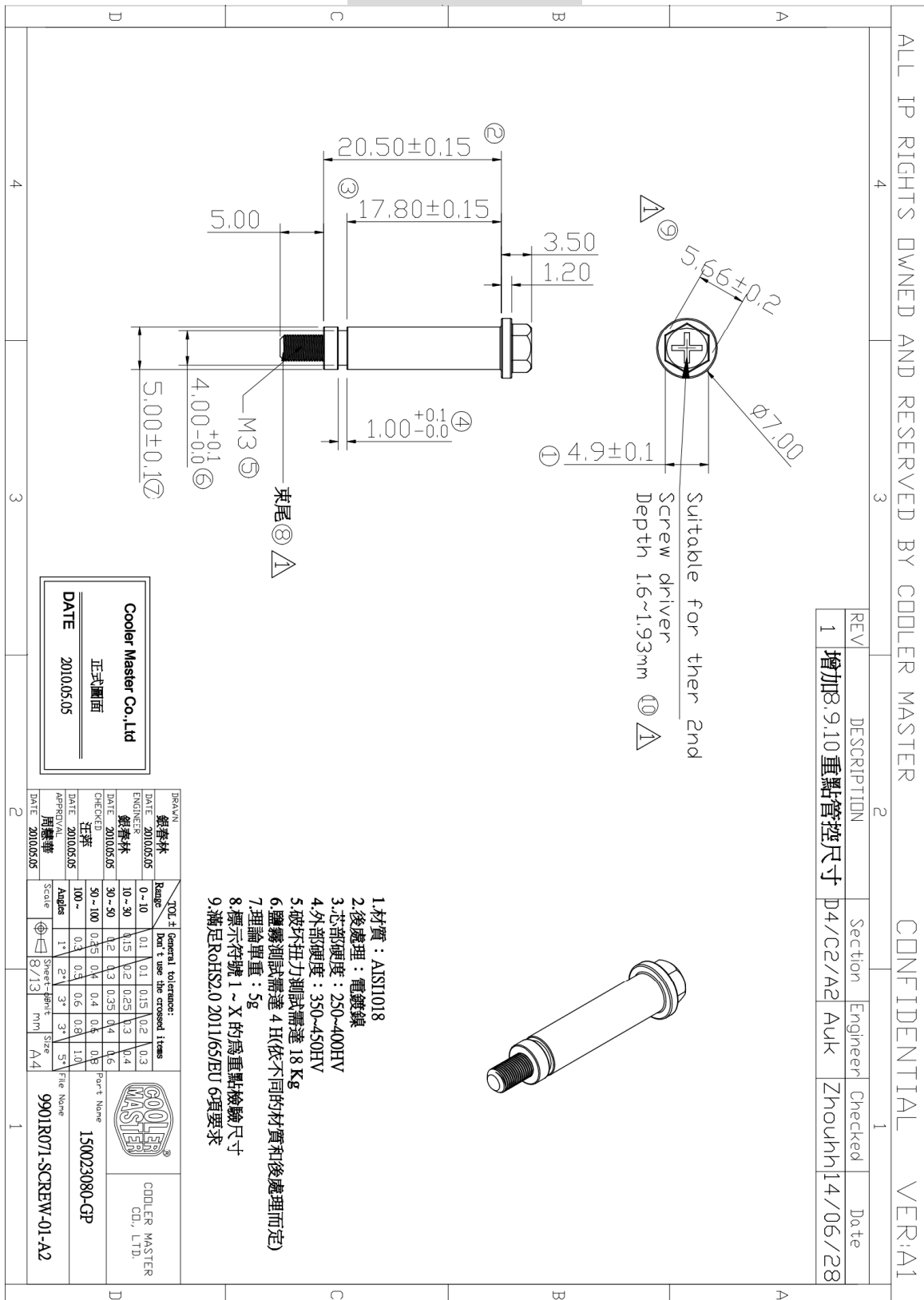
技術要求:
1. 材質: C1100
2. 導電率 ≥ 95%
3. 表面處理: 抗氧化
4. 標示符號 ①~④ 為重要檢驗尺寸
5. 滿足 RoHS2.0 2011/65/EU 6項要求

DRAWN		TOL ± General tolerance:		Part 1 use the crossed items		COOLER MASTER	
Range	0 ~ 10	0.1	0.1	0.15	0.2	0.3	CD, LTD.
ENGINEER	吳世明	10 ~ 30	0.15	0.2	0.25	0.3	
CHECKED	吳世明	30 ~ 50	0.2	0.3	0.35	0.4	
APPEND	劉世生	50 ~ 100	0.25	0.4	0.4	0.5	
Scale	1:1	0.3	0.5	0.6	0.8	1.0	
Sheet	1	2	3	4	5	6	
Unit	mm	mm	mm	mm	mm	mm	
Size	A4	A4	A4	A4	A4	A4	
File Name	270017000-GP						
Part Name	10506R127-BASE-02-A1						





CPU SCREW



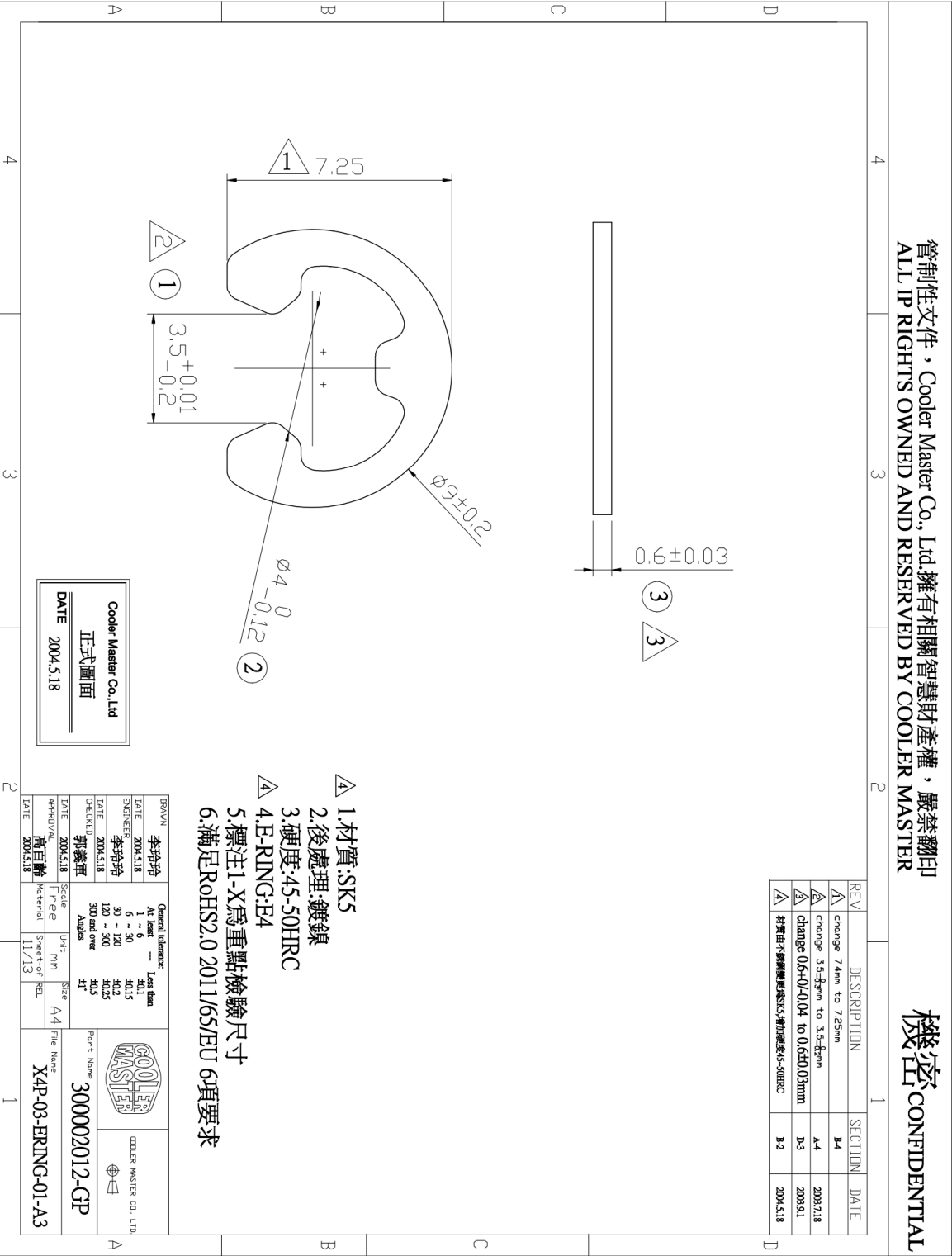




CPU ERING

管制性文件，Cooler Master Co., Ltd. 擁有相關智慧財產權，嚴禁翻印
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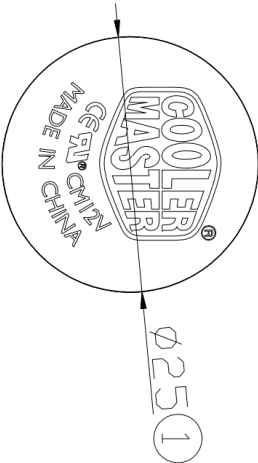
機密 CONFIDENTIAL





FAN LABEL

ALL IP RIGHTS OWNED AND RESERVED BY COOLER MASTER		CONFIDENTIAL		VER: A1							
4		3		2							
REV		DESCRIPTION		Section	Engineer	Checked	Date				
A		ROHS2.0									
HF											
D		C		B		A					
4		3		2		1					
DATE		2010.12.13									
Cooler Master Co., Ltd		正式圖面									
DATE		2010.12.13									
DRAWN		郭威									
DATE		2010.12.13									
ENGINEER		郭威									
DATE		2010.12.13									
CHECKER		周慧華									
DATE		2010.12.13									
APPROVER		周慧華									
DATE		2010.12.13									
TOL. ±		General tolerance:									
Range		Don't use the crossed lines									
0 ~ 10		0.1		0.1		0.15		0.2		0.3	
10 ~ 30		0.15		0.2		0.25		0.3		0.4	
30 ~ 50		0.2		0.3		0.35		0.4		0.6	
50 ~ 100		0.3		0.4		0.4		0.5		0.8	
100 ~		0.4		0.5		0.6		0.8		1.0	
Angle		1°		2°		3°		5°			
Sheet		12/13		mm		A4					
Part Name		COOLER MASTER									
File Name		359000530-GP3									
9817R014-1-label-A1											



NOTE:

- 1.材質:25#消銀龍,表面需加護膜,耐高溫(-40~80).
- 2.顏色:Pantone320C,表面加護膜.
- 3.標示符號 1 ~ X 的為重點檢驗尺寸
- 4.THE MATERIAL/PART/ASSEMBLY SHOULD COMPLY TO" HP GSE HP-00011-00 REV. N" FOR ENVIRONMENT-RESTRICTED SUBSTANCES.
- 5.BFR/PVC/CFR FREE REQUIREMENT SHOULD COMPLY WITH "HP GSE 011-1 SECTION 3.15 REV. N".
- 6.ROHS 2.0 REQUIREMENT SHOULD COMPLY WITH "HP ROHS 2 COMPLIANCE SPECIFICATION REV.C1".
- 7.滿足RoHS2.0 2011/65/EU 6項要求



FAN SCREW

ALL IP RIGHTS OWNED AND RESERVED BY COOLER MASTER		CONFIDENTIAL		VER: A1	
4	3	2	1		
REV	DESCRIPTION	Section	Engineer	Checked	Date

2.07

12.00

M3.00

Ø5.50

技術要求：

- 1.材質：AISI 1018
- 2.後處理：鍍黑鎳
- 3.硬度：表面硬度:350-450HV
心部硬度:280-380HV
- 4.扭力測試需達:18 Kg
- 5.理論單重：0.574G
- 6.標準:M3*12 P 頭
- 7.標示符號①~⑧的為重點檢驗尺寸
- 8.滿足RoHS2.0 2011/65/EU 6項要求

Cooler Master Co., Ltd

正式圖面

DATE 2016.06.24

DRAWN		TOL ±		General tolerance:		Part 1 use the crossed lines		Part 2 use the crossed lines	
DATE	ENGINEER	Range	0~10	0.1	0.15	0.2	0.3	0.4	0.5
2016.06.24	吳世明	10~30	0.15	0.2	0.25	0.3	0.4	0.5	0.6
2016.06.24	劉洪生	30~50	0.2	0.3	0.35	0.4	0.5	0.6	0.7
2016.06.24	劉洪生	50~100	0.25	0.4	0.4	0.5	0.6	0.8	1.0
2016.06.24	劉洪生	100~	0.3	0.5	0.6	0.8	1.0	1.2	1.5
APPROVED		Scale	1"	2"	3"	5"	File Name		
DATE 2016.06.24		Scale	13/13	mm	mm	mm	150043470-GP		
		Sheet	A4	A4		A4		10506R1271-SCREW-01-A1	



FAN

DELTA ELECTRONICS, INC.

252, SHANG YING ROAD, KUEI SAN

TAOYUAN SHIEN 333, TAIWAN, R. O. C.

TEL : 886-(0)3-3591968

FAX : 886-(0)3-3591991

SPECIFICATION FOR APPROVAL

Customer: CHIA CHEN

Description: DC FAN

Customer P/N: JAF707015C7

REV:

Delta Model NO.: AFB0712HHB-SZ08

Sample Rev: 00

Issue NO:

Sample Issue Date: SEP.06.2004.

Quantity:

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.

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	12.0 VDC
OPERATION VOLTAGE	3.5-12.5VDC
START VOLTAGE (ENVIRONMENT TEMPERATURE 25°C)	3.5 VDC.
INPUT CURRENT	0.26 (MAX. 0.45) A
INPUT POWER	3.12 (MAX. 5.40) W
SPEED	5400 R.P.M. ±10%
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	1.117 (MIN. 1.005) M ³ /MIN. 39.45 (MIN. 35.49) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	7.33(MIN. 5.94) mmH ₂ O 0.289(MIN. 0.234) inchH ₂ O
ACOUSTICAL NOISE (AVG.)	43.4 (MAX. 47.4) dB-A
INSULATION TYPE	UL: CLASS A
AUTO RESTART	YES

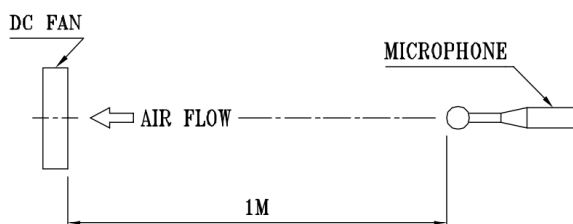
(continued)



PART NO: JAF707015C7
DELTA MODEL: AFB0712HHB-SZ08

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 1007 -F- AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) BLUE WIRE FREQUENCY(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: JAF707015C7
DELTA MODEL: AFB0712HHB-SZ08

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 BEARING
- 3-5. WEIGHT ----- 47 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.

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: JAF707015C7
DELTA MODEL: AFB0712HHB-SZ08

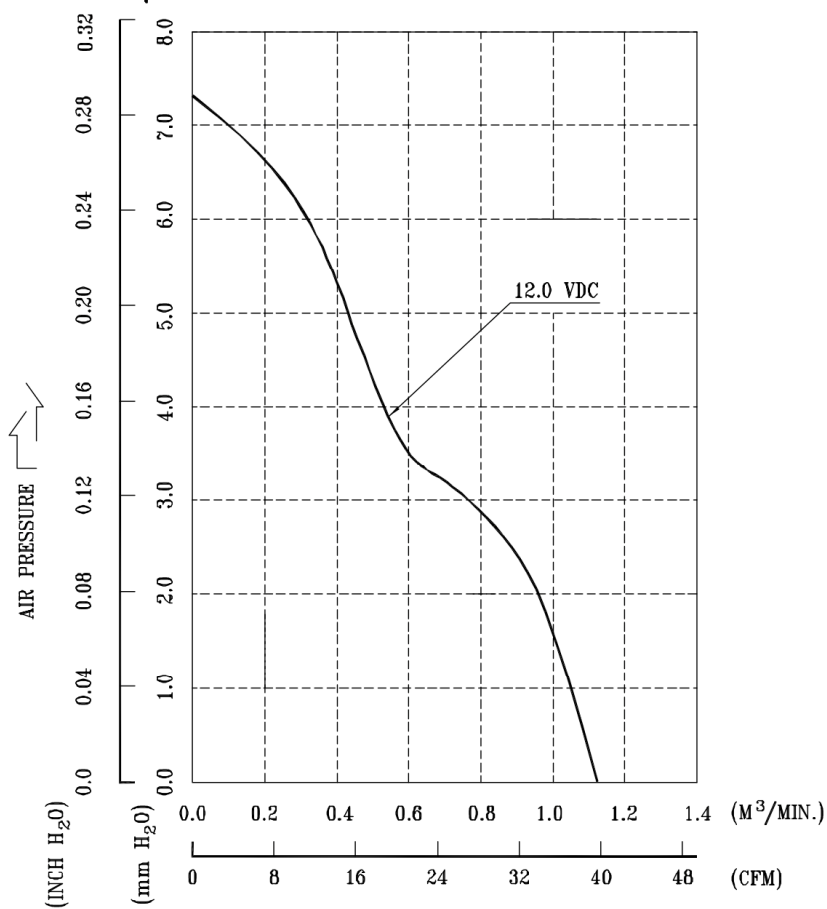
8. BASIC RELIABILITY REQUIREMENT:

- 8-1. THERMAL CYCLING LOW TEMPERATURE: -40°C
 HIGH TEMPERATURE: +80°C
 SOAK TIME: 30 MINUTES
 TRANSITION TIME < 5 MINUTES
 DUTY CYCLES: 5
- 8-2. HUMIDITY EXPOSURE TEMPERATURE: +25°C ~ +65°C
 HUMIDITY: 90-98% RH @ +65°C
 FOR 4 HOURS/CYCLE
 POWER: NON-OPERATING
 TEST TIME: 168 HOURS
- 8-3. VIBRATION TEMPERATURE: +25°C
 ORIENTATION: X, Y, Z
 POWER: NON-OPERATING
 VIBRATION LEVEL: OVERALL $g_{RMS}=3.2$
- | FREQUENCY(Hz) | PSD(G^2/Hz) |
|---------------|-----------------|
| 10 | 0.040 |
| 20 | 0.100 |
| 40 | 0.100 |
| 800 | 0.002 |
| 1000 | 0.002 |
- TEST TIME: 2 HOURS ON EACH ORIENTATION
- 8-4. MECHANICAL SHOCK TEMPERATURE: +20°C
 ORIENTATION: X, Y, Z
 POWER: NON-OPERATING
 ACCELERATION: 20 G MIN.
 PULSE: 11 ms HALF-SINE WAVE
 NUMBER OF SHOCKS: 5 SHOCKS
 FOR EACH DIRECTION
- 8-5. LIFE TEMPERATURE: MAX , OPERATING TEMPERATURE
 POWER: OPERATING
 DURATION: 1000 HOURS MIN.



PART NO: JAF707015C7
DELTA MODEL: AFB0712HHB-SZ08

9. P & Q CURVE:



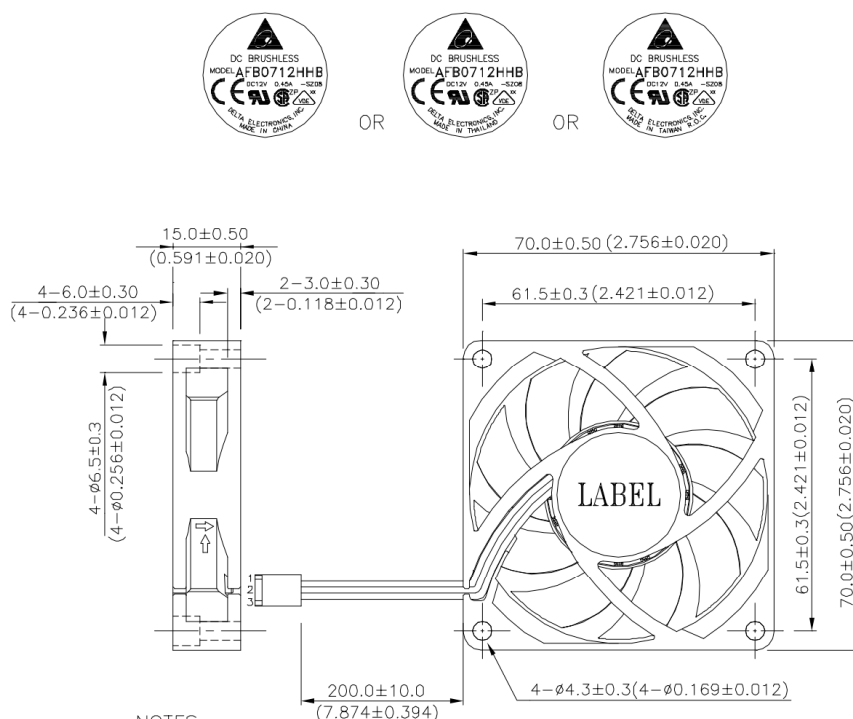
AIR FLOW →
* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH



PART NO: JAF707015C7
DELTA MODEL: AFB0712HHB-SZ08

10. DIMENSION DRAWING:

LABEL:



NOTES:

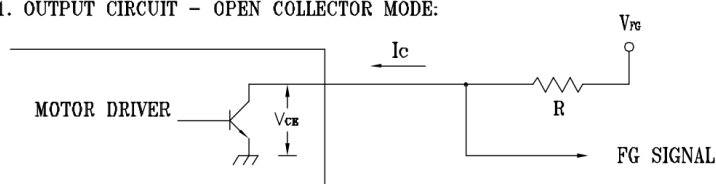
- 1.LEAD WIRE: UL1007 AWG#24
PIN 1: BLACK WIRE ----(-)
PIN 2: RED WIRE ----(+)
PIN 3: BLUE WIRE----(F00)
UNIT: mm(INCH)
- 2.HOUSING: MOLEX 2695-03 OR JWT A2548H00-3P
- 3.TERMINAL: MOLEX 2759T OR JWT A2543TOB-2
4. UNBLANCE: UNDER 12 MG-CM



PART NO: JAF707015C7
DELTA MODEL: AFB0712HHB-SZ08

11. FREQUENCY GENERATOR (FG) SIGNAL:

1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



CAUTION:

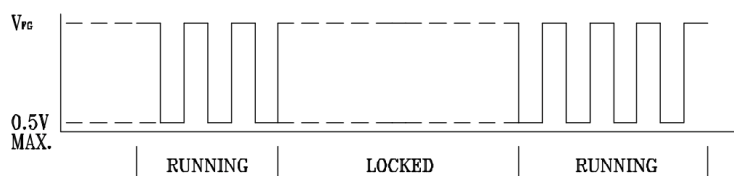
THE LEAD WIRE OF FG SIGNAL CAN NOT TOUCH
THE LEAD WIRE OF POSITIVE OR NEGATIVE.

2. SPECIFICATION:

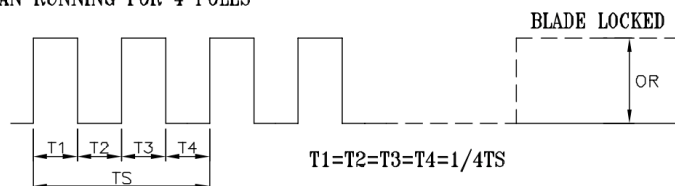
$V_{CE(sat)} = 0.5V$ MAX. $V_{CC} = 12.5VDC$ MAX.

$I_C = 5mA$ MAX. $R \geq V_{CC}/I_C$

3. FREQUENCY GENERATOR WAVEFORM:



FAN RUNNING FOR 4 POLES



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

$N=R.P.M$

$TS=60/N(SEC)$

*VOLTAGE LEVEL AFTER BLADE LOCKED

*4 POLES

6. Packing

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CONFIDENTIAL

VER:A1

REV	DESCRIPTION	Section	Engineer	Checked	Date

1.Carton: 1pcs
Total 24pcs heatsinks in one carton

Note:
Pallet dimension is 107(L)X100(W)X12.0(H)cm
Total dimension is 107(L)X100(W)X91.6(H)cm
Total 24pcs Heatsinks in one carton
6 cartons/layer, 4 layers
Total coolers unit is 576 PCS

Carton dimension: L47.0cm*W35.5cm*H19.9cm

packages for each carton

Part NO.	Part name	Dimension(mm)	Q'ty
TRAY	A10448A-GP3	110*110*33.6	1/1
BOX	A100047A-GP3	114*114*85	1/1
Partition	A080035A	455*345*3	3/24
Carton	A070343A-GP3	470*355*199	1/24

Cooler Master Co.,Ltd
正式圖面
DATE 2016.11.14

DRAWN	DATE	Range	TOL ±	General tolerance:	Part Name	COOLER MASTER CO., LTD.
Kun_rno	2016.11.14	0-10	0.1	0.15	0.2	0.3
ENGINEER	Kun_rno	10-30	0.15	0.2	0.25	0.3
DATE	2016.11.14	30-50	0.2	0.3	0.35	0.4
CHECKED	Koko_Xu	50-100	0.25	0.4	0.4	0.5
DATE	2016.11.14	100 ~	0.3	0.5	0.6	0.8
APPROVAL		Scale	1"	2"	3"	4"
Unit		mm	1/1	1mm	5	10
Size		A4				

COOLER MASTER CO., LTD.

ECC-01292-01-GP

Packaging-01-A1