

Product Data Sheets

Customer : _____

Part No. : _____

CoolerMaster Model No. : S2N-7DDL5-L6-GP

Edition: A1

Issued Date: 2007/12/06

Revision History :			
Date of Release	Revision No.	Description	
Customer		Cooler Master	
Approved by	DCC	Checked by	Drafted by
	李慧	冉易松 Richard	董浩 Goodman
Date:		Date:2007/12/06	Date:2007/12/06



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1. Whole Set

2. Specification & Dimension

- **Al HS**
- **Clip**
- **Cu HS**
- **Screw**
- **Spring**
- **Washer**
- **ETW**
- **Interface**
- **Fan Spec**

3. Package

4. CE/UL

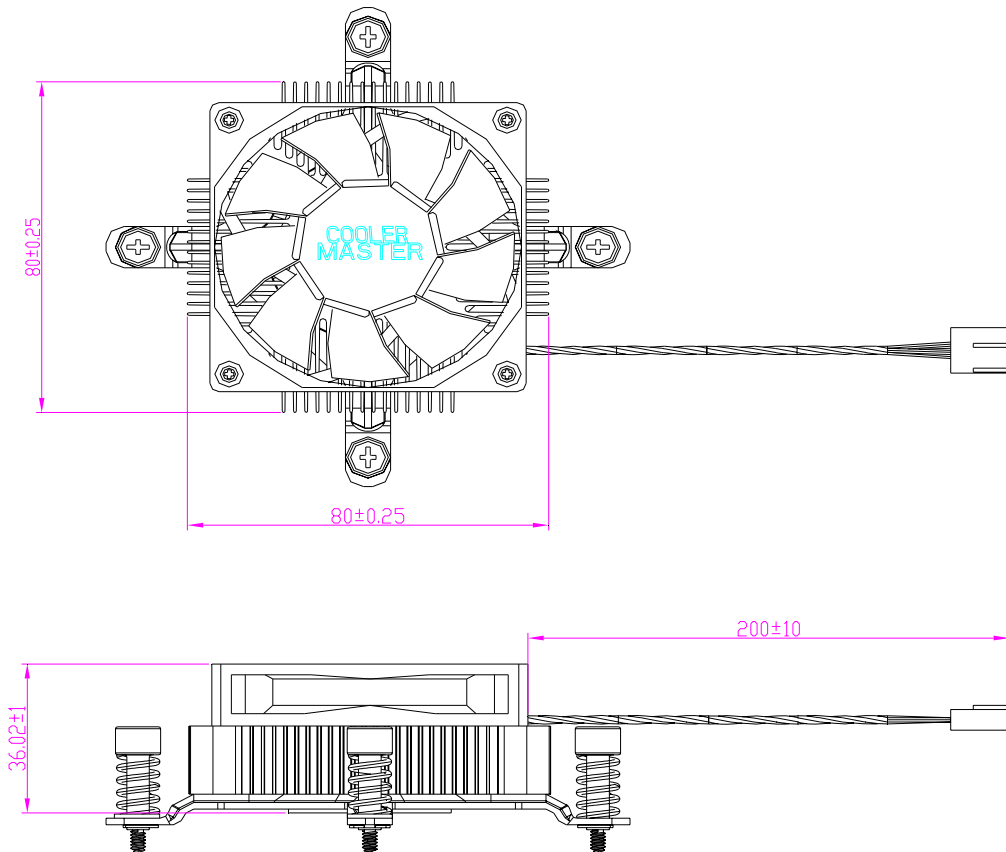


Whole Set





Specification & Dimension





AL HS

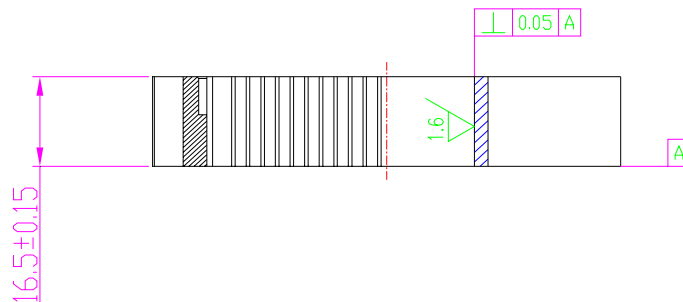
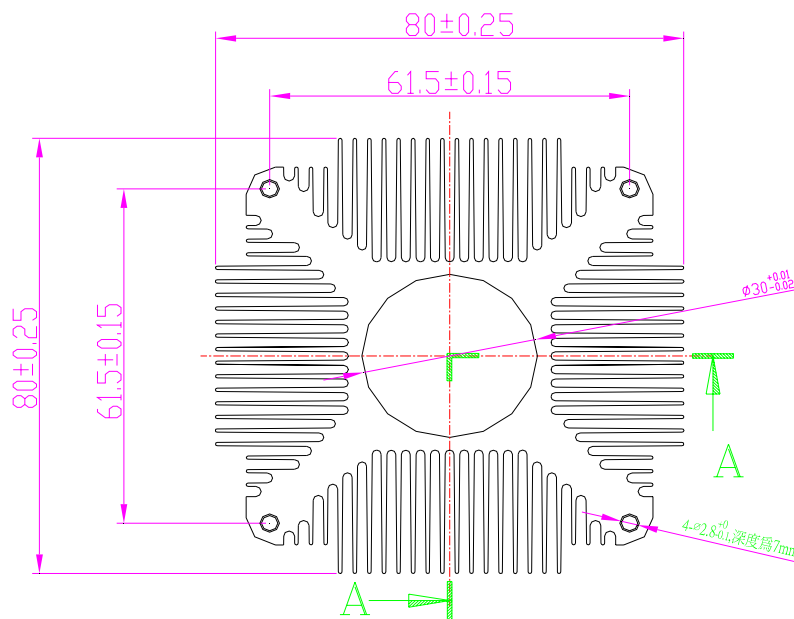
Material : Aluminum Alloy 6063 T5

Mechanical Characteristics :

Alloy No.	Designation	Cutting Area Surface	Extension Rate
6063	T5	Over 15 kgf/mm ²	7 %

Chemistry Ingredient & Temper Designation :

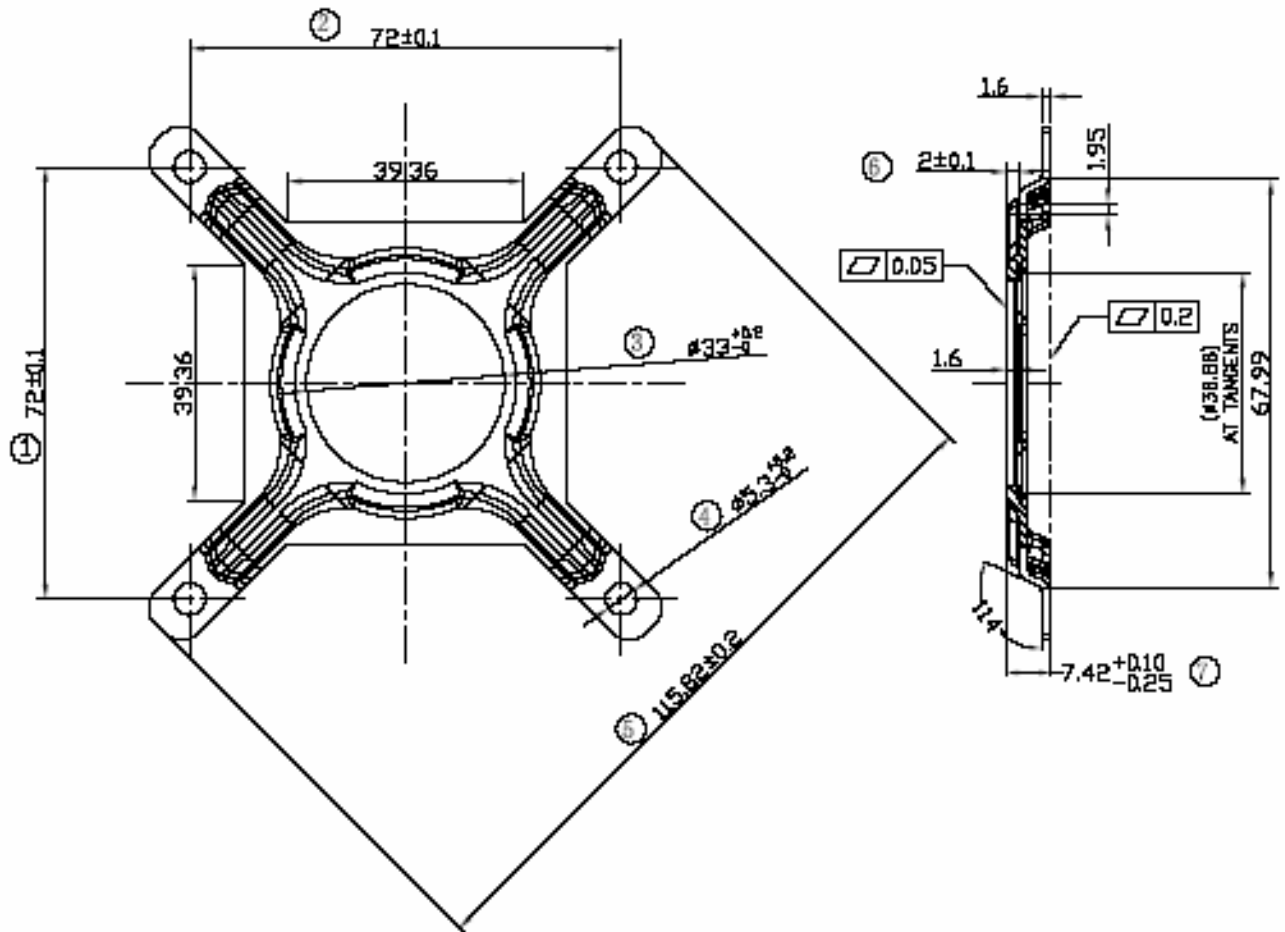
Value	Si	Fe	Cu	Mn	Cr	Mg	Zn	Ti	Flatness
SPECIFIED VALUES	0.4258	0.2037	0.0032	0.0059	0.0028	0.5147	0.0000	0.00263	0.1mm ↓





CLIP

Material: S50c





Cu Hs

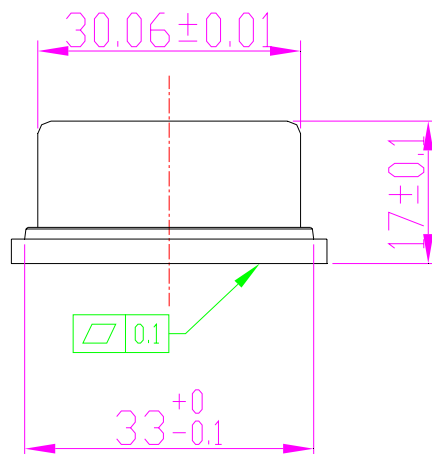
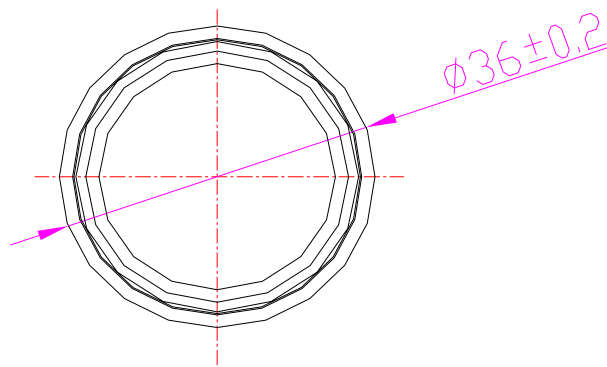
Material : C1100 (Heat Sink)

Mechanical Characteristics :

Alloy No.	Tensile Strength (26~32kgf/mm ²)	Hardness Test (80~100HV)	Elongation (%)
C1100	26.29	88	98

Chemistry Ingredient Characteristics :

Value	Cu	Pd	Fe	Sn	Zn	P
SPECIFIED VALUES	99.90	0	0	0	REN	0





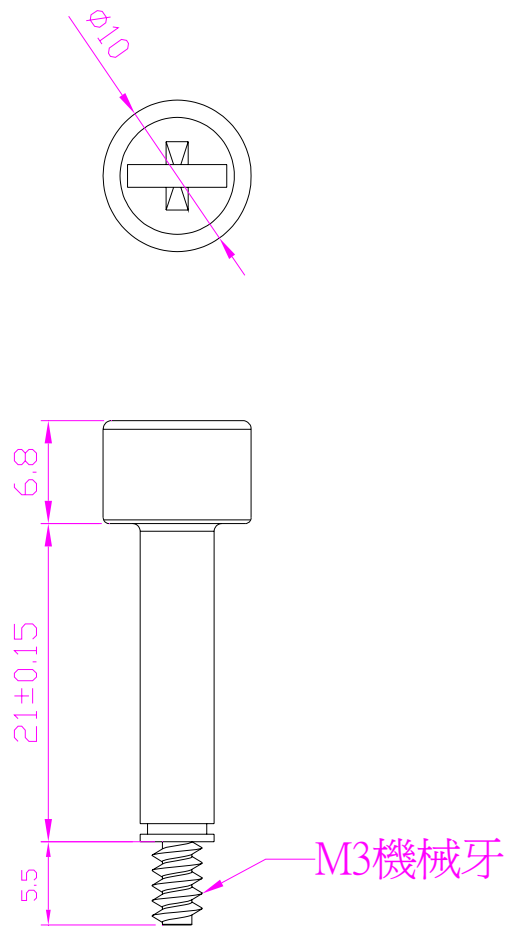
Screw

Material : AISI 1018

Finished : Nickel-Plated

Chemistry Ingredient Characteristics : (%)

Value	C	KN	P	S	SI
SPECIFIED VALUES	0.16	0.78	0.24	0.8	0.2



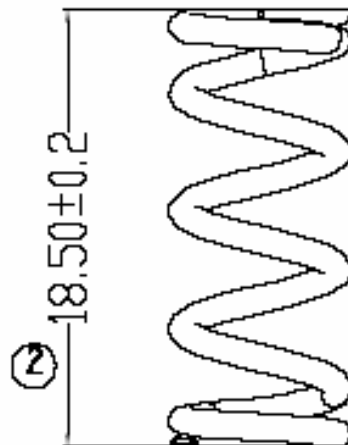
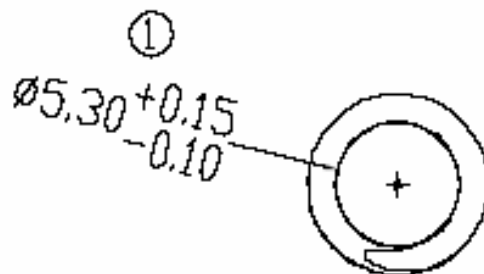


Spring

Mechanical Characteristics :

Specification	Size
SWP	1.4 mm

Finished : Nickel-Plated

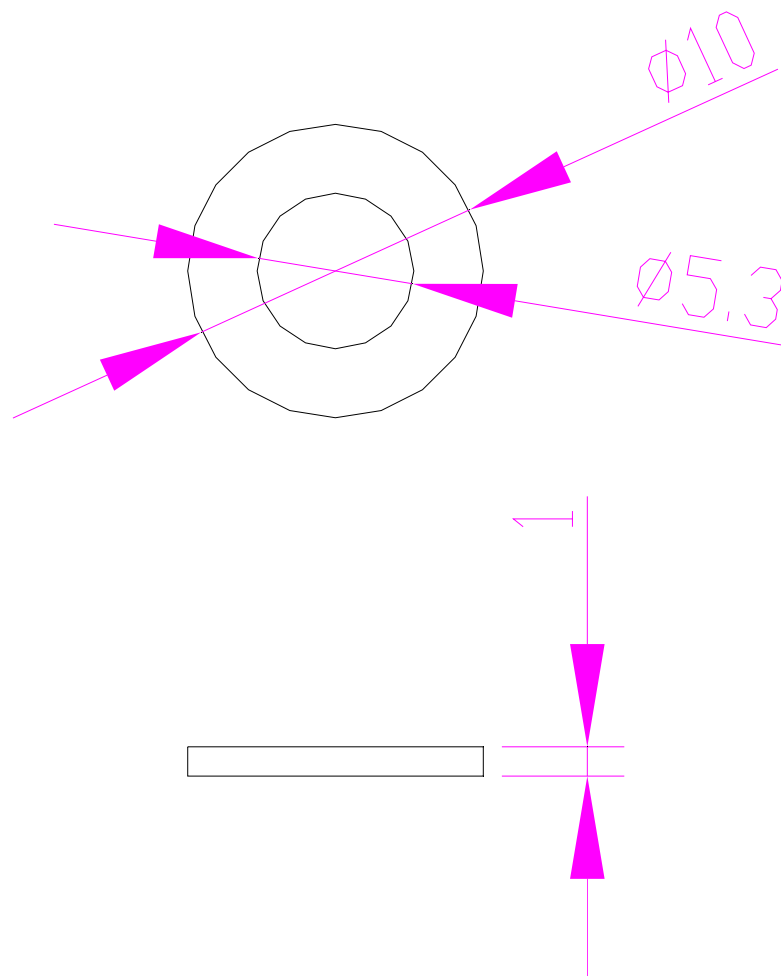




Washer

Material: Spcc

Finished: Blue Zinc-Plated

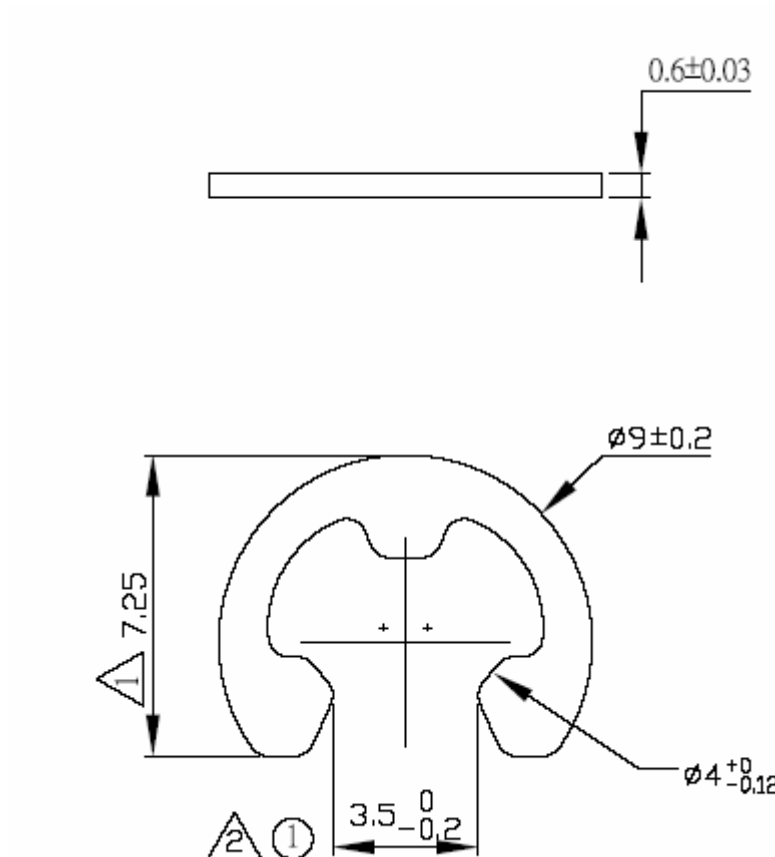




ETW

Material:SK5

Finished:Nickel-Plated



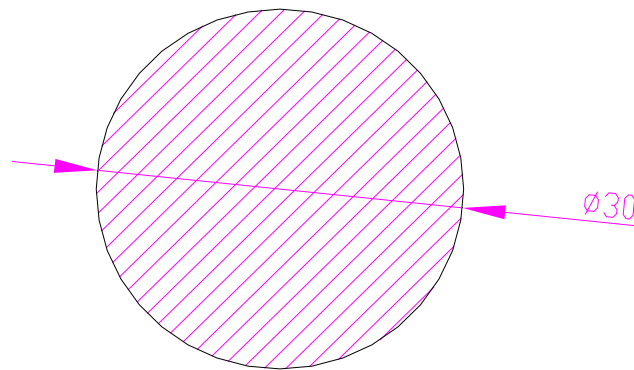
Interface



SIZE(mm): ϕ 30

Thickness : 0.1 ~ 0.2 mm

Specification	Brand
X-23-7762	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			$\pm 2^\circ$



Fan Spec

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规格承认书 SPECIFICATION FOR APPROVAL

普通规格 (General Specification)

项目 (Item)		规格/条件 (Specification/Condition)	
1.1	编号 (Products NO.)	DF0701512B2BN-GP	
1.2	外形尺寸 (Outline)	70*70*15mm	
1.3	额定电压 (Rated Voltage)	DC 12V	
1.4	操作电压 (Operating Voltage Range)	10.8~13.2V	
1.5	起动电压 (Starting Voltage)	DC 7V MAX (占空比100%)	
1.6	额定电流 (Rated Current)	0.24A+10%MAX	a. 额定电压 (Rated Voltage) b. 25° C, 65% RH
	制动电流 (Locked Current)	0.42A+10%MAX	
	安规电流 (Safety Current)	0.34A+10%MAX	
1.7	消耗功率 (Power Consumption)	2.88W	
1.8	转速 (Speed)	占空比100%时	
		3800±10%R.P.M	
1.9	PWM频率	25±2KHZ	
1.10	最大风量 (Max. Airflow)	27.8CFM(ft ³ /min)	a. 额定电压 (Rated Voltage) b. AMCA标准 (Standard) c. 额定电压 (Rated Voltage)
1.11	最大静压 (Max. Static Pressure)	3.05mm-H ₂ O	c. 额定电流 (Rated Current)
1.12	噪音水准 (Noise Level)	35.8dB(A)	a. 额定电压 (Rated Voltage) b. 无音室测试 (Measured in a Non-Echo Chamber) c. CNS 8753 标准 (Standard) d. ISO 3744 测试条件 (Test Condition)
1.13	寿命 (Life)	70,000/hrs 25° C	MTBF (Mean Time to Failure) Conf. Level 90%
1.14	扇叶数 (No. of Blade)	11叶 (Blades)	
1.15	磁极数 (No. of Pole)	4极 (Poles)	
1.16	运转方向 (Rotating Direction)	逆时针	

2. 电气规格 (Electrical Specification)

项目 (Item)		规格/条件 (Specification/Condition)
2.1	风扇旋转锁定 (Fan leaf spins to lock)	在额定电压下锁住扇叶24小时, 当锁定解除后风扇仍能正常运转. (After specified voltage locks fan leaf for 24 hours, will lock to relieve, fan can still operate normally.)
2.2	极性保护 (Polarity Protection)	Vcc与GND反接时, 回路不烧毁. (Circuit is protected when Vcc & GND are exchanged)
2.3	绝缘阻抗 (Insulation Resistance)	10MΩ / 裸线与外框间测量, 600VDC/min. (10MΩ / b/w unshielded wire and frame at 600VDC/min)
2.4	绝缘, 耐压 (Dielectric Strength)	0.05mA MAX / 导线与外框间测量, 500VAC/min. (0.05 mA MAX / Measured b/w lead wire (+) and frame at 500VAC/MIN.)



主要材料/零件规格 (Main Materials/parts Specification)

材料/零件 (Materials/Parts)	材质规格 (Specification)	安规编号 (File NO)	供应商 (Provider)
3.1 外框 (Plastic Material)	a. 94-V0 黑色TwoBall方框 b. P. B. T+30%GF Black		宏宝
3.2 扇叶 (Blade housing)	a. 94-V0 黑色TwoBall 11叶 b. P. B. T+15%GF Black		宏宝
3.3 绝缘架 (Bobbin)	a. 94-V0 b. P. B. T+30%GF Black		宏宝
3.4 轴芯 (stator core)	不锈钢 Stainless steel (SUS420J2)		腾贸
3.5 轴承 (Bearing)	双滚珠轴承 TwoBall Bearing		华亿
3.6 橡胶磁铁 (Rubber magnet)	铁锶粉末化合物 Strontium ferrite (BQB14W)		保磁
3.7 矽钢片 (Silicon steel strip)	H23		欣铨
3.8 漆包线 (Enamelled copper wires)	MW-20EW		华荣
3.9 印刷电路板 (Printed Circuit Board)	半玻纤单层印刷电路板 94V0 Wiring printed single layer board		鑫华
3.10 电源线 (Lead Wire)	UL10042B2AW, (●)红色, (○)蓝色, (□)黄色, (▽)黑色 (PVC)蓝色 总长度 (Total length): 240±10mm 外露长度 (Outside dew length): 200±10mm		金格
3.11 连接器 (Connector housing)	2.54-4P 白色端子		金格
3.12 贴纸 (Label)	多元酯 Polyester		菲泉

4. 环境测试 (Environmental Specification)

项目 (Item)	规格/条件 (Specification/Condition)
4.1 工作温度/湿度范围 (Operation Temp Range)	温度/Temperature: -10° C ~ +65° C 湿度/Humidity: 35% ~ 85%RH
4.2 保存温度/湿度范围 (Storage Temperature)	温度/Temperature: -30° C ~ +75° C 湿度/Humidity: 35% ~ 85%RH
4.3 耐湿性 (Humidity)	试验后, 电气规格依据MIL-STD 202F Method 103b, 寿命: 96小时; 湿度: 95%; 温度: 40±2° C (Per MIL-STD 202F Method 103b; Life: 96hours; Humidity: 95%RH; Temperature: 40±2° C)
4.4 热冲击 (Thermal Shock)	试验后, 电气规格依据MIL-STD 202F Method 107D (Per MIL-STD 202F Method 107D; Condition D)
4.5 绝缘等级 (Insulation Class)	ULA级 (UL Class A)
4.6 包装耐振动实验 (Packing Vibration Test)	包装后, XYZ三方向施1.1G加速振动30分钟后, 无异状。 (Packing Condition: X, Y, Z 3 directions, 1.1G load vibration test for 30 min)
4.7 包装耐冲击实验 (Packing is impulse withstand to Test)	捆包状态下, 高60cm, 1棱角3边6面自然落下, 无异状。 (Bundle bale is 60cm high under state, in 1 edge and 3 sides, 6 surfaces fall naturally, is the same as frequently phenomenon occur.)



自测试说明 Acoustic sound level test descriptions
 额定电压在隔音实验室中测试背景噪音为17dB(A). At rated voltage in sound proof room Background proof
 room background noise:17dB(A).

噪音测试方法图示

噪音测试系统图示

6. 转速侦测 RPM detection

$T = T1 + T2 + T3 + T4$

[说明]

1. 输出波形:方波. Output waveform:square wave.
2. 当电压值越高(值),则输出波形越高. When the voltage is higher (voltage) then output waveform is higher.
3. 当风扇不转动,则输出波形为一水平线. When the fan is shutdown then output.
4. 循环距离越长(值),则转速越慢. The cyclic distance is longer then the RPM is slower.
5. 转速计算公式如下: RPM formula as follows:
 $RPM = 60000 / X (ms)$



7. 标签(Label)

安规认证:

CE file No.: HTS 20050403 001

UL file No.: E255988-CF

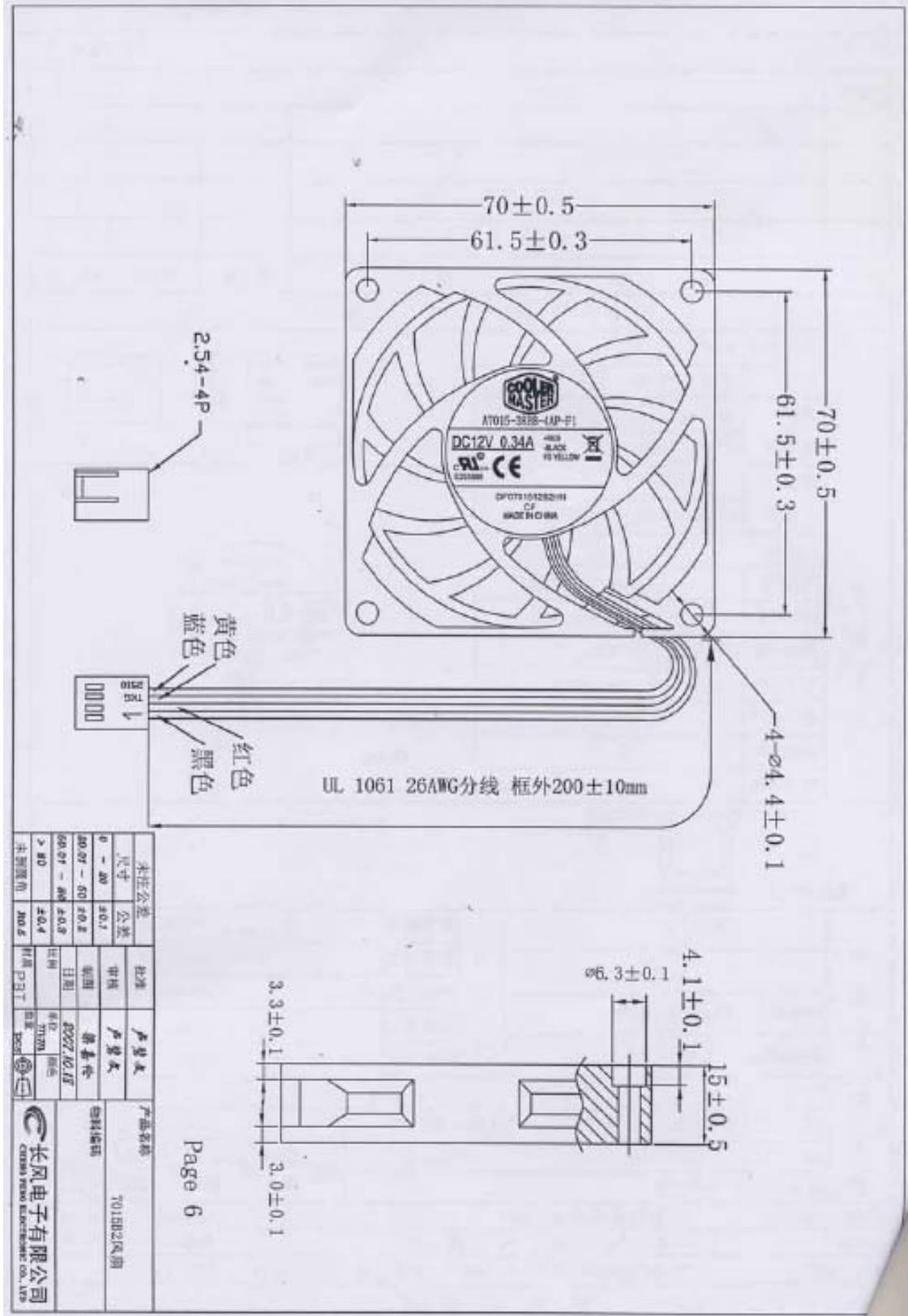


ø29mm 多元酯(Polyester)



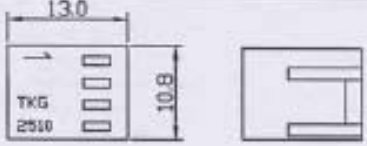
8. 包材(Packing)



此标签贴在外箱侧棱右上角
标签为绿底黑字



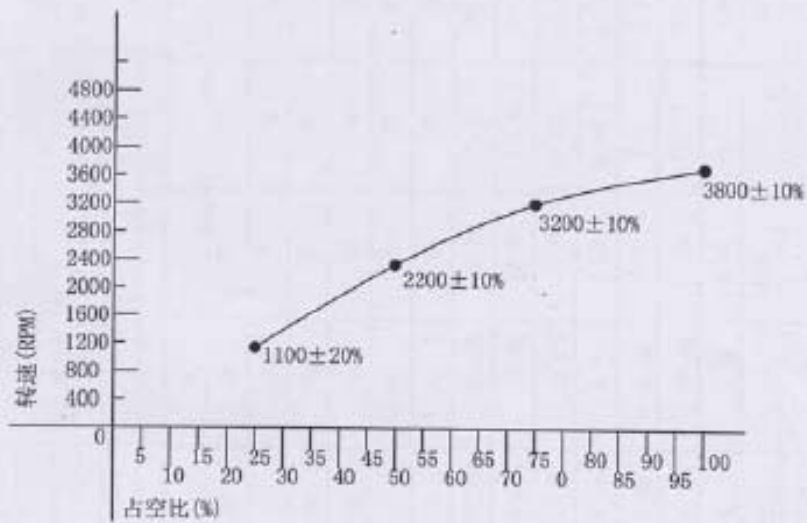


基 准 工 程 表						
客户: 讯强		机种: DF07D1512B2HN-GP (PWM)		制表日期: 2007-10-18 版次: 1.0		
工程别	零件管制规格			<input checked="" type="checkbox"/> 试产/样品用(暂定规格) <input type="checkbox"/> 量产用		
PCB组	主基板: IC型号(供应商): 1961					
定子组	定子外径 ϕ 24mm 5片		绕法: <input checked="" type="checkbox"/> 单线 <input checked="" type="checkbox"/> 顺绕 <input type="checkbox"/> 是 自动复归 <input type="checkbox"/> 双线 <input type="checkbox"/> 逆绕 <input checked="" type="checkbox"/> 否			
	线 径 ϕ 0.12mm 190T					
	阻 值 单边阻抗 $12.75 \pm 3\%$ 总阻抗 $25.5 \pm 5\%$					
外框组	轴承深度 $1.0 \pm 0.1\text{mm}$		外框组	磁石强度 Gass		
	轴承内径 $3.004 \pm 0.002\text{mm}$			充磁电压 850V		
				轴芯外露 $10.5 \pm 0.1\text{mm}$		
				磁石高度 $9 \pm 0.1\text{mm}$		
				振动等级 A(10毫克)级		
<input checked="" type="checkbox"/> TwoBall 						
外框组	起动电压	7V MAX (占空比100%时)	标签: <input type="checkbox"/> 一般 <input checked="" type="checkbox"/> 客供 			
	额定电压	12V				
	制动电流	$0.42\text{A} + 10\% \text{MAX}$				
	工作电流	$0.24\text{A} + 10\% \text{MAX}$				
	消耗功率	2.88W				
	6秒转速	$3500 \pm 10\% \text{RPM}$				
	3分转速	$3800 \pm 10\% \text{RPM}$				
	电源线	UL1061/26AWG	端子简图: 			
	颜色	红色+/黑色-				
	信号线	UL1061/26AWG				
颜色	黄色-					
端子	2510 2.54-4Pin 白色					
框外线长	200mm					
变 更 记 录						
版次	变 更 记 录			修正者	确认者	日期
确认						



PWM 机种 占空比规格表

客户: 讯强	机种: DP0701512B2IN-GP (PWM)	制表日期: 2007.10.18	版次: 1.0
起动电压	7V MAX (占空比100%时) 自动重启时间 1~7秒		
额定电压	12V		
PWM频率	25 ± 2KHZ		
占空比	转速 (RPM)	工作电流 (mA)	
25%	1100 ± 20%	40mA + 30%MAX	
50%	2200 ± 10%	80mA + 30%MAX	
75%	3200 ± 10%	140mA + 20%MAX	
100%	3800 ± 10%	240mA + 10%MAX	





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PWM 机种出货检验测试表

客户: 讯强 机种: DF0701512R2HN-GP (PWM) 转速: 3800±10%RPM 工作电流: 240+10%MAX 制动电流: 420+10%MAX 制表日期: 2007-10-18																									
PWM频率: 25±2KHZ		转速(RPM)								工作电流(mA)								制动电流(mA)							
占空比		1048	1080	1050	1060	1070	1100	1050	1060	34	33	36	35	34	36	35	34	48	47	49	48	46	49	45	46
25%		2130	2160	2180	2190	2220	2230	2180	2160	74	75	72	73	76	72	78	76	118	110	112	114	116	112	118	116
50%		3100	3070	3090	3060	3080	3100	3140	3120	140	132	131	138	134	136	138	135	240	238	235	236	237	238	232	238
75%		3750	3740	3780	3760	3780	3750	3730	3720	216	218	222	220	212	220	218	216	380	378	382	378	380	376	380	378
100%																									
	标准值	1	2	3	4	5	6	7	8	9	10														
1. 外观检查	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
2. 波形检查	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3. 死角	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
4. 异音	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
5. 振动	依手感	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
6. 漏油检查	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
7. 外框长尺寸mm	70±0.5	70.02	69.95	69.96	69.00	69.95	69.96	70.00	69.98	69.96	69.95	70.02	69.98	69.95	70.02	69.98	69.95	70.05	69.98	69.95	70.05	69.95	70.05	69.95	70.05
8. 外框宽尺寸mm	70±0.5	70.05	69.98	69.95	70.00	69.98	69.95	70.02	69.98	69.95	70.02	69.98	69.95	70.02	69.98	69.95	70.05	69.98	69.95	70.05	69.95	70.05	69.95	70.05	69.95
9. 外框厚尺寸mm	15±0.5	15.05	15.02	14.96	15.05	15.00	14.98	15.05	15.03	14.96	15.05	15.03	14.96	15.05	15.03	14.96	15.05	15.03	14.96	15.05	15.03	14.96	15.05	15.03	14.96
10. 沉孔深度mm	4.1±0.1	4.12	4.15	4.08	4.16	4.15	4.08	4.17	4.15	4.08	4.17	4.15	4.08	4.17	4.15	4.08	4.17	4.15	4.08	4.17	4.15	4.08	4.17	4.15	4.08
11. 边长mm	3.3±0.1	3.29	3.31	3.32	3.0	3.32	3.29	3.32	3.30	3.31	3.32	3.30	3.31	3.32	3.30	3.31	3.32	3.30	3.31	3.32	3.30	3.31	3.32	3.30	3.31
12. 螺丝孔距mm	61.5±0.3	61.54	61.48	61.52	61.54	61.48	61.52	61.54	61.48	61.52	61.54	61.48	61.52	61.54	61.48	61.52	61.54	61.48	61.52	61.54	61.48	61.52	61.54	61.48	61.52
13. 螺丝孔径mm	4.4±0.1	4.38	4.42	4.40	4.39	4.43	4.36	4.37	4.38	4.40	4.37	4.38	4.40	4.37	4.38	4.40	4.37	4.38	4.40	4.37	4.38	4.40	4.37	4.38	4.40
14. 导线外露mm	200±10mm	202	198	196	202	198	196	202	198	196	202	198	196	202	198	196	202	198	196	202	198	196	202	198	196
15. 叶片抗压	>1.5Kg	2.0	1.9	2.2	1.8	1.9	2.0	2.2	1.8	1.7	1.9	2.0	2.2	1.8	1.7	1.9	2.0	2.2	1.8	1.7	1.9	2.0	2.2	1.8	1.7
16. 外框筋条抗压	>10Kg	10.2	10.3	10.1	10.5	10.3	10.5	10.2	10.3	10.5	10.2	10.3	10.5	10.2	10.3	10.5	10.2	10.3	10.5	10.2	10.3	10.5	10.2	10.3	10.5
17. 自动重启时间	1~7秒	4.5	5	5.5	6	4.5	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5
结果判定:	Accept <input checked="" type="checkbox"/>	Reject <input type="checkbox"/>	审核: 卢碧文 制表: 张其学																						



CERTIFICATE of Conformity

HTS

Low Voltage Directive 73/23/EEC

as last amended by EEC Directive 93/68/EEC

Registration No.: HTS 20050401 001

Report No.: 200504001 001

Holder: Changfeng Electronics Co., Ltd.
West Longqiao Road, Longqi Town, Boluo Hsien, Huizhou City,
Guangdong, China

Product: DC FAN

Identification: Type Designation : DF0901512XZyN Series ; DF0902512XZyN Series
DF0701512XZyN Series ; DF0803212XZyN Series
DF0802512XZyN Series ; DF0801512XZyN Series
DF1202512XZyN Series ; DF0922512XZyN Series

Remark: XZ is bearing code
y can be L, H, M, L or O (speed)
refer to last report 200504001 001
Tested acc. to: EN60950:2000

This certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with all revision of Annex I of Council Directive 73/23/EEC in its latest amended version referred to as the Low Voltage Directive. This certificate does not imply assessment of the series-production of this product. The holder of the certificate is authorized to use this certificate in connection with the EC Declaration of conformity according to Annex II of the directive.

Dongguan, 04.01.2005

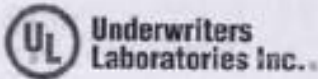


Certification Body

Jack Li

Honesty Technology Service Ltd

CE The CE marking may be used if all relevant and effective EC Directives are complied with. CE



Northbrook Division
333 Pingree Road
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File E254834

Vol 1

Issued: 2005-06-10

Revised:

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

COMPONENT - FANS, ELECTRIC
(GPMV1, GPMV8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURING LOCATIONS

Applicant: CHANG FENG ELECTRONICS CO LTD
(133458-001) 5TH FL
14 LANE 609 CHUNG HSIN RD, SEC 5
SAN CHUNG
TAIWAN

Recognized Company: CHANG FENG ELECTRONICS CO LTD (E255906)
(133573-001) WEST LONGQIAO RD
LONGXI TOWN
BOLOO HSIEH
HUIZHOU,
GUANGDONG CHINA

This Procedure authorizes the above Manufacturer to use the marking specified by Underwriters Laboratories Inc. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. upon request.

This PROCEDURE, and any subsequent revisions, is the property of UNDERWRITERS LABORATORIES INC. and is not transferable.

UNDERWRITERS LABORATORIES INC.

Rajeev Jesudas
Chief Operating Officer

AN independent organization working for a safer world with integrity, precision and knowledge





Package

Carton Dimension : 445*350*217mm

1 Pcs Weight:0.542kg

12 Pcs In A Carton

Total Weight: 7.5 kg





CE / UL

Northbrook, Illinois • (847) 272-8800
Melville, New York • (516) 271-6200
Santa Clara, California • (408) 985-2
Research Triangle Park,
North Carolina • (919) 549-1400
Camas, Washington • (360) 817-5501



Underwriters Laboratories Inc. ®

COOLER MASTER CO LTD
MS A CHEN
9TH FL
786 CHUNG-CHENG RD
CHUNG-HO CITY
TAIPEI HSIEN TAIWAN

RE: Project Number(s) - 99CA02637

Your most recent listing is shown below. Please review this information and report any inaccuracies to the UL Engineering staff member who handled your project.

For information on placing an order for UL Listing Cards in a 3 x 5 inch format, please refer to the enclosed ordering information.

NWGQ2 November 9, 1999
Information Technology Equipment Including Electrical Business Equipment - Component

COOLER MASTER CO LTD E189887
9TH FL 786 CHUNG-CHENG RD CHUNG-HO CITY, TAIPEI
HSIEN TAIWAN

Component Dsg	Rated Input V	Load Amps	F/R	Laser Class
CPU Cooler (#), Model XXXXYZZZZZZZ*	3.3 to 24 V dc	0.5A	N/A	N/A
Fan array(##), Model CMXXXV**	3.3 to 240 Vdc or Vac	10A Max	N/A	N/A

*X and Z are any alphanumeric characters or blank and YY is C0, 40, 48, 50, 52, 60.

**X may be any combination of alphanumeric characters or blanks.

(#)These components are intended to be connected to a SELV limited power source of supply. The suitability of the R/C (GPWV2) fan, should be evaluated in the end-product. The specific model number, manufacturer's name, voltage rating, current rating, CPM rating and overall heatsink dimensions shall be controlled in the end-product report.

(##)The suitability of the R/C (GPWV2) fan, should be evaluated in the end-product. The specific model number, manufacturer's name, voltage rating, current rating, CPM rating and overall heatsink dimensions shall be controlled in the end-product report. A suitable electrical and fire enclosure shall be provided in the end product. The suitability of the internal wiring, connectors and terminals shall be determined in the end product. All internal parts shall be rated a minimum of 94V-2 and shall be determined in the end product. The terminals and connectors are suitable for factory wiring only.

Marking: Company name or "E189887", model designation, optional electrical ratings.

See General Information Preceding These Recognitions

For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.



SPORTON LAB.

Certificate No: C931804

CERTIFICATE

● Equipment Under Test : CPU Cooler
 Model No. : Model CMXXXV. The X in the model designation
 may be any alphanumeric characters or blank
 Applicant : Cooler Master CO., LTD.
 9F, No. 786, Chwng-Cheng, Chung-Ho City,
 Taipei Hsien, Taiwan, R.O.C.



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 55 022:1994/A1:1995/A2:1997 Class B, and EN 50 082-1 (EN61 000-4-2, EN61 000-4-3, EN61 000-4-4) THE TEST WAS CARRIED OUT ON Apr. 27, 1998 AT SPORTON INTERNATIONAL INC. LAB.

Lenore Chang MAY. 07, 1999

Lenore Chang
 PRESIDENT