


# SUNON

## SPECIFICATION FOR APPROVAL

**CUSTOMER** : SUNON INC.

**MOTOR TYPE** : 

**MODEL NO** : GC123506BH-8

**P/N** : DA.05.N.B515.GN

**DESCRIPTION** : 3D VGA CARD COOLER

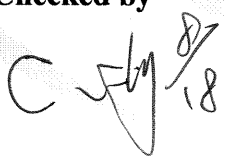
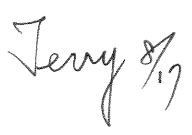
**DIMENSIONS** : 38X38X8 mm

**SUNON SPEC. NO.** : D03014590G-00

**APPROVAL NO.** :

**APPROVED BY** :

**(AUTHORIZED)**

<b>Drafted by</b>  Judy  08/04	<b>Checked by</b> 	<b>Appd. by</b> 	<b>SPEC. NO</b>	<b>D03014590G-00</b>
			<b>ISSUED DATE</b>	<b>08.04.2006</b>
			<b>EDITION</b>	<b>0</b>
			<b>REVISION DATE</b>	

建準電機工業股份有限公司

SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO., LTD.

12FL., 120 CHUNG CHENG 1ST RD.,

KAOHSIUNG, TAIWAN, R. O. C.

TEL:886-7-7163069(41 LINES)

FAX:886-7-7163086~89



## MODEL NUMERING SYSTEM

**GC** **12** **35** **06** **B** **H** - **8**

### CAP FAN SERIES

GC:Green Motor CAP Fan

### VOLTAGE

05 : 5VDC  
12 : 12VDC  
24 : 24VDC

### FAN SIZE

35 : 35 mm  
04 : 40 mm

### FAN THICKNESS

06 : 6 mm  
07 : 7 mm  
10 : 10mm

### MOTOR POLES

8 : 8 POLES  
BLANK: 4 POLES

### SPEED

H : HIGH  
M: MIDDLE  
L : LOW

### BEARING SYSTEM

B : BALL  
S : SLEEVE  
V: VAPO

P/N : **DA** . **05** . **N**

### CAP FAN SIZE

DA : 38X38x8mm With Groove

### SMALLER HUB

### COOLER SIZE

05 : 38X38X6 mm Heat Sink

SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	1
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	



**3D CARD COOLER SERIES****MODEL : GC123506BH-8****P/N : DA.05.N.B515.GN****SPECIFICATIONS**

1. Plastic Material of Cap Fan	Polybutylene Terephthalate (PBT)/Black Color
2. Bearing System	Ball Bearing System
3. Rated Voltage (VDC)	12 VDC
4. Operating Voltage Range(VDC)	4.5~13.8 VDC
5. Starting Voltage (VDC)	4.5 VDC (25 deg. C POWER ON/OFF)
6. Rated Current (AMP)	95 mA
7. Rated Power (WATTS)	1.1 WATTS
8. Rated Speed (RPM)	8800 RPM $\pm$ 10%
9. Noise Level (dBA)	32 dB(A)
10. Air Delivery (CFM)	6 CFM
11. Static Pressure (Inch-H <sub>2</sub> O)	0.16 Inch-H <sub>2</sub> O
12. Operating Temperature	-10 to +70 deg. C
13. Storage Temperature	-40 to +70 deg. C
14. Insulation Resistance	More than 500M ohm
15. Heat Sink Size	38X38X6 mm
16. Heat Sink Material	Aluminum alloy 6063 T5
17. Input Power	10 W
18. Thermal Resistance	2.29 deg. C /W
19. Weight	11 g

SUNONWEALTH ELECTRIC  
 MACHINE INDUSTRY CO., LTD.  
 建準電機工業股份有限公司

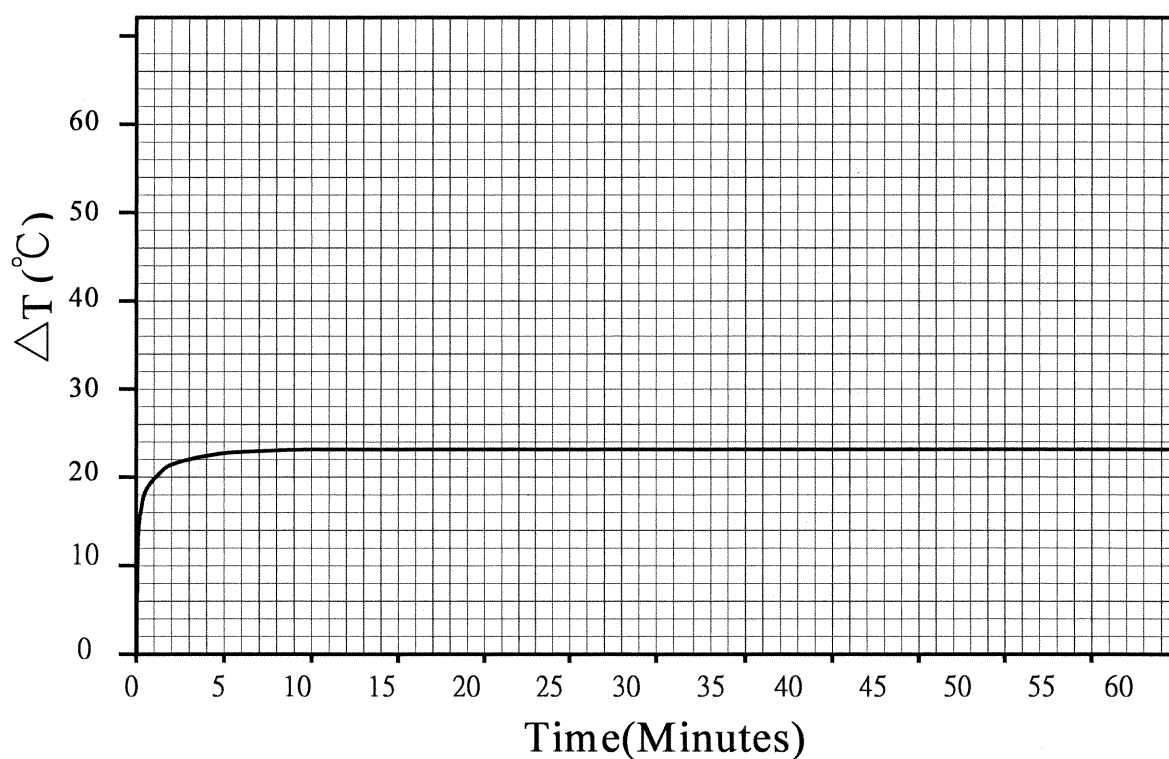
PAGE	2
SPEC. NO.	D03014590C-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	



## 3D VGA CARD Cooler Thermal Resistance testing

- A. Purpose : The measurement of total thermal resistance for the Cooler  
 B. Test Conditions : Input power 10W, temperature of environment 45°C  
 C. Results of the test :

environment Temperature (Ta)	Total Thermal Resistance (°C/W)
45°C	2.29

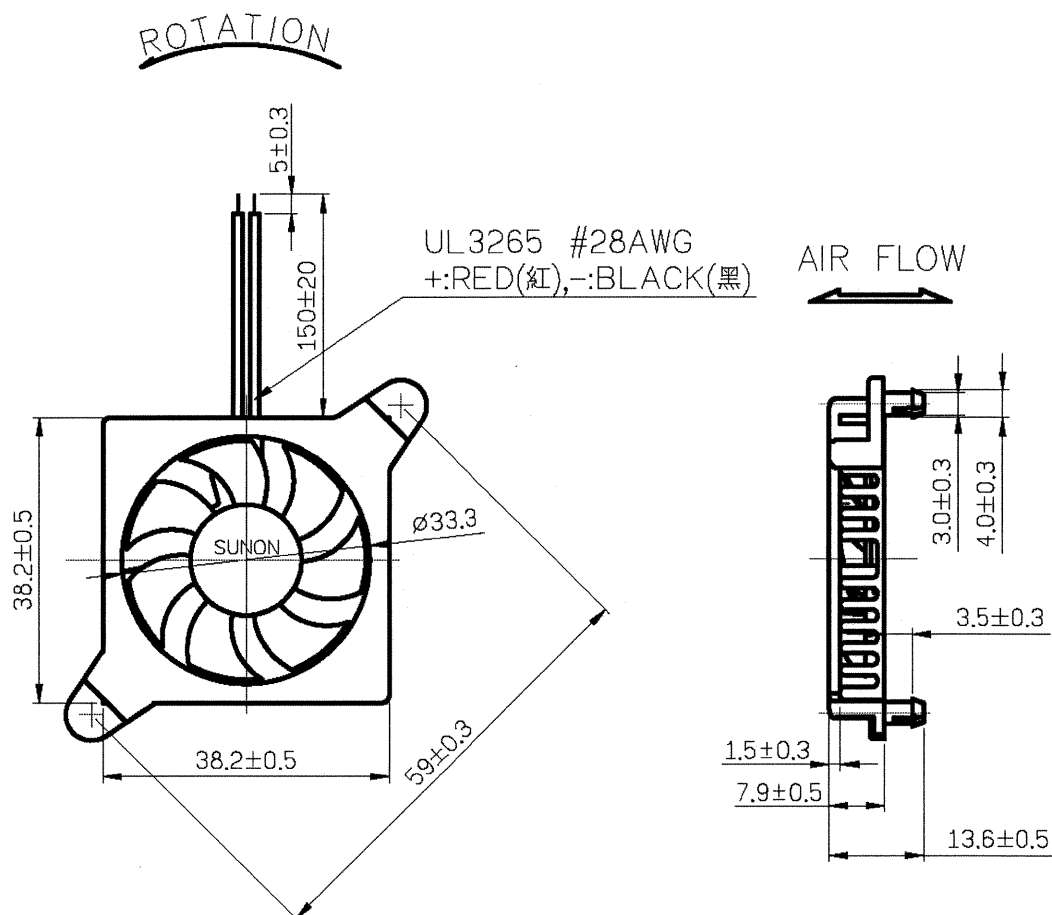
 $\Delta T$  Chart

SUNONWEALTH ELECTRIC  
 MACHINE INDUSTRY CO., LTD.  
 建準電機工業股份有限公司

PAGE	3
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	



# DIMENSION

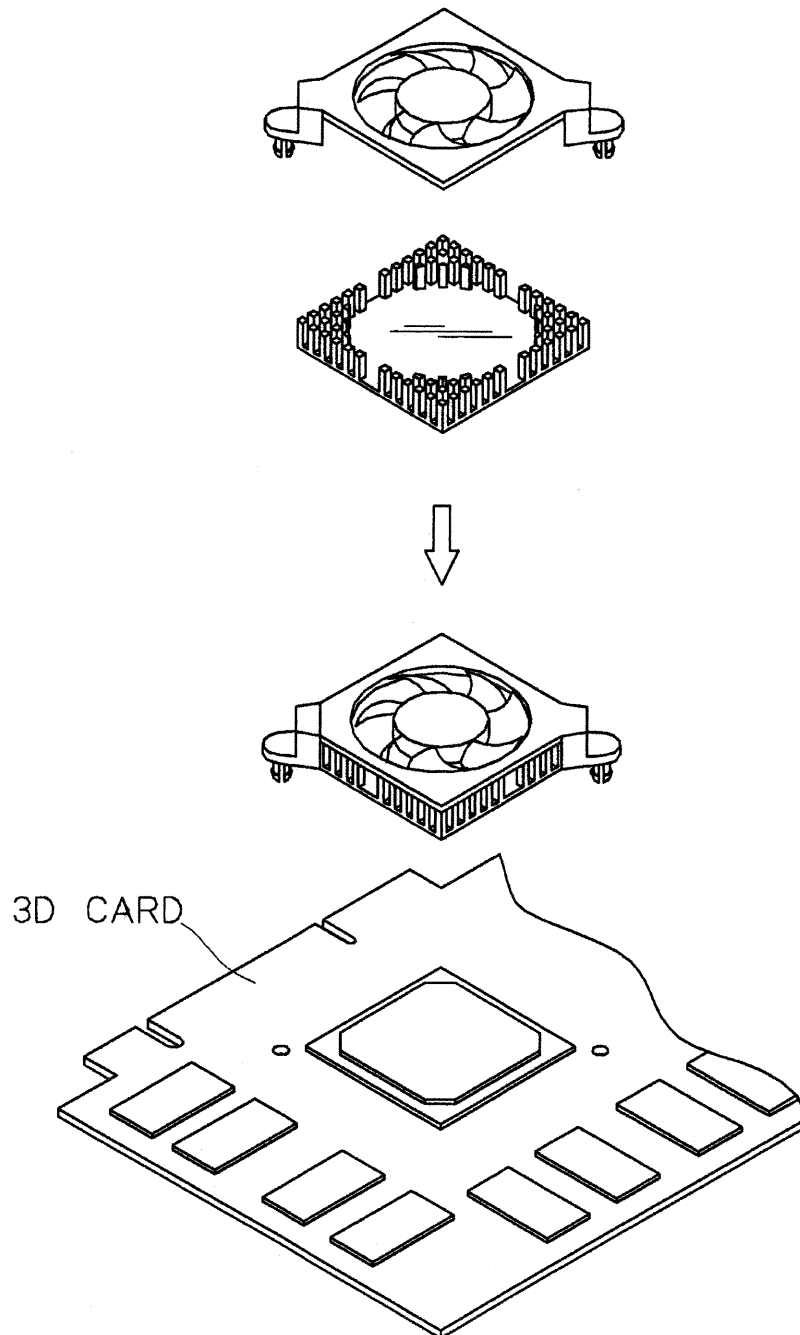


SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	4
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	

發行章

## Manufacturing Assembly Flow



SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	5
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	





# Notes

## I . Safety

- 1.SUNON will not guarantee this product if your application exceeds the limitations outlined in this specification.
- 2.There is no thermo-protector installed in this product, such as thermo-fuse, or current-fuse or thermo-protector. There may be smoking, ignition, or electric shock by insulation degradation in cases of motor lock, motor lead short circuit, overload, over voltage, and/or other failure. Please add the protection circuit to your product.
- 3.There is no reverse-connection prevention diode of VDC ( + ) and GND ( - ) installed in this product. Therefore, if VDC( + ) and GND( - ) are reverse connected, it may cause smoking, ignition, and/or destruction, although these conditions may not manifest immediately. We recommend that a protection device be installed on your product when there is a possibility of reverse-connection.
- 4.Please verify that this product is being installed and used in compliance with all safety standards. Please inform SUNON of any safety concerns prior to releasing your product to production.
- 5.Please handle and install this product carefully. Hitting or dropping this product may cause damage.
- 6.Please do not damage this product including coil and lead wires while installing or wiring. There may be smoking or fire.
- 7.Sunon doesn't suggest customers to use power or ground PWM to control the fan speed, if necessary , we need to do the special design for the application.

SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	6
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	



## Notes

### II. Specification modification

1. SUNON offers engineering assistance on fan installation and cooling system design.
2. Any change to the parameters specified in this document will be determined by mutual agreement between both parties. Parameters which are not specified in this specification will be identical to the final sample which has been approved by your company.
3. Product will be shipped in accordance with this specification unless SUNON has been previously notified of parameters requiring exception.
4. Parameters modified by mutual consent will be incorporated in this specification.
5. Please notify SUNON in advance of any modification to your product or new application for this fan which may require a review of this specification.

SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	7
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	





## Notes

### III. Other

1. When building your device, please examine thoroughly any variation of EMC, temperature rise, life data, quality, etc. of this product by shock/drop/vibration testing, etc. If there are any problems or accidents in connection with this product, it should be mutually discussed and examined.
2. Fan holders or bearings may be damaged if touched with fingers or other objects. Additionally, static electricity (ESD) may damage the internal circuits. Please handle this product carefully.
3. Please avoid operating SUNON's product in poisonous material (organic silicon, cyanogens, formalin, phenol, etc.) or corrosive gas environments (H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, Cl<sub>2</sub>, etc).
4. SUNON does not warrant performance safety against accidents caused by dust, water, droplets, dew, bugs, etc.
5. Please advise us in advance if you require documents for export.
6. Improper mounting may cause harsh resonance, vibration, and noise. Please mount securely.
7. Safety is a top priority. Please furnish guard accessories to prevent injury to personnel.
8. Unless otherwise noted, all tests are conducted at 25°C ambient temperature and 65% relative humidity.
9. Always ensure that fans are stored according to the storage temperatures specified. Do not store in a high humidity environment. If the fans are stored for more than 6 months, SUNON recommends functional testing before using
10. SUNON reserves the right to use components with equivalent specifications from multiple sources.

SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	8
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	



## Declaration of RoHS

Control declaration of environment- related substances/ materials

1. In accordance with the Restriction of Hazardous Substances (RoHS) Directive, Sunon product with P/N: GN models have complied with law and discipline not to employ the forbidden substances, and restrict the allowable concentration of some limited substances deliberately in our components.

No	Substance	Criteria
1	Halogens & its compounds (Substances depleting the ozone layer)	Forbidden
2	Chlorinated Organic Solvent	Forbidden
3	Lead and its compounds	Plastic (Frame, Impeller, wire harness, etc.) <100ppm
		Solder <1000ppm
		Iron Alloy <3500ppm
		Aluminium Alloy <4000ppm
		Copper Alloy <4wt%
4	Cadmium and its compounds	Solder <20ppm
		Parts composed of metals containing zinc (e.g. brass, zinc for die casting) <100ppm
		Plastic <5ppm
5	PBB and PBDE Category	Forbidden
6	PCB and PCT Category	Forbidden
7	CP	Forbidden
8	Mirex	Forbidden
9	PCN category	Forbidden
10	Hexavalent Chromium Compounds	<100ppm
11	Mercury and its compounds	Forbidden
12	Asbestos	Forbidden
13	Organic Tin Compounds	Forbidden
14	Azo Compounds	Forbidden

SUNONWEALTH ELECTRIC  
MACHINE INDUSTRY CO., LTD.  
建準電機工業股份有限公司

PAGE	9
SPEC. NO.	D03014590G-00
ISSUED DATE	08.04.2006
EDITION	0
REVISION DATE	

