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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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# SUNON

## SPECIFICATION FOR APPROVAL

**CUSTOMER** :  
**MODEL NO** : RA002-001999DN  
**DESCRIPTION** : LED Cooling Module  
**DIMENSIONS** :  $\phi 170 \times 30$  mm  
**SUNON SPEC. NO.** : C01000550G-00  
**CUSTOMER APPROVAL NO.** :  
**APPROVED BY CUSTOMER** :  
(AUTHORIZED)

<b>DRAWN</b>  Nancy  01/06	<b>CHECKED</b>  March	<b>APPROVED</b>  Jacky	<b>SPEC. NO</b>	C01000550G-00
			<b>ISSUED DATE</b>	01. 06. 2012
			<b>EDITION</b>	0
			<b>REVISION DATE</b>	

建準電機工業股份有限公司

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2012.01.16

發行章

## SPECIFICATION FOR APPROVAL

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## 1.SCOPE

**This compact LED cooling module designed for heat dissipation of LED lamp.**

**The following specification outlines the performance of this module for LED lighting system.**

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**MODEL : RA002-001999DN****2.SPECIFICATIONS**

1.Application	Heat 20 W
2. Heat Sink Dimension	∅ 170 x 30 mm
3. Heat Sink Material	AL6063
4. Cooling Method	N/A
5. Fan Speed (with Heat Sink)	N/A
6. Rated Voltage	N/A
7. Rated Current	N/A
8. Power Consumption	N/A
9. Fan Bearing System	N/A
10. Cooling Module Noise @ 1M	N/A
11. Operating Voltage Range	N/A
12. Operating Temperature	-10 to + 70 deg. C
13. Storage Temperature	-40 to + 70 deg. C
14. Weight	570 g
15. Thermal resistance	1.1 °C/W (base on Fortimo LED Twistable 2000lm)
16. Tolerance	N/A
17. Life Expectancy (MTTF)	N/A

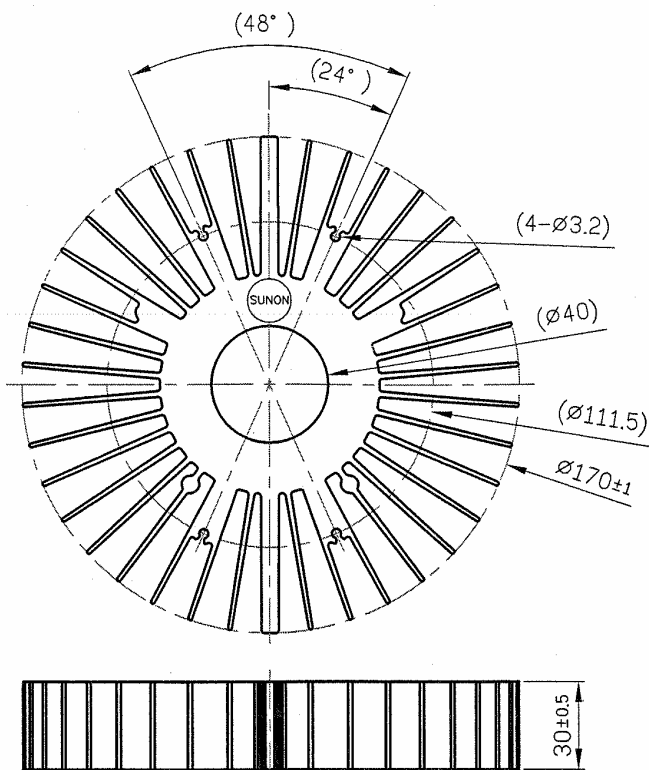
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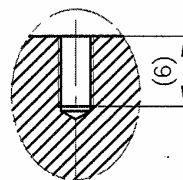
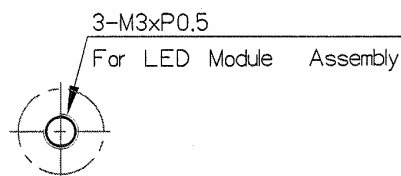
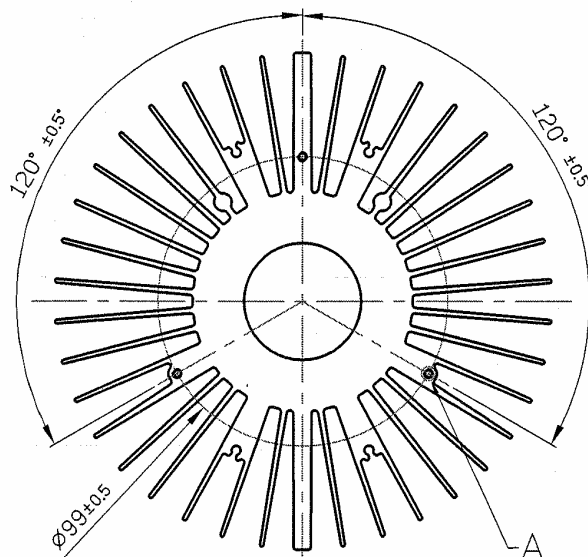


**3.DIMENSION**



LED Module

Assembly direction of customer's LED Module



A VIEW

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# Notes

## I. SPECIFICATION MODIFICATION

1. SUNON offers engineering assistance on module installation and cooling system design.
2. All changes, modifications and/or revisions to the specifications, if any, are incorporated in the attached specifications.
3. No changes, modifications and/or revisions to these specifications are effective absent agreement, by both Sunon and the customer, in writing.
4. This module will be shipped in accordance with the attached specification unless SUNON and the customer have agreed otherwise, in writing, as specified in Paragraph 3, above.

## II. OTHER

1. DO NOT operate this module in proximity to hazardous materials such as organic silicon, cyanogens, formalin, phenol, or corrosive gas environments including, but not limited to, H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, or Cl<sub>2</sub>.
2. Unless otherwise noted, all testing of this module is conducted at 25°C ambient temperature and sixty-five percent (65%) relative humidity.
3. DO NOT store this module in an environment with high humidity. This module must be stored in accordance with the attached specifications regarding storage temperature. If this module is stored for more than 6 months, SUNON recommends functional testing before using.
4. SUNON reserves the right to use components from multiple sources at its discretion. The use of components from other sources will not affect the specifications as described herein.

## III. WARRANTY

This module is warranted against all defects which are proved to be fault in our workmanship and material for one year from the date of our delivery. The sole responsibility under the warranty shall be limited to the repair of the module or the replacement thereof, at SUNON's sole discretion. SUNON will not be responsible for the failures of its module due to improper handling, misuse or the failure to follow specifications or instructions for use. In the event of warranty claim, the customer shall immediately notify SUNON for verification. SUNON will not be responsible for any consequential damage to the customer's equipment as a result of any module proven to be defective.

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## Declaration of RoHS

### Control declaration of environment-related substances/materials

1. In accordance with the Restriction of Hazardous Substances (RoHS) Directive, Sunon product 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	CFCs & HCFCs (ozone depleting substances)	Forbidden	
2	Chlorinated Organic Solvent	Forbidden	
3	Lead and its compounds	Plastic (Frame, Impeller, wire harness, etc.)	<100ppm
		Solder	<1000ppm
		Steel 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	PBBs and PBDEs	Forbidden	
6	PCB and PCT	Forbidden	
7	CP, Short-chain Chlorinated paraffins C10-13, Cl ≥48 wt%	Forbidden	
8	Mirex	Forbidden	
9	PCN	Forbidden	
10	Hexavalent Chromium compounds	<100ppm	
11	Mercury and its compounds	Forbidden	
12	Asbestos	Forbidden	
13	Organic Tin compounds	Forbidden	
14	Azo compounds	Forbidden	
15	TBBP-A in external case plastic parts of products (PCB is exempted)	<1000ppm	
16	Nickel in external case parts, which are likely to result in prolonged skin exposure	<1000ppm	

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