

# SUNON

## SPECIFICATION FOR APPROVAL

**MODEL NO** : SA000-11003  
**DESCRIPTION** : Thermal Module  
**DIMENSIONS** : 27X27X18mm  
**SUNON SPEC. NO.** : C01000970F-01  
**CUSTOMER APPROVAL NO.** :  
**APPROVED BY CUSTOMER** :  
(AUTHORIZED)

<b>DRAWN</b>  Anne	<b>CHECKED</b>  Amy	<b>APPROVED</b>  Eric	<b>SPEC. NO</b>	C01000970F-01
			<b>ISSUED DATE</b>	07. 05. 2012
			<b>EDITION</b>	0
			<b>REVISION DATE</b>	

建準電機工業股份有限公司

SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO., LTD.

No. 30, LN. 296, XINYA RD., QIANZHEN DIST TEL:886-7-8135888

KAOHSIUNG CITY 80673, TAIWAN(R. O. C) FAX:886-7-8230505/8230606/8231010

URL:<http://www.sunon.com>

E-mail: [sunon@email.sunon.com.tw](mailto:sunon@email.sunon.com.tw)

# SPECIFICATION FOR APPROVAL

## CHECK LIST

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**MODEL : SA000-11003****1.SPECIFICATIONS**

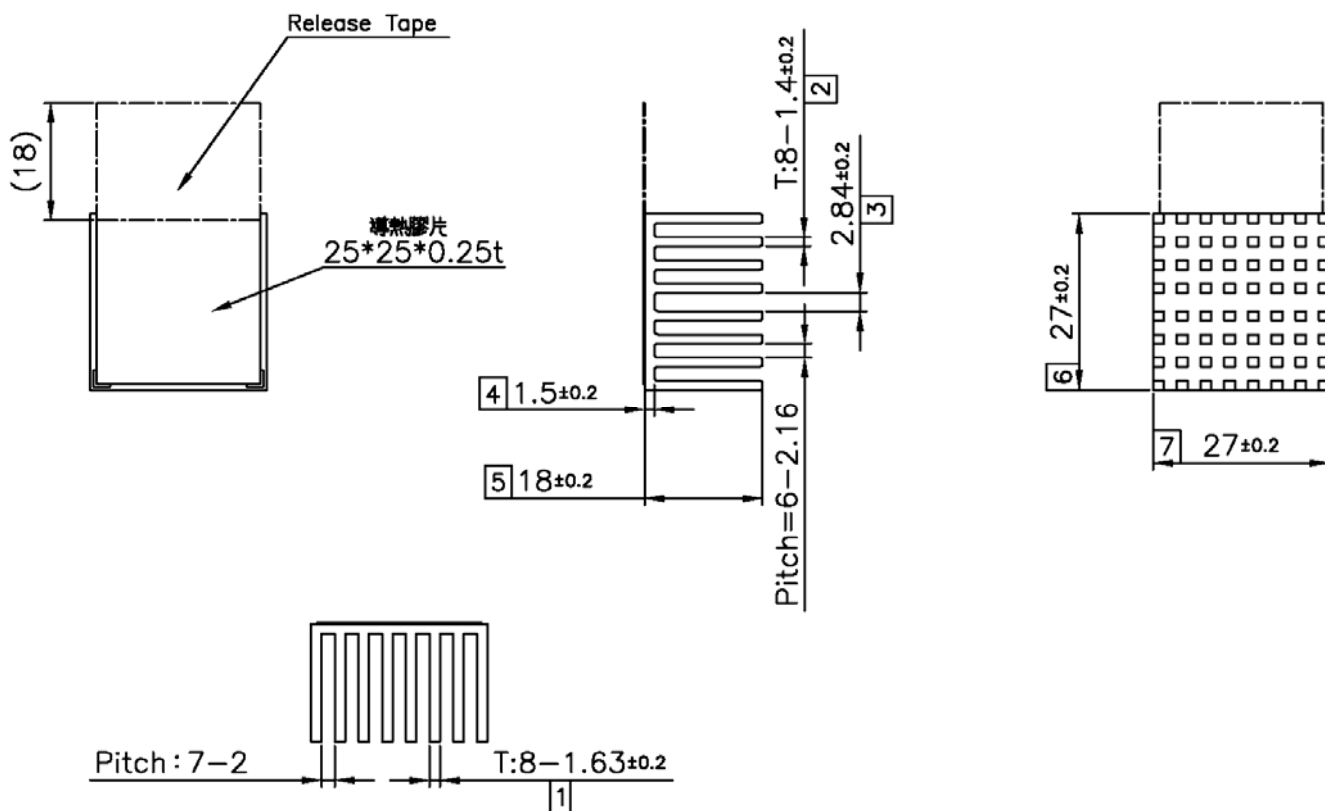
1. Application	N/A
2. Heat Sink Dimension	27*27*18mm
3. Heat Sink Material	AL6063-T5 (陽極黑色)
4. Cooling Method	N/A
5. Thermal Grease / PAD	BP410
6. Fan Dimension	N/A
7. Fan Speed (with Heat Sink)	N/A
8. Fan Airflow ( with Heat Sink )	N/A
9. Fan Rating Voltage	N/A
10. Fan Rating Current ( with Heat Sink )	N/A
11. Fan Power Consumption ( with Heat Sink )	N/A
12. Fan Bearing Type	N/A
13. Fan Connector	N/A
14. Cooling Module Noise	N/A
15. Fan Operating Voltage Range	N/A
16. Operating Temperature	-10 to + 70 deg. C
17. Storage Temperature	-40 to + 70 deg. C
18. Weight	10 g
19. Life Expectance	N/A

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2.DIMENSION

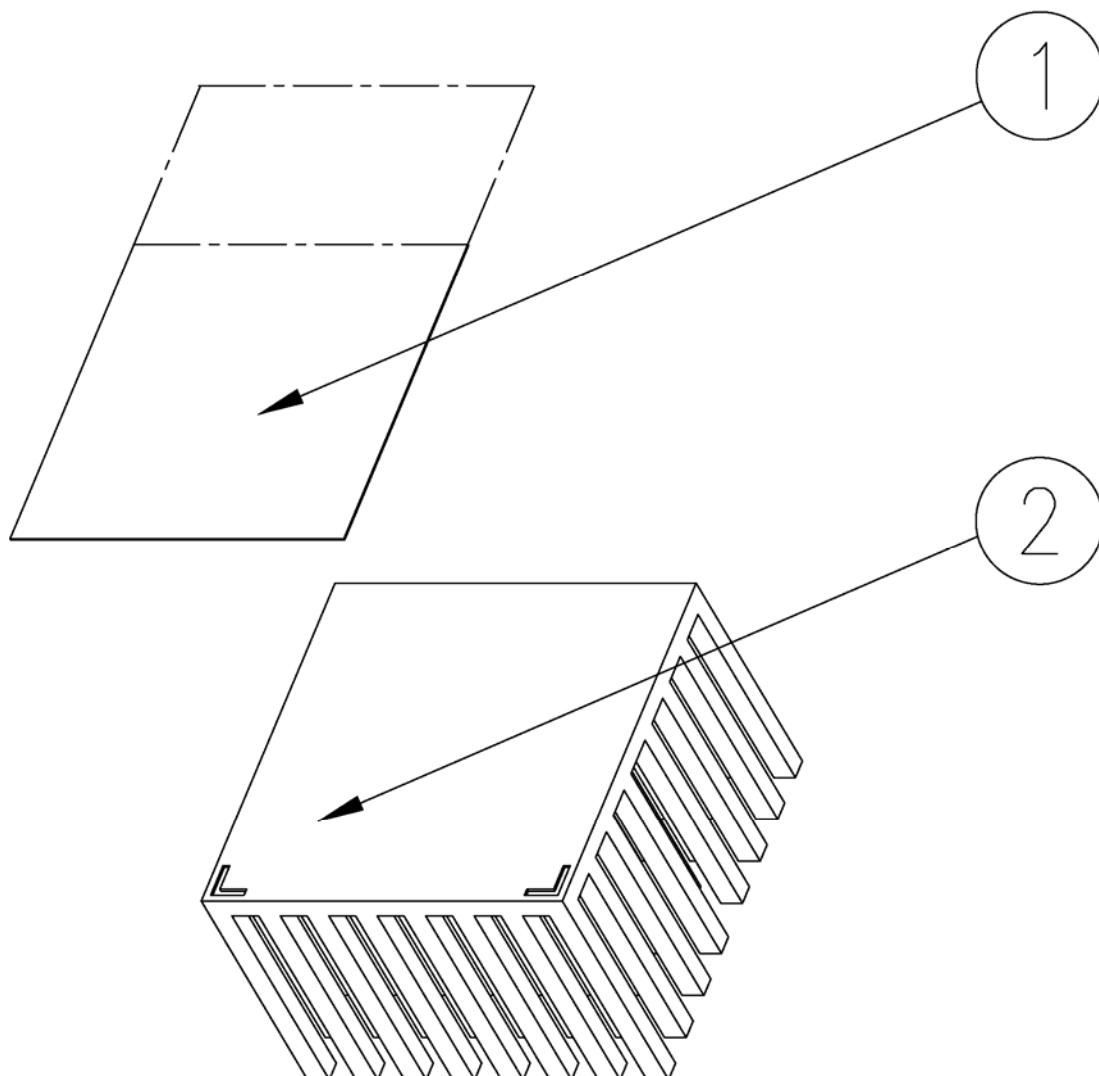


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**2.DIMENSION**



2	散熱片	A212019430F	27*27*18	HF	1
1	導熱膠片	A507006470F	25*25*0.25t	HF	1
項次 ITEM	名稱 NAME	料號 PART No.	規 格 SPECIFICATION		數量 QTY
零 件 表					

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# 3.FAI & CPK TEST

## 1.FAI TEST

FAI DATA SHEET

Part Number :		Supplier :	SUNON	Date :	2012/02
Part Description :	Sagem	ISR No :		Cavity / Tool # :	
Revision :	A00	Material Spec :		Inspector :	張政宏

MOI-Method of inspection abbreviation: HG = Height gauge, MIC = Micrometer, DC = Dial Caliper, P = Protractor, OC = Optical Comparator, CG = Checking Gauge, CMM = Coordinate Measuring Machine.

OMM = Optical Coordinate Measuring Machine, HT = Hardness Tester, TG = Thickness Gauge, VIS = Visual, PG = Plug Gauge.

OTHER

ITEM	DRAWING LOCATION	NOMINAL	+TOL	-TOL	Sample Number			Deviation from Nominal			Mean	% Tolerance		Accept/Reject		Inspection Method	Supplier Remarks	Cell Engineering Disposition
					1	2	3	1	2	3		UPPER	LOWER	HIGH	LOW			
					1		1.630	0.200	0.200	1.684		1.736	1.702	0.054	0.106			
2		1.400	0.200	0.200	1.510	1.474	1.522	0.110	0.074	0.122	1.502	61%	0%	Accept	Accept	CMM		
3		2.840	0.200	0.200	2.896	2.966	2.928	0.056	0.126	0.088	2.930	63%	0%	Accept	Accept	CMM		
4		1.500	0.200	0.200	1.570	1.544	1.586	0.070	0.044	0.086	1.567	43%	0%	Accept	Accept	CMM		
5		18.000	0.200	0.200	18.106	18.124	18.070	0.106	0.124	0.070	18.100	62%	0%	Accept	Accept	CMM		
6		27.000	0.200	0.200	27.074	27.082	27.098	0.074	0.082	0.098	27.085	49%	0%	Accept	Accept	CMM		
7		27.000	0.200	0.200	27.086	27.074	27.106	0.086	0.074	0.106	27.089	53%	0%	Accept	Accept	CMM		

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### 3.FAI & CPK TEST

#### 2.CPK TEST

機種名：SA000-11003(Sagera27x27x18)

試產日期：2012/6/29

No	1	2
(項目)	厚度	寬度
規格中心值	18.000	27.000
規格上限	18.200	27.200
規格下限	17.800	26.800
UNIT (單位)	mm	mm
ave	18.138	27.123
max	18.165	27.153
min	18.109	27.101
1	18.126	27.126
2	18.148	27.148
3	18.153	27.153
4	18.136	27.136
5	18.146	27.106
6	18.156	27.105
7	18.135	27.135
8	18.135	27.135
9	18.147	27.147
10	18.137	27.103
11	18.126	27.126
12	18.146	27.146
13	18.128	27.128
14	18.156	27.104
15	18.126	27.126
16	18.165	27.101
17	18.153	27.103
18	18.135	27.135
19	18.135	27.135
20	18.158	27.108
21	18.138	27.138
22	18.125	27.125
23	18.135	27.102
24	18.126	27.126
25	18.125	27.125
26	18.136	27.136
27	18.129	27.129
28	18.109	27.109
29	18.119	27.119
30	18.152	27.102
31	18.109	27.109
32	18.156	27.106
33	18.145	27.109
34	18.158	27.128
35	18.129	27.129

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2012.07.05

發行章



## 3.FAI &amp; CPK TEST

## 品質總合確認書DATA SHEET

試作品,量試品,量產品

機種名: SA000-11003(Sagem27x27x18)

NO	項目	規格	平均值 avg	標準偏 差 $\sigma$	最大 值max	最小 值 min	試料數	工程能力		備考
								cp	cpk	
1	厚度	17.800~18.200mm	18.138	0.014	18.165	18.109	35	4.722	1.459	
2	寬度	26.800~27.200mm	27.123	0.016	27.153	27.101	35	4.295	1.658	

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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 Restricted Materials

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

1. In accordance with the Restriction of Hazardous Substances (RoHS) Directive and specific market requirements, Sunon Halogen-Free Product 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	
17	Halogen-Free Product: Brominated/chlorinated flame retardants (other than PBBs or PBDEs), applicable item: frame, bobbin, impeller, lear wire, connector, mylar insulator.	Br<900ppm Cl<900ppm Br+Cl<1500ppm	
18	PAHs and its 16 compounds in unusual contact material	BaP < 20ppm 16 compounds total content < 200ppm	
19	PCB and electroplating material, PFOS content complianced with 2006/122/EC	PFOS <1000ppm; coating material PFOS < 1μg/m <sup>2</sup>	

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