

SUNON

SPECIFICATION FOR APPROVAL

MODEL NO : SA000-12055
DESCRIPTION : Thermal Module
DIMENSIONS : ϕ 85X50 mm
SUNON SPEC. NO. : C01001230F-01
CUSTOMER APPROVAL NO. :
APPROVED BY CUSTOMER :
(AUTHORIZED)

DRAWN JING	CHECKED Amy	APPROVED Eric	SPEC. NO	C01001230F-01
			ISSUED DATE	01. 10. 2013
			EDITION	0
			REVISION DATE	

建準電機工業股份有限公司

SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO., LTD.

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SPECIFICATION FOR APPROVAL

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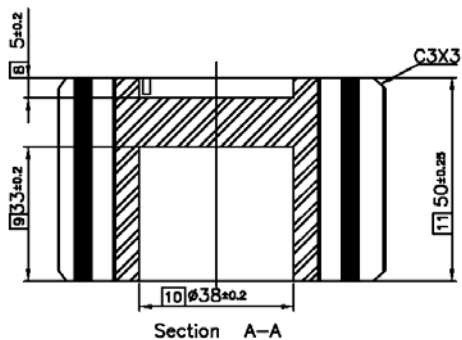
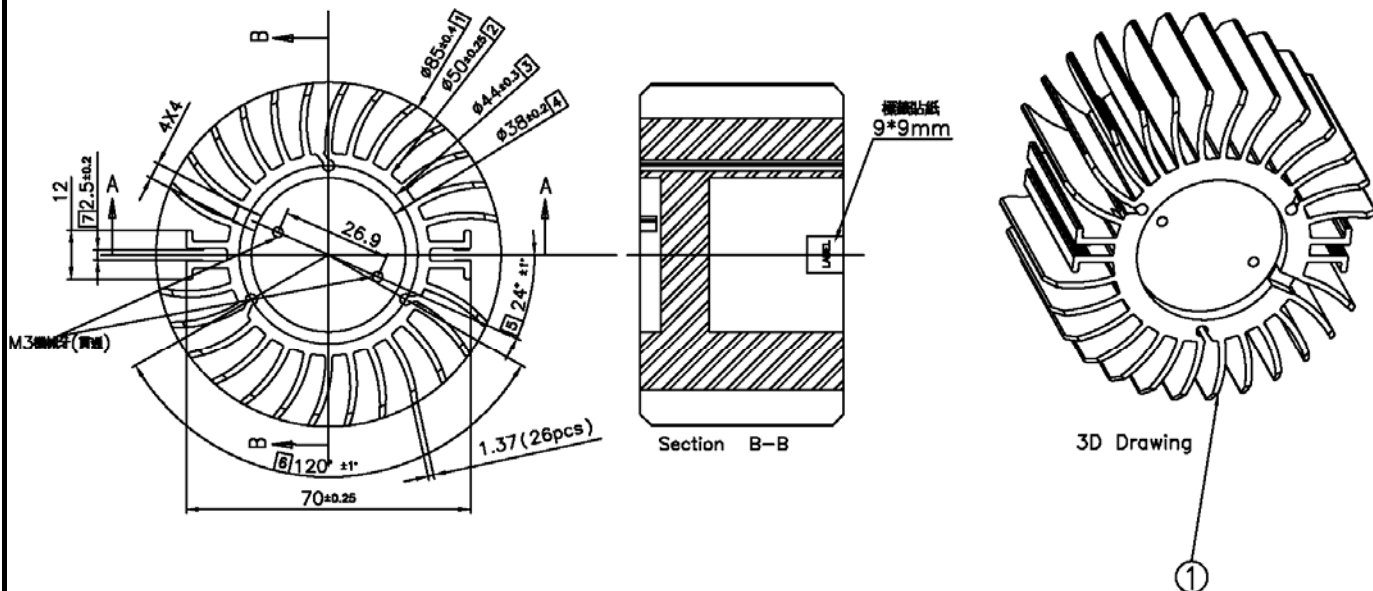


MODEL : SA000-12055**1.SPECIFICATIONS**

1. Application	N/A	
2. Heat Sink Dimension	ϕ 85 X 50 HF	
3. Heat Sink Material	AL6063(陽極黑色)	
4. Cooling Method	N/A	
5. Thermal Grease / PAD	N/A	
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	245 g	
19. Life Expectance	N/A	
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2.DIMENSION



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3.FAI & CPK TEST

1.FAI TEST

FAI DATA SHEET

Part Num:	Supplier:	SUNON	Date:	2013/1/7	New:	
Part Des: Seeger KK8550_BLACK	ISR No:		Cavity / Tool #:		Revised:	
Revision:	Material Spec:	See Drawing	Inspector:	范登輝	Resubmission:	

MCI-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.

ITEM	NOMINAL	+TOL	-TOL	Sample Number			Deviation from Nominal			Mean	% Tolerance		Accept/Reject		Inspection Method
				1	2	3	1	2	3		UPPER	LOWER	HIGH	LOW	
				1	85.000	0.400	0.400	85.020	85.150		84.820	0.020	0.150	-0.180	
2	50.000	0.250	0.250	50.120	49.960	49.850	0.120	-0.040	-0.150	49.977	48%	60%	Accept	Accept	CMM
3	44.000	0.300	0.300	43.960	43.950	44.050	-0.040	-0.050	0.050	43.987	17%	17%	Accept	Accept	CMM
4	38.000	0.200	0.200	37.950	37.990	38.120	-0.050	-0.010	0.120	38.020	60%	25%	Accept	Accept	CMM
5	24.000	1.000	1.000	24.500	24.600	23.800	0.500	0.600	-0.200	24.300	60%	20%	Accept	Accept	CMM
6	120.000	1.000	1.000	120.100	120.200	119.900	0.100	0.200	-0.100	120.067	20%	10%	Accept	Accept	CMM
7	2.500	0.200	0.200	2.510	2.380	2.480	0.010	-0.120	-0.020	2.457	5%	60%	Accept	Accept	CMM
8	5.000	0.200	0.200	5.030	5.060	4.990	0.030	0.060	-0.010	5.027	30%	5%	Accept	Accept	CMM
9	33.000	0.200	0.200	33.030	32.980	32.940	0.030	-0.020	-0.060	32.983	15%	30%	Accept	Accept	CMM
10	38.000	0.200	0.200	38.110	37.960	37.950	0.110	-0.040	-0.050	38.007	55%	25%	Accept	Accept	CMM
11	50.000	0.250	0.250	50.110	50.010	49.990	0.110	0.010	-0.010	50.037	44%	4%	Accept	Accept	CMM

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3. CPK TEST

1. CPK TEST

品質總合確認書DATA SHEET

機種名：SA000-12055(Seeger KK8550-BLACK)

試產日期：2013/1/3

No	1	2
(項目)	總高度	內徑
規格中心值	50.000	38.000
規格上限	50.250	38.200
規格下限	49.750	37.800
UNIT (單位)	mm	mm
ave	50.009	38.058
max	50.109	38.186
min	49.909	38.029
1	50.026	38.038
2	50.048	38.048
3	50.035	38.053
4	50.047	38.031
5	50.037	38.054
6	50.026	38.056
7	49.946	38.035
8	49.928	38.065
9	49.993	38.047
10	49.986	38.057
11	49.946	38.036
12	49.956	38.186
13	50.035	38.046
14	50.056	38.056
15	50.096	38.046
16	50.085	38.101
17	50.101	38.053
18	50.053	38.035
19	50.035	38.125
20	49.926	38.058
21	49.925	38.038
22	50.036	38.059
23	49.989	38.035
24	50.005	38.126
25	49.988	38.045
26	50.038	38.046
27	49.925	38.029
28	49.909	38.029
29	49.919	38.039
30	50.052	38.052
31	50.109	38.109
32	50.056	38.056
33	49.945	38.045
34	50.018	38.048
35	50.029	38.038

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2013.01.10

發行章

3. CPK TEST

品質總合確認書DATA SHEET

試作品.量試品.量產品

機種名：SA000-12055(Seeger KK8550-BLACK)

承認	審查	作成

NO	項目	規格	平均值 avg	標準偏差 σ	最大值 max	最小值 min	試料數	工程能力		備考
								cp	cpk	
1	總高度	49.750~50.250mm	50.009	0.057	50.109	49.909	35	1.461	1.411	
2	內徑	37.800~38.200mm	38.058	0.033	38.186	38.029	35	2.014	1.433	

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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, H₂S, SO₂, NO₂, or Cl₂.
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 2011/65/EU 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 \geq 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	Hexabromocyclododecane (HBCDD)		<1000ppm
18	Di-butyl Phthalate (DBP)		<1000ppm
19	Benzyl butyl Phthalate (BBP)		<1000ppm
20	Di-ethylhexyl Phthalate (DEHP)		<1000ppm
21	Di-isobutyl Phthalate (DIBP)		<1000ppm
22	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
23	PAHs and its 16 compounds in unusual contact material		BaP < 20ppm Total <200ppm
24	PCB and electroplating material, PFOS content complianced with 2006/122/EC		PFOS \leq 1000ppm; coating material PFOS < 1 μ g/m ²

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