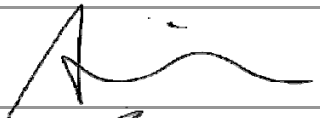
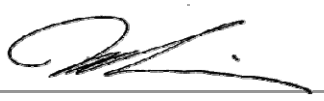
www.SeCosGmbH.com

Headquarter Address:
8F.No.33, Lane 155, Sec.3, Bei-Shen Rd.,
Shen Keng Dist, New Taipei City, Taiwan
TEL: +886-2-26620988
FAX: +886-2-26620488

Product/Process Change Notification

PCN#	Effective Date	Issue Date
2013-12-01C-01	2014/1/1	2013/12/1
PCN Classification	**Product Category**	
Major	SOD-123FL Package	
Subject		
Increase capacity for SOD-123FL package		
Affected Product(s)		
SOD-123FL Package Product		
Description of Change(s)		
Original assembly factory has reached a full capacity in production, thus adding new production line to increase capacity		
Content of Change(s)		
Body size. Add Marking Code.		
Impact(s)		
N/A		
Attachment(s)		
Specification. Reliability Teat Report		

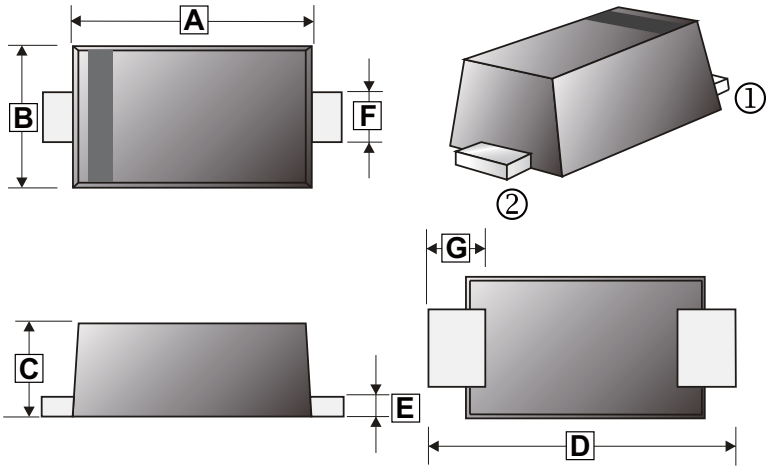
Approval		
Issue by	Alice Lai	e-mail: alice@secosgmbh.com
Development Engineer		Alice Lai
QA Manager		Peter Yang
General Manger		Mathew Liu

For more information, please contact us directly or visit our website http://www.secosgmbh.com

www.SeCosGmbH.com

Headquarter Address:
8F.No.33, Lane 155, Sec.3, Bei-Shen Rd.,
Shen Keng Dist, New Taipei City, Taiwan
TEL: +886-2-26620988
FAX: +886-2-26620488

Reference of Dimension Modification



Original Dimension

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.60	2.90	E	0.10	0.30
B	1.70	2.00	F	0.80	1.35
C	0.81	1.55	G	0.35	0.85
D	3.50	3.90			

Modified Dimension

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.60	3.10	E	0.10	0.30
B	1.60	2.00	F	0.80	1.35
C	0.81	1.55	G	0.35	0.85
D	3.50	3.90			

SeCoS Corporation

Reliability Testing Summary Report

Date: 2013/11/30 Document No.: SG13 -11- 05

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	SM4007FL	100 ± 5℃, 80%VR, T = 1000 hrs		77	0	0	ACC
HTSL High Temperature Storage Life	SM4007FL	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	SM4007FL	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	SM4007FL	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	SM4007FL	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	SM4007FL	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	SM4007FL	245 ± 5℃, 5Sec the inspected area of each lead must have 95% solder coverage minimum		10	0	0	ACC

Judgment:

■ **qualified** □ **unqualified**

Testing Start Date: 2013.10.01 Testing End Date: 2013.11.30

Tester: Leo Hsia Approval: Peter Yang

SeCoS Corporation

Electrical Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 25℃
Test Date: 2013.10.01 ~ 2013.10.01
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	IR (uA)
1	943mV	0.070uA
2	953mV	0.055uA
3	946mV	0.064uA
4	946mV	0.053uA
5	954mV	0.049uA
6	944mV	0.041uA
7	958mV	0.042uA
8	958mV	0.070uA
9	949mV	0.060uA
10	948mV	0.056uA
11	939mV	0.054uA
12	937mV	0.058uA
13	958mV	0.048uA
14	941mV	0.037uA
15	955mV	0.036uA
16	944mV	0.056uA
17	948mV	0.039uA
18	945mV	0.053uA
19	944mV	0.035uA
20	954mV	0.059uA
21	959mV	0.049uA
22	943mV	0.062uA
23	959mV	0.069uA
24	954mV	0.054uA
25	947mV	0.047uA
26	951mV	0.062uA
27	941mV	0.060uA
28	952mV	0.056uA
29	942mV	0.048uA
30	950mV	0.046uA
31	950mV	0.040uA

SeCoS Corporation

Electrical Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 25℃
Test Date: 2013.10.01 ~ 2013.10.01
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	IR (uA)
32	947mV	0.059uA
33	957mV	0.056uA
34	943mV	0.070uA
35	957mV	0.068uA
36	955mV	0.063uA
37	950mV	0.040uA
38	955mV	0.037uA
39	950mV	0.067uA
40	959mV	0.066uA
41	941mV	0.054uA
42	952mV	0.066uA
43	948mV	0.036uA
44	948mV	0.043uA
45	945mV	0.041uA
46	959mV	0.056uA
47	947mV	0.035uA
48	949mV	0.051uA
49	953mV	0.061uA
50	955mV	0.067uA
51	953mV	0.029uA
52	945mV	0.037uA
53	956mV	0.029uA
54	937mV	0.053uA
55	937mV	0.071uA
56	947mV	0.034uA
57	937mV	0.067uA
58	951mV	0.049uA
59	947mV	0.044uA
60	957mV	0.039uA
61	936mV	0.068uA
62	952mV	0.056uA

SeCoS Corporation

Electrical Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 25℃
Test Date: 2013.10.01 ~ 2013.10.01
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	IR (uA)
63	944mV	0.037uA
64	958mV	0.029uA
65	956mV	0.072uA
66	943mV	0.050uA
67	951mV	0.046uA
68	940mV	0.067uA
69	952mV	0.034uA
70	943mV	0.055uA
71	936mV	0.066uA
72	954mV	0.044uA
73	949mV	0.035uA
74	943mV	0.069uA
75	937mV	0.056uA
76	950mV	0.041uA
77	944mV	0.057uA

Made By: Leo Hsia Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 100 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2013.10.02 ~ 2013.11.13
Test Standard : JESD22 STANDER Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	953mV	0.045uA	958mV	0.064uA
2	958mV	0.043uA	950mV	0.073uA
3	943mV	0.067uA	942mV	0.034uA
4	942mV	0.063uA	955mV	0.060uA
5	944mV	0.032uA	952mV	0.063uA
6	946mV	0.051uA	951mV	0.037uA
7	945mV	0.047uA	937mV	0.052uA
8	950mV	0.064uA	940mV	0.053uA
9	948mV	0.034uA	953mV	0.048uA
10	948mV	0.029uA	939mV	0.029uA
11	944mV	0.055uA	939mV	0.068uA
12	950mV	0.044uA	942mV	0.049uA
13	948mV	0.054uA	949mV	0.068uA
14	956mV	0.041uA	954mV	0.064uA
15	954mV	0.064uA	943mV	0.044uA
16	952mV	0.052uA	943mV	0.038uA
17	954mV	0.037uA	956mV	0.031uA
18	954mV	0.057uA	941mV	0.070uA
19	956mV	0.041uA	947mV	0.040uA
20	946mV	0.070uA	959mV	0.058uA
21	944mV	0.041uA	942mV	0.050uA
22	943mV	0.039uA	937mV	0.059uA
23	944mV	0.073uA	947mV	0.043uA
24	956mV	0.072uA	957mV	0.052uA
25	948mV	0.070uA	949mV	0.042uA
26	943mV	0.071uA	954mV	0.066uA
27	946mV	0.066uA	936mV	0.047uA
28	944mV	0.065uA	943mV	0.070uA
29	954mV	0.029uA	949mV	0.065uA
30	938mV	0.036uA	950mV	0.048uA

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 100 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2013.10.02 ~ 2013.11.13
Test Standard : JESD22 STANDER Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	941mV	0.052uA	951mV	0.047uA
32	958mV	0.048uA	956mV	0.043uA
33	951mV	0.063uA	944mV	0.036uA
34	942mV	0.048uA	937mV	0.033uA
35	952mV	0.057uA	946mV	0.033uA
36	950mV	0.047uA	944mV	0.048uA
37	957mV	0.041uA	938mV	0.029uA
38	945mV	0.053uA	945mV	0.048uA
39	948mV	0.068uA	951mV	0.064uA
40	942mV	0.062uA	938mV	0.073uA
41	955mV	0.057uA	950mV	0.034uA
42	944mV	0.030uA	957mV	0.030uA
43	953mV	0.064uA	936mV	0.072uA
44	947mV	0.030uA	942mV	0.029uA
45	955mV	0.046uA	957mV	0.055uA
46	947mV	0.071uA	945mV	0.035uA
47	943mV	0.035uA	955mV	0.056uA
48	951mV	0.059uA	943mV	0.060uA
49	942mV	0.053uA	943mV	0.051uA
50	939mV	0.071uA	939mV	0.053uA
51	946mV	0.056uA	958mV	0.041uA
52	956mV	0.037uA	955mV	0.043uA
53	948mV	0.068uA	941mV	0.053uA
54	941mV	0.043uA	954mV	0.055uA
55	959mV	0.070uA	950mV	0.049uA
56	936mV	0.061uA	953mV	0.069uA
57	938mV	0.032uA	959mV	0.050uA
58	939mV	0.070uA	945mV	0.033uA
59	951mV	0.038uA	955mV	0.047uA
60	954mV	0.055uA	950mV	0.072uA

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 100 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2013.10.02 ~ 2013.11.13
Test Standard : JESD22 STANDER Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	946mV	0.057uA	951mV	0.059uA
62	958mV	0.065uA	943mV	0.041uA
63	946mV	0.042uA	956mV	0.065uA
64	939mV	0.066uA	959mV	0.050uA
65	940mV	0.034uA	954mV	0.056uA
66	952mV	0.071uA	950mV	0.045uA
67	952mV	0.055uA	958mV	0.056uA
68	958mV	0.061uA	943mV	0.069uA
69	940mV	0.071uA	946mV	0.058uA
70	938mV	0.037uA	952mV	0.036uA
71	950mV	0.033uA	957mV	0.052uA
72	954mV	0.049uA	947mV	0.064uA
73	952mV	0.048uA	955mV	0.056uA
74	937mV	0.034uA	943mV	0.071uA
75	949mV	0.038uA	947mV	0.030uA
76	949mV	0.072uA	957mV	0.040uA
77	937mV	0.028uA	938mV	0.059uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 150℃, 1000Hrs
Test Date: 2013.10.09 ~ 2013.11.20
Test Standard : JESD22 STANDER Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	941mV	0.036uA	947mV	0.045uA
2	953mV	0.064uA	951mV	0.052uA
3	940mV	0.030uA	956mV	0.033uA
4	946mV	0.052uA	945mV	0.061uA
5	937mV	0.048uA	941mV	0.060uA
6	940mV	0.052uA	936mV	0.073uA
7	957mV	0.047uA	953mV	0.058uA
8	948mV	0.069uA	951mV	0.065uA
9	957mV	0.053uA	953mV	0.067uA
10	950mV	0.054uA	952mV	0.034uA
11	941mV	0.036uA	956mV	0.049uA
12	957mV	0.057uA	936mV	0.047uA
13	947mV	0.061uA	956mV	0.068uA
14	936mV	0.037uA	956mV	0.054uA
15	942mV	0.042uA	953mV	0.071uA
16	954mV	0.061uA	940mV	0.034uA
17	946mV	0.055uA	945mV	0.063uA
18	957mV	0.035uA	945mV	0.029uA
19	957mV	0.042uA	946mV	0.051uA
20	950mV	0.065uA	940mV	0.037uA
21	958mV	0.071uA	942mV	0.037uA
22	955mV	0.034uA	953mV	0.057uA
23	939mV	0.062uA	938mV	0.039uA
24	940mV	0.050uA	950mV	0.056uA
25	952mV	0.029uA	942mV	0.047uA
26	944mV	0.067uA	943mV	0.054uA
27	943mV	0.062uA	955mV	0.037uA
28	955mV	0.063uA	956mV	0.049uA
29	941mV	0.059uA	936mV	0.063uA
30	955mV	0.041uA	946mV	0.035uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 150℃, 1000Hrs
Test Date: 2013.10.09 ~ 2013.11.20
Test Standard : JESD22 STANDER Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	945mV	0.068uA	953mV	0.052uA
32	942mV	0.072uA	942mV	0.043uA
33	942mV	0.067uA	950mV	0.052uA
34	947mV	0.064uA	941mV	0.065uA
35	941mV	0.044uA	940mV	0.067uA
36	940mV	0.043uA	952mV	0.065uA
37	949mV	0.039uA	948mV	0.044uA
38	954mV	0.069uA	948mV	0.056uA
39	954mV	0.048uA	955mV	0.070uA
40	945mV	0.031uA	956mV	0.036uA
41	943mV	0.041uA	956mV	0.060uA
42	941mV	0.045uA	954mV	0.063uA
43	954mV	0.036uA	937mV	0.052uA
44	942mV	0.033uA	949mV	0.043uA
45	938mV	0.052uA	939mV	0.035uA
46	954mV	0.032uA	957mV	0.046uA
47	952mV	0.051uA	946mV	0.063uA
48	946mV	0.064uA	941mV	0.042uA
49	953mV	0.049uA	947mV	0.058uA
50	951mV	0.053uA	945mV	0.061uA
51	956mV	0.033uA	945mV	0.032uA
52	945mV	0.051uA	937mV	0.037uA
53	951mV	0.066uA	946mV	0.051uA
54	952mV	0.044uA	953mV	0.051uA
55	943mV	0.062uA	948mV	0.068uA
56	950mV	0.065uA	954mV	0.049uA
57	949mV	0.057uA	939mV	0.054uA
58	946mV	0.032uA	944mV	0.052uA
59	942mV	0.066uA	949mV	0.034uA
60	957mV	0.068uA	956mV	0.056uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 150℃, 1000Hrs
Test Date: 2013.10.09 ~ 2013.11.20
Test Standard : JESD22 STANDER Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	957mV	0.033uA	955mV	0.032uA
62	952mV	0.052uA	950mV	0.063uA
63	951mV	0.045uA	940mV	0.066uA
64	952mV	0.043uA	953mV	0.062uA
65	951mV	0.048uA	946mV	0.036uA
66	940mV	0.063uA	956mV	0.065uA
67	940mV	0.050uA	948mV	0.039uA
68	941mV	0.052uA	938mV	0.070uA
69	951mV	0.037uA	943mV	0.039uA
70	958mV	0.045uA	957mV	0.039uA
71	958mV	0.038uA	941mV	0.059uA
72	938mV	0.059uA	949mV	0.041uA
73	954mV	0.029uA	939mV	0.067uA
74	944mV	0.072uA	954mV	0.047uA
75	940mV	0.070uA	944mV	0.055uA
76	938mV	0.051uA	943mV	0.058uA
77	944mV	0.060uA	957mV	0.043uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2013.10.21 ~ 2013.10.29
Test Standard : JESD22 STANDER Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	940mV	0.071uA	949mV	0.065uA
2	941mV	0.029uA	954mV	0.047uA
3	946mV	0.045uA	949mV	0.038uA
4	943mV	0.036uA	947mV	0.071uA
5	941mV	0.069uA	937mV	0.056uA
6	941mV	0.054uA	946mV	0.038uA
7	940mV	0.043uA	954mV	0.050uA
8	953mV	0.068uA	954mV	0.034uA
9	943mV	0.068uA	946mV	0.039uA
10	946mV	0.040uA	949mV	0.029uA
11	956mV	0.068uA	949mV	0.056uA
12	947mV	0.061uA	937mV	0.070uA
13	952mV	0.071uA	956mV	0.067uA
14	953mV	0.060uA	938mV	0.072uA
15	954mV	0.047uA	958mV	0.043uA
16	951mV	0.065uA	959mV	0.049uA
17	942mV	0.030uA	939mV	0.048uA
18	955mV	0.071uA	937mV	0.057uA
19	952mV	0.045uA	954mV	0.043uA
20	958mV	0.064uA	939mV	0.072uA
21	956mV	0.071uA	953mV	0.050uA
22	941mV	0.052uA	954mV	0.061uA
23	939mV	0.047uA	940mV	0.068uA
24	944mV	0.062uA	957mV	0.054uA
25	938mV	0.056uA	941mV	0.062uA
26	955mV	0.060uA	947mV	0.070uA
27	954mV	0.029uA	938mV	0.035uA
28	953mV	0.070uA	939mV	0.055uA
29	947mV	0.058uA	947mV	0.071uA
30	948mV	0.060uA	952mV	0.056uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2013.10.21 ~ 2013.10.29
Test Standard : JESD22 STANDER Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	936mV	0.038uA	947mV	0.029uA
32	947mV	0.031uA	952mV	0.060uA
33	945mV	0.056uA	951mV	0.059uA
34	939mV	0.039uA	937mV	0.065uA
35	945mV	0.045uA	939mV	0.069uA
36	945mV	0.061uA	958mV	0.040uA
37	942mV	0.064uA	938mV	0.072uA
38	954mV	0.030uA	949mV	0.055uA
39	945mV	0.040uA	945mV	0.067uA
40	945mV	0.034uA	959mV	0.040uA
41	943mV	0.037uA	957mV	0.058uA
42	943mV	0.066uA	942mV	0.065uA
43	955mV	0.056uA	954mV	0.035uA
44	938mV	0.068uA	937mV	0.065uA
45	944mV	0.034uA	959mV	0.070uA
46	957mV	0.052uA	944mV	0.032uA
47	951mV	0.039uA	945mV	0.059uA
48	951mV	0.051uA	950mV	0.029uA
49	939mV	0.061uA	941mV	0.066uA
50	938mV	0.057uA	937mV	0.031uA
51	949mV	0.035uA	936mV	0.060uA
52	948mV	0.047uA	943mV	0.040uA
53	951mV	0.042uA	946mV	0.036uA
54	957mV	0.049uA	946mV	0.048uA
55	942mV	0.062uA	956mV	0.051uA
56	939mV	0.029uA	954mV	0.041uA
57	951mV	0.050uA	937mV	0.063uA
58	936mV	0.029uA	959mV	0.064uA
59	942mV	0.044uA	950mV	0.034uA
60	943mV	0.054uA	957mV	0.051uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2013.10.21 ~ 2013.10.29
Test Standard : JESD22 STANDER Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	942mV	0.032uA	947mV	0.062uA
62	956mV	0.037uA	946mV	0.034uA
63	942mV	0.066uA	944mV	0.055uA
64	945mV	0.032uA	939mV	0.032uA
65	949mV	0.049uA	955mV	0.060uA
66	943mV	0.059uA	956mV	0.055uA
67	951mV	0.051uA	945mV	0.063uA
68	954mV	0.048uA	942mV	0.057uA
69	951mV	0.059uA	945mV	0.031uA
70	939mV	0.039uA	949mV	0.065uA
71	956mV	0.068uA	938mV	0.065uA
72	944mV	0.034uA	937mV	0.040uA
73	956mV	0.055uA	958mV	0.030uA
74	942mV	0.062uA	951mV	0.057uA
75	956mV	0.066uA	937mV	0.056uA
76	948mV	0.030uA	958mV	0.040uA
77	955mV	0.048uA	943mV	0.042uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2013.10.02 ~ 2013.11.23
Test Standard : JESD22 STANDER Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	946mV	0.044uA	948mV	0.033uA
2	944mV	0.037uA	942mV	0.072uA
3	938mV	0.030uA	948mV	0.044uA
4	947mV	0.040uA	953mV	0.030uA
5	943mV	0.048uA	945mV	0.057uA
6	946mV	0.054uA	940mV	0.038uA
7	953mV	0.041uA	946mV	0.042uA
8	955mV	0.052uA	946mV	0.059uA
9	952mV	0.063uA	945mV	0.059uA
10	941mV	0.042uA	939mV	0.043uA
11	942mV	0.036uA	954mV	0.048uA
12	937mV	0.062uA	942mV	0.061uA
13	940mV	0.068uA	959mV	0.035uA
14	945mV	0.056uA	957mV	0.038uA
15	954mV	0.062uA	948mV	0.071uA
16	945mV	0.053uA	943mV	0.036uA
17	957mV	0.053uA	938mV	0.045uA
18	959mV	0.046uA	939mV	0.032uA
19	953mV	0.044uA	943mV	0.041uA
20	936mV	0.042uA	958mV	0.037uA
21	956mV	0.072uA	944mV	0.050uA
22	943mV	0.066uA	948mV	0.055uA
23	957mV	0.037uA	947mV	0.032uA
24	955mV	0.036uA	958mV	0.057uA
25	941mV	0.051uA	956mV	0.046uA
26	953mV	0.064uA	952mV	0.044uA
27	940mV	0.042uA	947mV	0.064uA
28	953mV	0.061uA	938mV	0.038uA
29	937mV	0.055uA	941mV	0.067uA
30	958mV	0.067uA	953mV	0.032uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2013.10.02 ~ 2013.11.23
Test Standard : JESD22 STANDER Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	945mV	0.060uA	943mV	0.066uA
32	948mV	0.061uA	946mV	0.069uA
33	950mV	0.049uA	959mV	0.039uA
34	959mV	0.069uA	955mV	0.047uA
35	957mV	0.070uA	937mV	0.032uA
36	958mV	0.053uA	943mV	0.065uA
37	947mV	0.052uA	949mV	0.052uA
38	942mV	0.033uA	954mV	0.049uA
39	951mV	0.043uA	953mV	0.055uA
40	950mV	0.058uA	940mV	0.038uA
41	944mV	0.051uA	938mV	0.034uA
42	951mV	0.046uA	951mV	0.036uA
43	953mV	0.055uA	955mV	0.069uA
44	940mV	0.065uA	951mV	0.047uA
45	939mV	0.047uA	950mV	0.069uA
46	951mV	0.062uA	952mV	0.050uA
47	956mV	0.040uA	939mV	0.055uA
48	947mV	0.054uA	937mV	0.037uA
49	936mV	0.048uA	951mV	0.070uA
50	952mV	0.058uA	940mV	0.061uA
51	936mV	0.072uA	948mV	0.037uA
52	946mV	0.059uA	950mV	0.070uA
53	946mV	0.044uA	945mV	0.047uA
54	944mV	0.032uA	942mV	0.056uA
55	947mV	0.068uA	949mV	0.052uA
56	939mV	0.041uA	951mV	0.072uA
57	955mV	0.040uA	944mV	0.048uA
58	949mV	0.057uA	955mV	0.058uA
59	944mV	0.067uA	940mV	0.044uA
60	937mV	0.047uA	943mV	0.030uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2013.10.02 ~ 2013.11.23
Test Standard : JESD22 STANDER Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	947mV	0.072uA	938mV	0.071uA
62	944mV	0.068uA	937mV	0.048uA
63	956mV	0.047uA	952mV	0.045uA
64	944mV	0.032uA	947mV	0.063uA
65	950mV	0.033uA	958mV	0.060uA
66	937mV	0.051uA	954mV	0.043uA
67	951mV	0.034uA	957mV	0.060uA
68	948mV	0.031uA	944mV	0.065uA
69	943mV	0.068uA	955mV	0.050uA
70	954mV	0.050uA	946mV	0.045uA
71	937mV	0.041uA	954mV	0.070uA
72	937mV	0.066uA	950mV	0.048uA
73	947mV	0.046uA	954mV	0.041uA
74	944mV	0.058uA	943mV	0.052uA
75	958mV	0.047uA	945mV	0.048uA
76	947mV	0.049uA	951mV	0.050uA
77	941mV	0.070uA	942mV	0.039uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2013.10.17 ~ 2013.11.29
Test Standard : JESD22 STANDER Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	944mV	0.060uA	942mV	0.054uA
2	950mV	0.056uA	951mV	0.040uA
3	954mV	0.043uA	946mV	0.048uA
4	940mV	0.072uA	949mV	0.051uA
5	951mV	0.060uA	950mV	0.065uA
6	938mV	0.059uA	937mV	0.048uA
7	958mV	0.062uA	951mV	0.059uA
8	955mV	0.055uA	943mV	0.052uA
9	937mV	0.053uA	945mV	0.062uA
10	937mV	0.031uA	949mV	0.056uA
11	955mV	0.050uA	951mV	0.050uA
12	942mV	0.036uA	941mV	0.037uA
13	948mV	0.030uA	952mV	0.038uA
14	959mV	0.066uA	937mV	0.068uA
15	956mV	0.060uA	948mV	0.064uA
16	952mV	0.050uA	957mV	0.041uA
17	943mV	0.054uA	954mV	0.033uA
18	939mV	0.040uA	950mV	0.033uA
19	951mV	0.031uA	958mV	0.069uA
20	959mV	0.032uA	938mV	0.071uA
21	958mV	0.036uA	937mV	0.048uA
22	938mV	0.039uA	958mV	0.051uA
23	946mV	0.066uA	940mV	0.035uA
24	955mV	0.041uA	947mV	0.064uA
25	942mV	0.033uA	957mV	0.044uA
26	942mV	0.059uA	949mV	0.050uA
27	954mV	0.057uA	945mV	0.042uA
28	952mV	0.035uA	948mV	0.047uA
29	938mV	0.042uA	946mV	0.049uA
30	952mV	0.071uA	944mV	0.060uA

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2013.10.17 ~ 2013.11.29
Test Standard : JESD22 STANDER Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	943mV	0.052uA	957mV	0.072uA
32	941mV	0.068uA	943mV	0.033uA
33	946mV	0.063uA	943mV	0.052uA
34	953mV	0.064uA	942mV	0.028uA
35	957mV	0.052uA	938mV	0.064uA
36	956mV	0.067uA	949mV	0.068uA
37	942mV	0.039uA	954mV	0.050uA
38	949mV	0.041uA	944mV	0.029uA
39	936mV	0.034uA	959mV	0.046uA
40	955mV	0.033uA	958mV	0.053uA
41	958mV	0.038uA	938mV	0.035uA
42	938mV	0.062uA	958mV	0.032uA
43	953mV	0.066uA	947mV	0.065uA
44	952mV	0.048uA	938mV	0.039uA
45	953mV	0.061uA	936mV	0.037uA
46	937mV	0.057uA	955mV	0.073uA
47	953mV	0.051uA	946mV	0.055uA
48	942mV	0.065uA	953mV	0.030uA
49	943mV	0.041uA	950mV	0.043uA
50	944mV	0.037uA	942mV	0.069uA
51	942mV	0.037uA	937mV	0.041uA
52	949mV	0.072uA	945mV	0.069uA
53	945mV	0.055uA	944mV	0.053uA
54	951mV	0.038uA	947mV	0.049uA
55	946mV	0.051uA	938mV	0.067uA
56	949mV	0.062uA	955mV	0.030uA
57	945mV	0.039uA	944mV	0.064uA
58	957mV	0.069uA	943mV	0.032uA
59	956mV	0.032uA	937mV	0.047uA
60	950mV	0.069uA	959mV	0.037uA

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2013.10.17 ~ 2013.11.29
Test Standard : JESD22 STANDER Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	954mV	0.057uA	958mV	0.047uA
62	958mV	0.052uA	954mV	0.029uA
63	944mV	0.039uA	937mV	0.029uA
64	942mV	0.056uA	947mV	0.060uA
65	957mV	0.030uA	952mV	0.041uA
66	941mV	0.051uA	944mV	0.059uA
67	937mV	0.047uA	938mV	0.071uA
68	939mV	0.063uA	949mV	0.068uA
69	939mV	0.060uA	940mV	0.034uA
70	948mV	0.056uA	952mV	0.046uA
71	938mV	0.071uA	959mV	0.066uA
72	957mV	0.049uA	936mV	0.062uA
73	948mV	0.057uA	958mV	0.036uA
74	950mV	0.051uA	947mV	0.030uA
75	955mV	0.043uA	946mV	0.047uA
76	953mV	0.058uA	939mV	0.047uA
77	948mV	0.031uA	938mV	0.058uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

High Temperature High Hum Reverse Bias Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 80%VR, 1000Hrs
Test Date: 2013.10.02 ~ 2013.11.13
Test Standard : JESD22 STANDER Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	937mV	0.066uA	942mV	0.047uA
2	952mV	0.062uA	946mV	0.037uA
3	936mV	0.031uA	939mV	0.032uA
4	957mV	0.045uA	936mV	0.039uA
5	940mV	0.034uA	952mV	0.036uA
6	959mV	0.059uA	946mV	0.036uA
7	950mV	0.031uA	945mV	0.061uA
8	940mV	0.032uA	950mV	0.032uA
9	938mV	0.054uA	950mV	0.068uA
10	937mV	0.072uA	943mV	0.056uA
11	958mV	0.036uA	951mV	0.062uA
12	944mV	0.051uA	946mV	0.036uA
13	939mV	0.045uA	955mV	0.041uA
14	947mV	0.043uA	953mV	0.070uA
15	957mV	0.069uA	949mV	0.064uA
16	936mV	0.040uA	939mV	0.071uA
17	952mV	0.068uA	937mV	0.063uA
18	937mV	0.049uA	944mV	0.054uA
19	945mV	0.070uA	959mV	0.040uA
20	957mV	0.065uA	941mV	0.063uA
21	955mV	0.035uA	954mV	0.059uA
22	948mV	0.039uA	956mV	0.040uA
23	940mV	0.044uA	948mV	0.071uA
24	956mV	0.052uA	949mV	0.067uA
25	943mV	0.051uA	945mV	0.030uA
26	941mV	0.037uA	941mV	0.040uA
27	952mV	0.040uA	948mV	0.029uA
28	947mV	0.068uA	941mV	0.062uA
29	937mV	0.048uA	951mV	0.059uA
30	937mV	0.069uA	936mV	0.034uA

SeCoS Corporation

High Temperature High Hum Reverse Bias Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 80%VR, 1000Hrs
Test Date: 2013.10.02 ~ 2013.11.13
Test Standard : JESD22 STANDER Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	939mV	0.045uA	946mV	0.061uA
32	939mV	0.068uA	937mV	0.042uA
33	937mV	0.031uA	949mV	0.050uA
34	950mV	0.031uA	957mV	0.052uA
35	940mV	0.036uA	954mV	0.035uA
36	944mV	0.052uA	951mV	0.051uA
37	937mV	0.066uA	945mV	0.047uA
38	958mV	0.029uA	943mV	0.032uA
39	941mV	0.050uA	943mV	0.049uA
40	952mV	0.046uA	953mV	0.041uA
41	942mV	0.033uA	954mV	0.035uA
42	939mV	0.051uA	958mV	0.069uA
43	947mV	0.028uA	952mV	0.046uA
44	957mV	0.072uA	937mV	0.046uA
45	945mV	0.032uA	947mV	0.060uA
46	956mV	0.043uA	937mV	0.045uA
47	958mV	0.030uA	959mV	0.046uA
48	951mV	0.048uA	954mV	0.029uA
49	940mV	0.031uA	937mV	0.054uA
50	955mV	0.073uA	940mV	0.035uA
51	953mV	0.044uA	940mV	0.047uA
52	950mV	0.048uA	942mV	0.066uA
53	958mV	0.046uA	949mV	0.060uA
54	950mV	0.071uA	953mV	0.072uA
55	958mV	0.048uA	940mV	0.072uA
56	951mV	0.067uA	943mV	0.047uA
57	953mV	0.041uA	952mV	0.068uA
58	954mV	0.072uA	959mV	0.071uA
59	944mV	0.070uA	944mV	0.054uA
60	943mV	0.072uA	938mV	0.068uA

SeCoS Corporation

High Temperature High Hum Reverse Bias Test Data

Report No : T131130-005
Part No : SM4007FL
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1.1V@IF=1A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 80%VR, 1000Hrs
Test Date: 2013.10.02 ~ 2013.11.13
Test Standard : JESD22 STANDER Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	955mV	0.041uA	936mV	0.057uA
62	942mV	0.046uA	948mV	0.043uA
63	939mV	0.033uA	951mV	0.058uA
64	958mV	0.061uA	957mV	0.048uA
65	943mV	0.034uA	952mV	0.047uA
66	938mV	0.064uA	942mV	0.065uA
67	946mV	0.044uA	947mV	0.061uA
68	945mV	0.032uA	942mV	0.034uA
69	957mV	0.036uA	945mV	0.068uA
70	943mV	0.065uA	949mV	0.045uA
71	944mV	0.036uA	945mV	0.057uA
72	939mV	0.041uA	942mV	0.070uA
73	953mV	0.029uA	955mV	0.063uA
74	943mV	0.044uA	939mV	0.070uA
75	957mV	0.050uA	943mV	0.056uA
76	956mV	0.056uA	936mV	0.066uA
77	955mV	0.041uA	947mV	0.068uA

Made By: Leo Hsia

Approval: Peter Yang