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
2014-08-01C-10	2015/2/1	2014/8/1

PCN Classification	Product Category
Major	SOT-353 Package

Subject
Add a molding vendor
Affected Product(s)
SCS481N. UMN1N. KS05J4. KS33J4. MMDT4944.
Description of Change(s)
In order to avoid shortage of the material, and enhance the speed of delivery, thus, we add a new vendor.
Content of Change(s)
Add Molding vendor--ELER-8-100HFE
Impact(s)
N/A
Attachment(s)
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

SeCoS Corporation

Reliability Testing Summary Report

Date: 2014/06/30 Document No.: SH14 -06- 37

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	KS33J4	100 ± 5℃, 100%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	KS33J4	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	KS33J4	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	KS33J4	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	KS33J4	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	KS33J4	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	KS33J4	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: 2014.05.05 Testing End Date: 2014.06.30

Tester: Leo Hsia Approval: Peter Yang

SeCoS Corporation

Electrical Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 25℃
Test Date: 2014.05.05 ~ 2014.05.05
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VBR (V)	IR (uA)
1	5.581V	0.099uA
2	5.666V	0.077uA
3	5.779V	0.091uA
4	5.646V	0.073uA
5	5.682V	0.041uA
6	5.700V	0.068uA
7	5.739V	0.119uA
8	5.739V	0.055uA
9	5.642V	0.030uA
10	5.625V	0.090uA
11	5.642V	0.088uA
12	5.675V	0.088uA
13	5.720V	0.057uA
14	5.752V	0.021uA
15	5.702V	0.068uA
16	5.757V	0.066uA
17	5.706V	0.061uA
18	5.636V	0.085uA
19	5.572V	0.062uA
20	5.727V	0.091uA
21	5.601V	0.029uA
22	5.777V	0.090uA
23	5.697V	0.055uA
24	5.802V	0.042uA
25	5.790V	0.118uA
26	5.644V	0.087uA
27	5.685V	0.067uA
28	5.798V	0.076uA
29	5.679V	0.073uA
30	5.624V	0.087uA
31	5.633V	0.068uA

SeCoS Corporation

Electrical Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 25℃
Test Date: 2014.05.05 ~ 2014.05.05
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	V_{BR} (V)	IR (uA)
32	5.601V	0.068uA
33	5.583V	0.102uA
34	5.781V	0.088uA
35	5.689V	0.033uA
36	5.671V	0.083uA
37	5.693V	0.028uA
38	5.779V	0.088uA
39	5.708V	0.107uA
40	5.764V	0.055uA
41	5.580V	0.105uA
42	5.671V	0.116uA
43	5.667V	0.052uA
44	5.724V	0.022uA
45	5.665V	0.098uA
46	5.661V	0.039uA
47	5.638V	0.074uA
48	5.725V	0.056uA
49	5.605V	0.107uA
50	5.703V	0.031uA
51	5.674V	0.030uA
52	5.621V	0.039uA
53	5.822V	0.097uA
54	5.817V	0.047uA
55	5.760V	0.083uA
56	5.575V	0.048uA
57	5.783V	0.034uA
58	5.798V	0.070uA
59	5.715V	0.095uA
60	5.766V	0.041uA
61	5.691V	0.027uA
62	5.655V	0.054uA

SeCoS Corporation

Electrical Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 25℃
Test Date: 2014.05.05 ~ 2014.05.05
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	V_{BR} (V)	IR (uA)
63	5.735V	0.034uA
64	5.616V	0.036uA
65	5.663V	0.070uA
66	5.714V	0.088uA
67	5.743V	0.119uA
68	5.731V	0.034uA
69	5.808V	0.075uA
70	5.625V	0.058uA
71	5.820V	0.090uA
72	5.655V	0.029uA
73	5.754V	0.107uA
74	5.773V	0.086uA
75	5.808V	0.084uA
76	5.692V	0.064uA
77	5.679V	0.092uA

Made By: Leo Hsia　　Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 100 ± 5℃, 100%VR, T = 1000 hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.636V	0.077uA	5.641V	0.055uA
2	5.813V	0.063uA	5.822V	0.079uA
3	5.789V	0.023uA	5.695V	0.069uA
4	5.815V	0.042uA	5.736V	0.076uA
5	5.809V	0.069uA	5.674V	0.075uA
6	5.665V	0.029uA	5.767V	0.084uA
7	5.674V	0.112uA	5.640V	0.081uA
8	5.645V	0.058uA	5.575V	0.110uA
9	5.597V	0.065uA	5.705V	0.093uA
10	5.723V	0.076uA	5.727V	0.113uA
11	5.713V	0.086uA	5.715V	0.108uA
12	5.676V	0.059uA	5.800V	0.060uA
13	5.755V	0.108uA	5.665V	0.102uA
14	5.681V	0.079uA	5.713V	0.039uA
15	5.765V	0.106uA	5.711V	0.086uA
16	5.593V	0.021uA	5.711V	0.041uA
17	5.657V	0.092uA	5.707V	0.042uA
18	5.761V	0.044uA	5.796V	0.090uA
19	5.575V	0.028uA	5.596V	0.090uA
20	5.702V	0.026uA	5.575V	0.081uA
21	5.690V	0.023uA	5.784V	0.073uA
22	5.682V	0.025uA	5.576V	0.079uA
23	5.775V	0.074uA	5.671V	0.117uA
24	5.642V	0.084uA	5.635V	0.101uA
25	5.786V	0.050uA	5.790V	0.069uA
26	5.565V	0.088uA	5.585V	0.043uA
27	5.641V	0.045uA	5.599V	0.057uA
28	5.690V	0.091uA	5.773V	0.107uA
29	5.600V	0.115uA	5.612V	0.044uA
30	5.567V	0.031uA	5.662V	0.095uA

High Temperature Reverse Bias Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 100 ± 5℃, 100%VR, T = 1000 hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
31	5.587V	0.060uA	5.713V	0.097uA
32	5.819V	0.040uA	5.805V	0.085uA
33	5.790V	0.088uA	5.804V	0.048uA
34	5.804V	0.057uA	5.744V	0.097uA
35	5.711V	0.039uA	5.735V	0.062uA
36	5.761V	0.116uA	5.634V	0.083uA
37	5.605V	0.090uA	5.649V	0.103uA
38	5.615V	0.037uA	5.668V	0.101uA
39	5.629V	0.102uA	5.709V	0.051uA
40	5.720V	0.081uA	5.663V	0.100uA
41	5.624V	0.025uA	5.737V	0.037uA
42	5.756V	0.056uA	5.748V	0.072uA
43	5.601V	0.104uA	5.770V	0.064uA
44	5.706V	0.051uA	5.683V	0.031uA
45	5.686V	0.096uA	5.567V	0.046uA
46	5.573V	0.029uA	5.694V	0.022uA
47	5.767V	0.076uA	5.762V	0.027uA
48	5.742V	0.022uA	5.691V	0.115uA
49	5.811V	0.107uA	5.780V	0.087uA
50	5.597V	0.085uA	5.636V	0.068uA
51	5.629V	0.108uA	5.666V	0.086uA
52	5.822V	0.086uA	5.629V	0.062uA
53	5.733V	0.097uA	5.695V	0.110uA
54	5.570V	0.082uA	5.777V	0.096uA
55	5.685V	0.068uA	5.713V	0.028uA
56	5.694V	0.058uA	5.785V	0.057uA
57	5.708V	0.104uA	5.629V	0.040uA
58	5.641V	0.091uA	5.600V	0.035uA
59	5.653V	0.057uA	5.579V	0.086uA
60	5.686V	0.096uA	5.824V	0.095uA

High Temperature Reverse Bias Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 100 ± 5℃, 100%VR, T = 1000 hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
61	5.693V	0.092uA	5.589V	0.089uA
62	5.748V	0.059uA	5.604V	0.094uA
63	5.608V	0.101uA	5.713V	0.098uA
64	5.636V	0.047uA	5.599V	0.112uA
65	5.662V	0.076uA	5.825V	0.102uA
66	5.779V	0.075uA	5.702V	0.062uA
67	5.568V	0.062uA	5.619V	0.026uA
68	5.657V	0.041uA	5.762V	0.037uA
69	5.601V	0.105uA	5.806V	0.031uA
70	5.773V	0.078uA	5.580V	0.059uA
71	5.789V	0.055uA	5.632V	0.119uA
72	5.627V	0.027uA	5.762V	0.100uA
73	5.593V	0.107uA	5.768V	0.048uA
74	5.770V	0.064uA	5.740V	0.065uA
75	5.623V	0.034uA	5.570V	0.038uA
76	5.761V	0.115uA	5.628V	0.073uA
77	5.667V	0.077uA	5.619V	0.094uA

Made By: Leo Hsia Approval: Peter Yang

High Temperature Storage Life Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 150℃, 1000Hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.680V	0.082uA	5.820V	0.080uA
2	5.794V	0.101uA	5.717V	0.066uA
3	5.679V	0.078uA	5.727V	0.047uA
4	5.741V	0.031uA	5.601V	0.080uA
5	5.804V	0.068uA	5.730V	0.052uA
6	5.775V	0.076uA	5.705V	0.096uA
7	5.753V	0.079uA	5.670V	0.096uA
8	5.632V	0.078uA	5.650V	0.037uA
9	5.572V	0.086uA	5.687V	0.046uA
10	5.691V	0.101uA	5.745V	0.111uA
11	5.649V	0.083uA	5.742V	0.080uA
12	5.783V	0.055uA	5.710V	0.106uA
13	5.761V	0.063uA	5.592V	0.045uA
14	5.685V	0.084uA	5.661V	0.068uA
15	5.596V	0.073uA	5.793V	0.091uA
16	5.640V	0.117uA	5.711V	0.035uA
17	5.679V	0.067uA	5.654V	0.075uA
18	5.802V	0.039uA	5.582V	0.093uA
19	5.638V	0.082uA	5.636V	0.116uA
20	5.792V	0.034uA	5.770V	0.059uA
21	5.616V	0.110uA	5.813V	0.041uA
22	5.803V	0.034uA	5.686V	0.052uA
23	5.598V	0.040uA	5.818V	0.080uA
24	5.714V	0.026uA	5.595V	0.022uA
25	5.668V	0.048uA	5.808V	0.021uA
26	5.621V	0.075uA	5.711V	0.115uA
27	5.574V	0.093uA	5.601V	0.068uA
28	5.812V	0.058uA	5.624V	0.033uA
29	5.780V	0.077uA	5.587V	0.113uA
30	5.709V	0.046uA	5.591V	0.045uA

High Temperature Storage Life Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 150℃, 1000Hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
31	5.764V	0.108uA	5.747V	0.031uA
32	5.692V	0.025uA	5.733V	0.101uA
33	5.680V	0.108uA	5.635V	0.063uA
34	5.608V	0.029uA	5.766V	0.043uA
35	5.698V	0.048uA	5.643V	0.063uA
36	5.659V	0.045uA	5.610V	0.086uA
37	5.808V	0.091uA	5.648V	0.074uA
38	5.681V	0.022uA	5.631V	0.117uA
39	5.725V	0.086uA	5.808V	0.044uA
40	5.618V	0.119uA	5.677V	0.034uA
41	5.741V	0.113uA	5.657V	0.049uA
42	5.668V	0.040uA	5.589V	0.032uA
43	5.661V	0.030uA	5.806V	0.069uA
44	5.729V	0.088uA	5.735V	0.035uA
45	5.798V	0.057uA	5.707V	0.025uA
46	5.778V	0.107uA	5.608V	0.101uA
47	5.628V	0.070uA	5.749V	0.036uA
48	5.818V	0.051uA	5.819V	0.045uA
49	5.775V	0.093uA	5.770V	0.096uA
50	5.740V	0.053uA	5.658V	0.087uA
51	5.673V	0.044uA	5.789V	0.076uA
52	5.598V	0.026uA	5.686V	0.075uA
53	5.814V	0.059uA	5.730V	0.030uA
54	5.735V	0.074uA	5.675V	0.065uA
55	5.642V	0.096uA	5.690V	0.053uA
56	5.647V	0.033uA	5.672V	0.056uA
57	5.774V	0.064uA	5.726V	0.101uA
58	5.607V	0.067uA	5.567V	0.049uA
59	5.646V	0.095uA	5.820V	0.059uA
60	5.779V	0.077uA	5.579V	0.048uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 150℃, 1000Hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
61	5.813V	0.116uA	5.753V	0.098uA
62	5.691V	0.030uA	5.701V	0.087uA
63	5.630V	0.101uA	5.633V	0.111uA
64	5.736V	0.061uA	5.708V	0.030uA
65	5.788V	0.049uA	5.745V	0.098uA
66	5.575V	0.078uA	5.753V	0.058uA
67	5.656V	0.080uA	5.716V	0.112uA
68	5.620V	0.116uA	5.726V	0.051uA
69	5.788V	0.118uA	5.683V	0.070uA
70	5.614V	0.096uA	5.824V	0.113uA
71	5.758V	0.032uA	5.655V	0.054uA
72	5.675V	0.026uA	5.578V	0.064uA
73	5.650V	0.073uA	5.630V	0.071uA
74	5.725V	0.021uA	5.816V	0.024uA
75	5.669V	0.024uA	5.742V	0.047uA
76	5.588V	0.045uA	5.615V	0.096uA
77	5.735V	0.060uA	5.593V	0.022uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2014.05.05 ~ 2014.05.11
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.642V	0.094uA	5.626V	0.030uA
2	5.704V	0.065uA	5.608V	0.105uA
3	5.598V	0.036uA	5.587V	0.106uA
4	5.585V	0.119uA	5.611V	0.085uA
5	5.661V	0.081uA	5.744V	0.030uA
6	5.605V	0.043uA	5.607V	0.087uA
7	5.767V	0.034uA	5.592V	0.047uA
8	5.674V	0.059uA	5.671V	0.060uA
9	5.611V	0.034uA	5.804V	0.034uA
10	5.818V	0.049uA	5.636V	0.060uA
11	5.685V	0.072uA	5.750V	0.100uA
12	5.815V	0.042uA	5.727V	0.115uA
13	5.698V	0.056uA	5.781V	0.042uA
14	5.681V	0.065uA	5.787V	0.098uA
15	5.819V	0.116uA	5.759V	0.066uA
16	5.776V	0.105uA	5.750V	0.084uA
17	5.640V	0.080uA	5.803V	0.102uA
18	5.681V	0.035uA	5.674V	0.107uA
19	5.726V	0.041uA	5.803V	0.080uA
20	5.720V	0.099uA	5.789V	0.069uA
21	5.710V	0.022uA	5.734V	0.117uA
22	5.764V	0.091uA	5.713V	0.046uA
23	5.743V	0.078uA	5.655V	0.026uA
24	5.622V	0.115uA	5.693V	0.063uA
25	5.797V	0.054uA	5.595V	0.029uA
26	5.812V	0.119uA	5.604V	0.058uA
27	5.742V	0.099uA	5.818V	0.114uA
28	5.671V	0.084uA	5.793V	0.057uA
29	5.660V	0.110uA	5.627V	0.074uA
30	5.669V	0.054uA	5.798V	0.109uA

Pressure Cooker Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2014.05.05 ~ 2014.05.11
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
31	5.728V	0.023uA	5.714V	0.106uA
32	5.577V	0.059uA	5.660V	0.092uA
33	5.755V	0.075uA	5.798V	0.073uA
34	5.708V	0.029uA	5.567V	0.072uA
35	5.634V	0.040uA	5.699V	0.065uA
36	5.824V	0.044uA	5.672V	0.027uA
37	5.725V	0.033uA	5.660V	0.063uA
38	5.816V	0.072uA	5.771V	0.043uA
39	5.716V	0.025uA	5.751V	0.111uA
40	5.741V	0.119uA	5.661V	0.064uA
41	5.654V	0.025uA	5.740V	0.082uA
42	5.627V	0.057uA	5.746V	0.072uA
43	5.783V	0.069uA	5.714V	0.078uA
44	5.784V	0.083uA	5.650V	0.032uA
45	5.750V	0.064uA	5.668V	0.117uA
46	5.750V	0.062uA	5.822V	0.104uA
47	5.583V	0.099uA	5.744V	0.068uA
48	5.659V	0.075uA	5.682V	0.025uA
49	5.701V	0.057uA	5.642V	0.053uA
50	5.594V	0.086uA	5.634V	0.086uA
51	5.691V	0.039uA	5.621V	0.096uA
52	5.619V	0.062uA	5.701V	0.077uA
53	5.816V	0.074uA	5.676V	0.074uA
54	5.780V	0.101uA	5.760V	0.030uA
55	5.698V	0.072uA	5.711V	0.090uA
56	5.762V	0.109uA	5.581V	0.078uA
57	5.576V	0.103uA	5.671V	0.027uA
58	5.817V	0.088uA	5.773V	0.100uA
59	5.732V	0.058uA	5.653V	0.058uA
60	5.587V	0.105uA	5.663V	0.031uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2014.05.05 ~ 2014.05.11
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
61	5.712V	0.050uA	5.636V	0.024uA
62	5.690V	0.057uA	5.602V	0.046uA
63	5.573V	0.106uA	5.705V	0.096uA
64	5.672V	0.101uA	5.769V	0.054uA
65	5.689V	0.092uA	5.578V	0.076uA
66	5.605V	0.106uA	5.743V	0.115uA
67	5.732V	0.089uA	5.637V	0.067uA
68	5.594V	0.089uA	5.700V	0.104uA
69	5.698V	0.059uA	5.737V	0.115uA
70	5.581V	0.044uA	5.807V	0.028uA
71	5.768V	0.022uA	5.792V	0.113uA
72	5.568V	0.079uA	5.571V	0.062uA
73	5.772V	0.070uA	5.776V	0.079uA
74	5.681V	0.078uA	5.624V	0.082uA
75	5.815V	0.032uA	5.616V	0.037uA
76	5.584V	0.038uA	5.807V	0.043uA
77	5.765V	0.089uA	5.703V	0.062uA

Made By: Leo Hsia　　　　Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2014.05.05 ~ 2014.06.25
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.567V	0.118uA	5.743V	0.078uA
2	5.761V	0.046uA	5.698V	0.104uA
3	5.743V	0.105uA	5.721V	0.075uA
4	5.623V	0.078uA	5.697V	0.119uA
5	5.779V	0.085uA	5.622V	0.029uA
6	5.787V	0.051uA	5.571V	0.077uA
7	5.632V	0.033uA	5.584V	0.081uA
8	5.727V	0.104uA	5.802V	0.100uA
9	5.599V	0.100uA	5.635V	0.076uA
10	5.626V	0.086uA	5.621V	0.085uA
11	5.576V	0.106uA	5.676V	0.107uA
12	5.609V	0.083uA	5.681V	0.111uA
13	5.646V	0.034uA	5.756V	0.035uA
14	5.729V	0.091uA	5.789V	0.073uA
15	5.639V	0.035uA	5.768V	0.042uA
16	5.635V	0.110uA	5.643V	0.034uA
17	5.567V	0.090uA	5.576V	0.118uA
18	5.688V	0.038uA	5.788V	0.083uA
19	5.790V	0.034uA	5.717V	0.111uA
20	5.681V	0.066uA	5.655V	0.027uA
21	5.823V	0.029uA	5.738V	0.112uA
22	5.819V	0.055uA	5.735V	0.091uA
23	5.805V	0.031uA	5.670V	0.089uA
24	5.632V	0.048uA	5.694V	0.076uA
25	5.807V	0.025uA	5.762V	0.116uA
26	5.645V	0.044uA	5.785V	0.098uA
27	5.712V	0.088uA	5.761V	0.041uA
28	5.565V	0.091uA	5.588V	0.089uA
29	5.594V	0.108uA	5.580V	0.083uA
30	5.658V	0.058uA	5.777V	0.052uA

Temperature Cycle Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2014.05.05 ~ 2014.06.25
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
31	5.569V	0.101uA	5.780V	0.041uA
32	5.822V	0.073uA	5.739V	0.085uA
33	5.664V	0.096uA	5.769V	0.036uA
34	5.648V	0.107uA	5.581V	0.081uA
35	5.580V	0.024uA	5.688V	0.068uA
36	5.806V	0.072uA	5.797V	0.064uA
37	5.749V	0.037uA	5.650V	0.050uA
38	5.592V	0.071uA	5.734V	0.090uA
39	5.721V	0.044uA	5.592V	0.037uA
40	5.720V	0.039uA	5.591V	0.103uA
41	5.648V	0.032uA	5.778V	0.116uA
42	5.689V	0.090uA	5.783V	0.082uA
43	5.742V	0.061uA	5.582V	0.034uA
44	5.702V	0.093uA	5.727V	0.098uA
45	5.715V	0.040uA	5.715V	0.111uA
46	5.605V	0.046uA	5.783V	0.117uA
47	5.688V	0.115uA	5.798V	0.118uA
48	5.749V	0.115uA	5.704V	0.060uA
49	5.703V	0.040uA	5.770V	0.081uA
50	5.673V	0.026uA	5.722V	0.040uA
51	5.740V	0.095uA	5.582V	0.112uA
52	5.597V	0.052uA	5.665V	0.081uA
53	5.611V	0.067uA	5.810V	0.086uA
54	5.590V	0.060uA	5.740V	0.080uA
55	5.821V	0.078uA	5.738V	0.083uA
56	5.682V	0.104uA	5.667V	0.063uA
57	5.724V	0.092uA	5.821V	0.059uA
58	5.821V	0.027uA	5.630V	0.067uA
59	5.719V	0.042uA	5.774V	0.091uA
60	5.566V	0.109uA	5.738V	0.083uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2014.05.05 ~ 2014.06.25
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
61	5.624V	0.038uA	5.574V	0.025uA
62	5.572V	0.076uA	5.610V	0.052uA
63	5.775V	0.041uA	5.800V	0.108uA
64	5.747V	0.099uA	5.646V	0.050uA
65	5.812V	0.079uA	5.670V	0.072uA
66	5.747V	0.074uA	5.746V	0.098uA
67	5.618V	0.075uA	5.595V	0.043uA
68	5.770V	0.047uA	5.741V	0.090uA
69	5.608V	0.076uA	5.635V	0.103uA
70	5.616V	0.103uA	5.784V	0.103uA
71	5.758V	0.052uA	5.565V	0.028uA
72	5.651V	0.087uA	5.570V	0.061uA
73	5.749V	0.116uA	5.804V	0.021uA
74	5.721V	0.060uA	5.824V	0.113uA
75	5.772V	0.033uA	5.748V	0.061uA
76	5.597V	0.113uA	5.617V	0.073uA
77	5.763V	0.045uA	5.789V	0.085uA

Made By: Leo Hsia Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.817V	0.045uA	5.812V	0.102uA
2	5.614V	0.041uA	5.574V	0.054uA
3	5.712V	0.043uA	5.583V	0.083uA
4	5.818V	0.112uA	5.802V	0.094uA
5	5.807V	0.038uA	5.746V	0.051uA
6	5.699V	0.057uA	5.733V	0.053uA
7	5.723V	0.031uA	5.770V	0.021uA
8	5.785V	0.036uA	5.713V	0.071uA
9	5.581V	0.069uA	5.706V	0.115uA
10	5.643V	0.076uA	5.641V	0.094uA
11	5.708V	0.054uA	5.708V	0.105uA
12	5.596V	0.065uA	5.749V	0.052uA
13	5.792V	0.055uA	5.770V	0.096uA
14	5.804V	0.086uA	5.666V	0.057uA
15	5.798V	0.105uA	5.762V	0.101uA
16	5.812V	0.023uA	5.619V	0.079uA
17	5.604V	0.028uA	5.642V	0.092uA
18	5.626V	0.032uA	5.739V	0.106uA
19	5.781V	0.049uA	5.806V	0.097uA
20	5.637V	0.063uA	5.629V	0.111uA
21	5.565V	0.105uA	5.641V	0.073uA
22	5.735V	0.112uA	5.748V	0.088uA
23	5.587V	0.083uA	5.781V	0.105uA
24	5.791V	0.026uA	5.569V	0.087uA
25	5.641V	0.083uA	5.616V	0.075uA
26	5.613V	0.069uA	5.661V	0.094uA
27	5.700V	0.026uA	5.771V	0.044uA
28	5.798V	0.036uA	5.794V	0.041uA
29	5.766V	0.079uA	5.633V	0.106uA
30	5.669V	0.096uA	5.685V	0.041uA

High Temperature High Humidity Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
31	5.609V	0.096uA	5.630V	0.100uA
32	5.607V	0.111uA	5.698V	0.037uA
33	5.646V	0.059uA	5.607V	0.061uA
34	5.793V	0.031uA	5.783V	0.094uA
35	5.701V	0.029uA	5.603V	0.074uA
36	5.596V	0.100uA	5.620V	0.077uA
37	5.693V	0.063uA	5.656V	0.047uA
38	5.704V	0.071uA	5.813V	0.103uA
39	5.738V	0.022uA	5.633V	0.030uA
40	5.626V	0.092uA	5.755V	0.111uA
41	5.646V	0.061uA	5.607V	0.089uA
42	5.613V	0.048uA	5.566V	0.113uA
43	5.810V	0.060uA	5.771V	0.081uA
44	5.669V	0.068uA	5.810V	0.091uA
45	5.745V	0.100uA	5.822V	0.050uA
46	5.711V	0.092uA	5.808V	0.072uA
47	5.624V	0.039uA	5.596V	0.101uA
48	5.689V	0.100uA	5.805V	0.113uA
49	5.787V	0.034uA	5.661V	0.058uA
50	5.701V	0.098uA	5.621V	0.022uA
51	5.749V	0.039uA	5.801V	0.087uA
52	5.779V	0.086uA	5.601V	0.091uA
53	5.632V	0.046uA	5.571V	0.080uA
54	5.816V	0.038uA	5.679V	0.116uA
55	5.778V	0.038uA	5.661V	0.074uA
56	5.612V	0.023uA	5.766V	0.064uA
57	5.637V	0.108uA	5.751V	0.058uA
58	5.814V	0.032uA	5.571V	0.033uA
59	5.744V	0.036uA	5.635V	0.091uA
60	5.614V	0.101uA	5.693V	0.094uA

High Temperature High Humidity Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
61	5.732V	0.105uA	5.705V	0.040uA
62	5.586V	0.112uA	5.596V	0.087uA
63	5.815V	0.098uA	5.670V	0.065uA
64	5.611V	0.069uA	5.807V	0.114uA
65	5.749V	0.112uA	5.639V	0.028uA
66	5.790V	0.084uA	5.646V	0.104uA
67	5.779V	0.097uA	5.798V	0.055uA
68	5.590V	0.024uA	5.714V	0.028uA
69	5.754V	0.064uA	5.738V	0.108uA
70	5.696V	0.070uA	5.748V	0.096uA
71	5.585V	0.103uA	5.639V	0.084uA
72	5.781V	0.043uA	5.626V	0.046uA
73	5.710V	0.057uA	5.717V	0.085uA
74	5.644V	0.081uA	5.666V	0.055uA
75	5.675V	0.116uA	5.692V	0.046uA
76	5.668V	0.036uA	5.618V	0.044uA
77	5.656V	0.074uA	5.600V	0.087uA

Made By: Leo Hsia

Approval: Peter Yang

High Temper High Humidity Reverse Bies Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.736V	0.079uA	5.705V	0.047uA
2	5.799V	0.027uA	5.650V	0.037uA
3	5.771V	0.062uA	5.663V	0.089uA
4	5.669V	0.068uA	5.633V	0.071uA
5	5.806V	0.112uA	5.626V	0.053uA
6	5.658V	0.078uA	5.631V	0.112uA
7	5.774V	0.059uA	5.697V	0.087uA
8	5.619V	0.068uA	5.574V	0.110uA
9	5.594V	0.038uA	5.689V	0.055uA
10	5.604V	0.108uA	5.632V	0.043uA
11	5.822V	0.074uA	5.683V	0.021uA
12	5.661V	0.086uA	5.630V	0.029uA
13	5.758V	0.112uA	5.609V	0.053uA
14	5.616V	0.115uA	5.773V	0.051uA
15	5.659V	0.109uA	5.752V	0.095uA
16	5.666V	0.076uA	5.798V	0.084uA
17	5.757V	0.063uA	5.565V	0.090uA
18	5.718V	0.108uA	5.809V	0.042uA
19	5.574V	0.110uA	5.807V	0.057uA
20	5.590V	0.096uA	5.654V	0.046uA
21	5.565V	0.049uA	5.648V	0.110uA
22	5.627V	0.022uA	5.714V	0.055uA
23	5.746V	0.075uA	5.652V	0.100uA
24	5.759V	0.104uA	5.641V	0.062uA
25	5.658V	0.113uA	5.745V	0.073uA
26	5.751V	0.043uA	5.652V	0.097uA
27	5.789V	0.048uA	5.808V	0.088uA
28	5.711V	0.079uA	5.820V	0.105uA
29	5.706V	0.095uA	5.616V	0.045uA
30	5.633V	0.093uA	5.641V	0.047uA

High Temper High Humidity Reverse Bies Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
31	5.593V	0.093uA	5.747V	0.103uA
32	5.608V	0.044uA	5.786V	0.098uA
33	5.575V	0.022uA	5.592V	0.025uA
34	5.569V	0.033uA	5.681V	0.026uA
35	5.663V	0.075uA	5.727V	0.051uA
36	5.653V	0.092uA	5.678V	0.040uA
37	5.566V	0.095uA	5.605V	0.083uA
38	5.813V	0.048uA	5.669V	0.022uA
39	5.817V	0.112uA	5.767V	0.100uA
40	5.605V	0.054uA	5.681V	0.047uA
41	5.675V	0.053uA	5.718V	0.053uA
42	5.822V	0.069uA	5.717V	0.113uA
43	5.688V	0.063uA	5.598V	0.035uA
44	5.821V	0.085uA	5.607V	0.054uA
45	5.756V	0.070uA	5.775V	0.111uA
46	5.620V	0.026uA	5.760V	0.062uA
47	5.756V	0.060uA	5.658V	0.047uA
48	5.620V	0.068uA	5.711V	0.040uA
49	5.752V	0.096uA	5.649V	0.038uA
50	5.809V	0.070uA	5.631V	0.049uA
51	5.582V	0.051uA	5.786V	0.028uA
52	5.617V	0.115uA	5.695V	0.119uA
53	5.629V	0.024uA	5.823V	0.028uA
54	5.615V	0.031uA	5.658V	0.049uA
55	5.784V	0.053uA	5.608V	0.092uA
56	5.692V	0.099uA	5.635V	0.045uA
57	5.669V	0.093uA	5.618V	0.115uA
58	5.612V	0.045uA	5.651V	0.083uA
59	5.658V	0.024uA	5.571V	0.046uA
60	5.743V	0.095uA	5.624V	0.102uA

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
61	5.819V	0.068uA	5.577V	0.068uA
62	5.791V	0.076uA	5.647V	0.063uA
63	5.716V	0.021uA	5.637V	0.049uA
64	5.775V	0.080uA	5.640V	0.075uA
65	5.697V	0.096uA	5.681V	0.073uA
66	5.819V	0.078uA	5.675V	0.021uA
67	5.800V	0.062uA	5.597V	0.047uA
68	5.687V	0.115uA	5.711V	0.044uA
69	5.806V	0.044uA	5.754V	0.074uA
70	5.617V	0.052uA	5.724V	0.109uA
71	5.621V	0.030uA	5.584V	0.027uA
72	5.620V	0.062uA	5.698V	0.119uA
73	5.624V	0.033uA	5.802V	0.030uA
74	5.623V	0.056uA	5.661V	0.061uA
75	5.685V	0.079uA	5.581V	0.074uA
76	5.694V	0.070uA	5.698V	0.023uA
77	5.701V	0.104uA	5.658V	0.043uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T140630-037
Part No : KS33J4
Test Equipment: JUNO Test System DTS-1000
Test Condition : 5.3V>VBR>5.9V@I1=1mA, IR<0.25uA@VR=3.3V
Test Condition: 245℃ ± 5℃, 5Sec
Test Date: 2014.06.28 ~ 2014.06.28
Test Standard : JESD22 STANDER Method-B102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	V_{BR} (V)	IR (uA)	V_{BR} (V)	IR (uA)
1	5.578V	0.096uA	5.659V	0.077uA
2	5.576V	0.091uA	5.567V	0.037uA
3	5.633V	0.079uA	5.608V	0.093uA
4	5.692V	0.080uA	5.594V	0.103uA
5	5.644V	0.070uA	5.789V	0.089uA
6	5.574V	0.036uA	5.622V	0.026uA
7	5.794V	0.079uA	5.701V	0.064uA
8	5.611V	0.028uA	5.690V	0.078uA
9	5.718V	0.068uA	5.636V	0.086uA
10	5.566V	0.094uA	5.767V	0.112uA

Made By: Leo Hsia

Approval: Peter Yang