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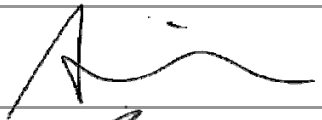
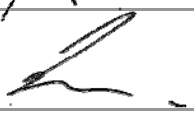
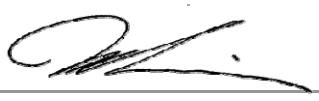
Product/Process Change Notification

PCN#	Effective Date	Issue Date
2012-12-01C-01	2013/3/1	2012/12/1
PCN Classification	**Product Category**	
Wire Bonding Change	MOSFET	
Subject		
Product Efficiency Improvement		
Affected Product(s)		
SMG2301		
Description of Change(s)		
To Improve the product's efficiency by minimize the internal resistance.		
Content of Change(s)		
Change wire bonding structure from 2Mil*4 to 1.5Mil*6		
Impact(s)		
N/A		
Attachment(s)		
Reliability Test 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: 2012/9/26 Document No.: SF12 -08- 001

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	SMG2301	100 ± 10℃, 80%VR, T = 1000 hrs		77	0	0	ACC
HTSL High Temperature Storage Life	SMG2301	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	SMG2301	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	SMG2301	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	SMG2301	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solder ability	SMG2301	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: 2012.08.01 **Testing End Date:** 2012.09.25

Tester: King Huang **Approval:** Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T120801-001
Part No : SMG2301
Test Equipment: JUNO Test System DTS-1000
Test Condition : IDSS < -1μA@VDS=-20V ； VGS(th) > -0.5V@ID=-250μA
RDS(ON) < 130mΩ@VGS=-5.0V, ID=-2.8A
Test Condition: 100 ± 10℃, 80%VR, T = 1000 hrs
Test Date: 2012.08.02 ~ 2012.09.14
Test Standard : JESD22 STANDER Method-A108
Operator: Bruce Chang

Test Result: PASS

	Before			After		
No	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)
1	0.003	0.665	94.01	0.034	0.665	100.37
2	0.003	0.676	92.27	0.020	0.673	105.99
3	0.005	0.646	92.84	0.023	0.675	108.30
4	0.007	0.659	93.80	0.028	0.669	103.43
5	0.002	0.649	93.22	0.032	0.657	107.80
6	0.002	0.646	96.35	0.032	0.683	100.21
7	0.004	0.673	93.18	0.022	0.655	104.99
8	0.010	0.662	91.10	0.035	0.684	105.85
9	0.003	0.666	94.99	0.032	0.681	103.61
10	0.001	0.673	93.38	0.019	0.652	100.34
11	0.007	0.663	94.02	0.024	0.673	98.33
12	0.010	0.652	98.29	0.019	0.668	98.90
13	0.001	0.658	94.19	0.027	0.651	96.15
14	0.001	0.652	92.52	0.024	0.674	107.46
15	0.007	0.671	93.51	0.022	0.652	102.39
16	0.002	0.656	92.64	0.035	0.655	103.77
17	0.006	0.649	92.06	0.020	0.663	97.54
18	0.009	0.661	90.33	0.017	0.672	106.73
19	0.008	0.655	92.16	0.020	0.665	107.73
20	0.003	0.668	93.97	0.032	0.681	106.19
21	0.004	0.662	97.25	0.026	0.656	95.59
22	0.007	0.671	90.44	0.021	0.681	107.13
23	0.005	0.675	93.06	0.034	0.654	95.57
24	0.010	0.660	97.04	0.034	0.654	97.43
25	0.008	0.678	96.09	0.032	0.683	104.40
26	0.005	0.648	91.03	0.021	0.679	101.93
27	0.005	0.677	92.56	0.033	0.662	105.49
28	0.009	0.661	95.39	0.018	0.657	105.11
29	0.009	0.672	94.08	0.022	0.684	101.86
30	0.005	0.671	93.93	0.027	0.682	108.36
31	0.008	0.668	92.20	0.026	0.675	105.48
32	0.002	0.655	91.59	0.035	0.683	101.54
33	0.003	0.658	93.64	0.024	0.667	100.73
34	0.007	0.653	91.59	0.021	0.669	104.83

35	0.004	0.652	96.73	0.028	0.662	99.72
36	0.005	0.664	90.61	0.027	0.683	101.16
37	0.003	0.653	93.75	0.025	0.662	99.19
38	0.004	0.648	97.73	0.033	0.654	98.96
39	0.004	0.646	92.95	0.030	0.654	105.11
40	0.005	0.665	91.86	0.017	0.679	100.66
41	0.010	0.662	94.90	0.034	0.651	104.38
42	0.001	0.667	96.63	0.029	0.653	99.21
43	0.004	0.675	97.46	0.023	0.679	95.88
44	0.002	0.667	93.77	0.030	0.681	100.45
45	0.010	0.669	97.58	0.018	0.685	95.73
46	0.008	0.646	91.06	0.031	0.678	98.54
47	0.009	0.675	90.34	0.017	0.678	103.01
48	0.004	0.662	91.37	0.031	0.671	95.00
49	0.006	0.660	97.52	0.022	0.667	98.64
50	0.009	0.644	96.01	0.022	0.660	104.69
51	0.007	0.665	94.66	0.017	0.672	96.36
52	0.006	0.660	97.18	0.027	0.653	106.21
53	0.005	0.673	97.07	0.023	0.677	95.41
54	0.008	0.655	93.59	0.021	0.678	95.24
55	0.004	0.648	94.57	0.031	0.655	101.39
56	0.010	0.650	91.36	0.024	0.681	96.64
57	0.001	0.651	90.10	0.032	0.680	100.68
58	0.007	0.654	97.66	0.032	0.655	98.02
59	0.008	0.651	93.41	0.027	0.665	104.22
60	0.006	0.669	95.67	0.027	0.669	97.33
61	0.007	0.672	96.79	0.020	0.662	102.63
62	0.008	0.677	93.60	0.031	0.685	104.88
63	0.010	0.658	95.93	0.024	0.651	95.02
64	0.006	0.649	97.74	0.032	0.679	103.71
65	0.004	0.677	95.63	0.031	0.684	95.35
66	0.001	0.655	95.79	0.034	0.676	104.43
67	0.002	0.674	91.60	0.019	0.678	97.43
68	0.009	0.647	95.15	0.028	0.653	107.07
69	0.007	0.652	94.65	0.022	0.675	97.32
70	0.010	0.667	92.83	0.034	0.655	105.36
71	0.002	0.677	95.26	0.020	0.677	102.53
72	0.002	0.657	92.42	0.021	0.671	97.64
73	0.009	0.654	95.29	0.020	0.683	98.15
74	0.003	0.661	93.98	0.032	0.680	101.51
75	0.002	0.658	97.50	0.028	0.654	102.90
76	0.007	0.671	93.85	0.033	0.651	108.08
77	0.011	0.655	96.29	0.022	0.675	98.55
MAX	0.010	0.678	98.29	0.035	0.684	108.36
MIN	0.001	0.646	90.33	0.017	0.651	95.57
AVG	0.005	0.662	93.55	0.026	0.669	103.00

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T120801-001
Part No : SMG2301
Test Equipment: JUNO Test System DTS-1000
Test Condition : IDSS < -1μA@VDS=-20V ； VGS(th) > -0.5V@ID=-250μA
RDS(ON) < 130mΩ@VGS=-5.0V, ID=-2.8A
Test Condition: 150℃, T = 1000 hrs
Test Date: 2012.08.02 ~ 2012.09.14
Test Standard : JESD22 STANDER Method-A103
Operator: Bruce Chang

Test Result: PASS

	Before			After		
No	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)
1	0.003	0.675	90.96	0.021	0.653	99.34
2	0.003	0.655	93.05	0.031	0.668	106.23
3	0.007	0.673	92.66	0.027	0.655	99.76
4	0.010	0.665	90.67	0.029	0.671	97.97
5	0.006	0.662	95.84	0.028	0.662	99.70
6	0.002	0.647	94.24	0.023	0.650	102.25
7	0.005	0.672	92.03	0.034	0.683	97.79
8	0.003	0.677	93.18	0.024	0.664	95.41
9	0.008	0.663	91.96	0.017	0.654	101.95
10	0.008	0.666	92.88	0.022	0.663	96.44
11	0.009	0.674	95.00	0.021	0.654	103.71
12	0.001	0.672	90.29	0.026	0.653	108.56
13	0.002	0.660	91.74	0.034	0.671	102.89
14	0.003	0.654	91.77	0.020	0.659	105.93
15	0.006	0.657	90.37	0.030	0.677	102.49
16	0.009	0.674	90.99	0.028	0.663	102.68
17	0.003	0.669	95.75	0.024	0.669	99.62
18	0.002	0.663	92.44	0.024	0.673	105.89
19	0.003	0.664	96.66	0.023	0.662	103.57
20	0.004	0.661	93.91	0.030	0.665	107.58
21	0.009	0.649	94.19	0.027	0.672	103.40
22	0.003	0.662	97.27	0.022	0.681	96.14
23	0.011	0.666	91.16	0.025	0.661	102.13
24	0.009	0.646	91.63	0.034	0.674	104.76
25	0.008	0.673	91.40	0.032	0.660	105.35
26	0.003	0.651	98.34	0.021	0.666	98.40
27	0.008	0.645	94.23	0.026	0.671	102.21
28	0.004	0.652	90.05	0.023	0.661	101.88
29	0.006	0.678	97.79	0.017	0.663	102.10
30	0.008	0.673	93.13	0.034	0.655	108.48
31	0.006	0.668	97.83	0.033	0.682	104.15
32	0.005	0.678	94.61	0.025	0.660	101.10
33	0.005	0.647	95.96	0.020	0.673	105.66
34	0.005	0.652	90.91	0.028	0.680	95.87

35	0.004	0.671	90.37	0.025	0.677	98.00
36	0.006	0.655	94.84	0.022	0.683	103.61
37	0.004	0.649	98.30	0.024	0.678	95.17
38	0.009	0.671	95.93	0.032	0.652	96.94
39	0.008	0.668	92.02	0.018	0.666	98.10
40	0.007	0.652	97.21	0.019	0.666	107.59
41	0.003	0.664	93.42	0.022	0.677	106.70
42	0.003	0.674	91.14	0.022	0.653	98.26
43	0.002	0.659	94.67	0.031	0.671	99.97
44	0.006	0.667	94.47	0.024	0.678	101.30
45	0.006	0.647	96.88	0.030	0.685	96.05
46	0.011	0.673	95.02	0.033	0.678	100.96
47	0.004	0.644	93.98	0.020	0.660	97.84
48	0.003	0.650	91.37	0.023	0.680	106.46
49	0.004	0.656	95.74	0.020	0.659	96.81
50	0.010	0.645	93.88	0.023	0.672	99.44
51	0.009	0.649	97.17	0.017	0.673	97.16
52	0.005	0.646	91.32	0.022	0.683	99.76
53	0.011	0.645	97.81	0.022	0.669	103.78
54	0.007	0.676	93.55	0.022	0.669	96.75
55	0.005	0.651	90.89	0.024	0.664	107.63
56	0.003	0.656	91.03	0.025	0.673	102.69
57	0.005	0.657	96.11	0.032	0.670	98.92
58	0.002	0.660	96.80	0.030	0.676	100.43
59	0.007	0.655	95.79	0.034	0.662	96.17
60	0.008	0.654	94.87	0.018	0.682	98.07
61	0.004	0.659	96.00	0.034	0.684	102.96
62	0.006	0.657	95.21	0.023	0.659	96.20
63	0.002	0.661	97.52	0.032	0.666	98.42
64	0.002	0.674	96.62	0.031	0.670	107.20
65	0.008	0.651	93.67	0.024	0.655	101.27
66	0.008	0.659	90.68	0.027	0.651	108.46
67	0.006	0.659	95.46	0.020	0.674	107.36
68	0.011	0.647	97.70	0.025	0.685	99.24
69	0.002	0.656	96.64	0.028	0.665	96.30
70	0.011	0.665	92.92	0.021	0.666	98.74
71	0.006	0.649	96.78	0.019	0.663	99.33
72	0.009	0.647	90.99	0.030	0.674	108.59
73	0.004	0.676	94.42	0.024	0.673	96.07
74	0.010	0.656	96.90	0.026	0.671	96.28
75	0.005	0.655	97.84	0.022	0.666	102.32
76	0.005	0.666	92.86	0.028	0.677	99.22
77	0.009	0.654	91.04	0.025	0.680	105.49
MAX	0.011	0.678	98.34	0.034	0.683	108.56
MIN	0.001	0.645	90.05	0.017	0.650	95.41
AVG	0.006	0.664	93.38	0.026	0.665	102.18

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T120801-001
Part No : SMG2301
Test Equipment: JUNO Test System DTS-1000
Test Condition : IDSS < -1μA@VDS=-20V ； VGS(th) > -0.5V@ID=-250μA
RDS(ON) < 130mΩ@VGS=-5.0V, ID=-2.8A
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2012.08.02 ~ 2012.08.10
Test Standard : JESD22 STANDER Method-A102
Operator: Bruce Chang

Test Result: PASS

	Before			After		
No	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)
1	0.009	0.655	94.14	0.030	0.654	102.57
2	0.002	0.667	92.17	0.019	0.673	102.60
3	0.004	0.655	93.05	0.024	0.676	108.53
4	0.005	0.659	98.17	0.032	0.681	99.61
5	0.010	0.650	93.97	0.021	0.659	99.62
6	0.009	0.658	97.82	0.033	0.673	102.23
7	0.008	0.664	91.77	0.018	0.666	107.00
8	0.007	0.667	94.10	0.021	0.680	102.85
9	0.009	0.649	92.42	0.027	0.660	103.40
10	0.001	0.667	97.11	0.026	0.668	107.56
11	0.007	0.663	92.87	0.029	0.670	99.26
12	0.008	0.649	95.53	0.020	0.678	97.37
13	0.009	0.651	96.34	0.033	0.672	98.76
14	0.002	0.674	90.83	0.034	0.665	104.56
15	0.007	0.674	97.53	0.026	0.669	97.57
16	0.001	0.649	91.64	0.030	0.675	107.59
17	0.002	0.645	91.42	0.034	0.671	98.55
18	0.001	0.665	96.97	0.031	0.672	102.96
19	0.011	0.673	90.24	0.031	0.666	98.08
20	0.006	0.657	91.77	0.028	0.679	104.18
21	0.007	0.653	96.40	0.025	0.674	105.27
22	0.009	0.652	93.73	0.017	0.652	95.53
23	0.006	0.679	91.56	0.026	0.678	96.81
24	0.003	0.646	98.60	0.023	0.679	108.01
25	0.003	0.672	90.38	0.034	0.655	106.93
26	0.009	0.648	98.14	0.030	0.665	106.19
27	0.003	0.659	92.90	0.034	0.684	105.97
28	0.006	0.659	90.05	0.017	0.656	97.73
29	0.009	0.664	96.04	0.025	0.668	99.82
30	0.003	0.648	91.88	0.022	0.684	107.54
31	0.008	0.657	95.20	0.017	0.665	101.17
32	0.005	0.652	98.58	0.032	0.650	105.94
33	0.005	0.664	95.80	0.025	0.660	99.01
34	0.010	0.660	94.14	0.025	0.679	101.08

35	0.001	0.675	96.94	0.030	0.683	95.67
36	0.005	0.648	95.45	0.018	0.655	99.25
37	0.008	0.657	90.48	0.032	0.672	105.11
38	0.003	0.663	94.43	0.031	0.667	98.65
39	0.006	0.678	97.21	0.024	0.663	98.03
40	0.004	0.677	96.95	0.033	0.670	102.59
41	0.001	0.662	90.51	0.026	0.672	102.87
42	0.008	0.647	95.45	0.019	0.660	101.16
43	0.004	0.663	91.39	0.027	0.674	96.19
44	0.004	0.653	91.24	0.026	0.654	97.18
45	0.003	0.651	96.74	0.022	0.660	101.05
46	0.003	0.655	90.72	0.021	0.665	98.66
47	0.009	0.663	90.53	0.033	0.662	97.28
48	0.008	0.644	95.86	0.018	0.683	95.53
49	0.008	0.671	90.53	0.026	0.672	99.05
50	0.006	0.657	98.32	0.018	0.685	107.54
51	0.009	0.652	94.33	0.024	0.681	102.19
52	0.002	0.657	93.31	0.033	0.672	104.34
53	0.002	0.666	93.29	0.028	0.673	95.80
54	0.004	0.677	94.18	0.016	0.684	100.62
55	0.003	0.656	95.19	0.022	0.654	103.80
56	0.008	0.654	96.01	0.016	0.674	99.70
57	0.004	0.650	92.37	0.032	0.677	99.71
58	0.007	0.679	93.08	0.019	0.666	98.11
59	0.005	0.664	98.08	0.027	0.667	104.45
60	0.009	0.666	94.92	0.025	0.654	97.83
61	0.007	0.657	94.26	0.025	0.653	104.65
62	0.006	0.657	94.59	0.019	0.661	105.72
63	0.002	0.668	91.67	0.021	0.660	103.24
64	0.002	0.647	94.15	0.024	0.679	102.73
65	0.005	0.676	94.94	0.016	0.668	101.48
66	0.007	0.667	90.60	0.033	0.669	98.86
67	0.003	0.665	98.57	0.023	0.669	105.92
68	0.003	0.673	98.08	0.030	0.656	96.20
69	0.004	0.669	92.78	0.028	0.681	97.04
70	0.010	0.669	94.71	0.023	0.650	98.80
71	0.004	0.670	96.56	0.020	0.676	101.42
72	0.004	0.648	95.03	0.020	0.656	105.31
73	0.006	0.666	98.12	0.024	0.672	97.63
74	0.008	0.675	92.74	0.019	0.678	108.15
75	0.003	0.662	93.05	0.022	0.664	107.76
76	0.003	0.673	94.36	0.024	0.654	97.62
77	0.002	0.676	96.80	0.028	0.681	95.78
MAX	0.011	0.679	98.60	0.034	0.684	108.53
MIN	0.001	0.645	90.05	0.017	0.650	95.53
AVG	0.006	0.659	94.17	0.027	0.669	102.56

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T120801-001
Part No : SMG2301
Test Equipment: JUNO Test System DTS-1000
Test Condition : IDSS < -1μA@VDS=-20V ； VGS(th) > -0.5V@ID=-250μA
RDS(ON) < 130mΩ@VGS=-5.0V, ID=-2.8A
Test Condition: -55℃/30min, 150℃/30min, for 1000 Cycle
Test Date: 2012.08.13 ~ 2012.09.25
Test Standard : JESD22 STANDER Method-A104
Operator: Bruce Chang

Test Result: PASS

	Before			After		
No	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)
1	0.004	0.664	95.87	0.030	0.672	101.30
2	0.003	0.662	91.73	0.023	0.659	99.10
3	0.005	0.653	95.58	0.032	0.659	96.70
4	0.007	0.652	93.33	0.033	0.664	101.82
5	0.007	0.668	96.25	0.021	0.671	105.97
6	0.009	0.651	94.73	0.021	0.679	96.69
7	0.004	0.672	91.51	0.018	0.675	107.91
8	0.009	0.655	98.50	0.023	0.664	99.98
9	0.007	0.647	91.46	0.029	0.664	106.29
10	0.011	0.653	97.67	0.035	0.684	103.20
11	0.003	0.671	98.50	0.019	0.679	98.21
12	0.005	0.664	93.30	0.020	0.676	106.40
13	0.003	0.662	90.66	0.022	0.666	101.48
14	0.006	0.661	94.84	0.032	0.660	102.76
15	0.004	0.662	94.02	0.023	0.653	104.70
16	0.011	0.664	90.02	0.030	0.670	102.50
17	0.006	0.665	94.45	0.028	0.678	96.49
18	0.004	0.661	91.86	0.032	0.676	104.90
19	0.008	0.667	94.29	0.034	0.684	100.78
20	0.004	0.659	95.03	0.021	0.671	106.72
21	0.006	0.672	95.75	0.028	0.683	101.06
22	0.005	0.661	97.08	0.019	0.651	103.24
23	0.007	0.648	90.07	0.019	0.659	99.23
24	0.003	0.672	93.97	0.025	0.675	96.78
25	0.002	0.674	94.14	0.024	0.653	106.97
26	0.004	0.671	96.48	0.022	0.652	100.95
27	0.005	0.669	92.89	0.022	0.667	100.97
28	0.004	0.661	95.39	0.024	0.681	96.06
29	0.007	0.652	97.27	0.021	0.669	102.90
30	0.004	0.675	97.00	0.026	0.675	105.99
31	0.002	0.659	94.31	0.017	0.679	108.49
32	0.003	0.674	97.27	0.029	0.671	106.54
33	0.010	0.660	94.31	0.034	0.684	103.96
34	0.006	0.644	98.26	0.027	0.672	100.82

35	0.011	0.667	95.09	0.016	0.655	106.11
36	0.011	0.657	95.68	0.029	0.659	98.60
37	0.003	0.672	98.57	0.029	0.684	107.18
38	0.003	0.679	96.50	0.035	0.675	108.08
39	0.011	0.664	95.70	0.024	0.660	96.69
40	0.008	0.664	92.88	0.027	0.668	95.94
41	0.005	0.667	91.56	0.026	0.681	108.21
42	0.002	0.657	91.40	0.017	0.651	99.95
43	0.006	0.647	93.45	0.018	0.665	95.04
44	0.002	0.668	90.89	0.019	0.680	106.51
45	0.001	0.646	93.78	0.028	0.674	103.18
46	0.007	0.659	93.39	0.023	0.671	97.96
47	0.002	0.646	94.25	0.031	0.658	97.83
48	0.007	0.654	96.08	0.020	0.684	107.38
49	0.005	0.661	92.55	0.033	0.655	106.17
50	0.004	0.644	97.56	0.029	0.683	101.70
51	0.008	0.668	90.94	0.031	0.669	106.62
52	0.010	0.662	96.28	0.031	0.666	103.47
53	0.005	0.655	96.31	0.025	0.664	96.19
54	0.002	0.661	91.42	0.033	0.680	106.79
55	0.007	0.653	96.12	0.019	0.685	102.82
56	0.003	0.675	96.14	0.030	0.671	107.74
57	0.010	0.644	93.03	0.023	0.665	108.27
58	0.006	0.664	90.65	0.018	0.659	105.47
59	0.009	0.652	93.50	0.032	0.682	108.03
60	0.003	0.662	91.34	0.032	0.678	108.02
61	0.008	0.647	95.00	0.032	0.674	103.63
62	0.009	0.662	91.27	0.027	0.663	96.35
63	0.004	0.650	91.22	0.023	0.675	106.95
64	0.007	0.671	93.57	0.028	0.676	106.49
65	0.007	0.653	90.77	0.029	0.669	107.57
66	0.009	0.657	95.63	0.033	0.653	105.15
67	0.003	0.656	95.32	0.026	0.667	104.34
68	0.008	0.645	90.02	0.021	0.678	102.44
69	0.009	0.670	95.55	0.028	0.676	99.61
70	0.010	0.651	93.92	0.035	0.674	98.62
71	0.002	0.656	90.74	0.017	0.664	97.30
72	0.008	0.669	96.48	0.016	0.653	103.84
73	0.004	0.664	96.39	0.033	0.668	101.85
74	0.009	0.646	97.86	0.021	0.680	106.76
75	0.008	0.674	97.77	0.020	0.666	105.36
76	0.011	0.660	94.84	0.020	0.674	105.93
77	0.007	0.678	94.63	0.026	0.654	108.27
MAX	0.011	0.675	98.50	0.035	0.684	108.49
MIN	0.002	0.647	90.02	0.017	0.651	96.06
AVG	0.005	0.663	94.54	0.025	0.669	102.28

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T120801-001
Part No : SMG2301
Test Equipment: JUNO Test System DTS-1000
Test Condition : IDSS < -1μA@VDS=-20V ； VGS(th) > -0.5V@ID=-250μA
RDS(ON) < 130mΩ@VGS=-5.0V, ID=-2.8A
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2012.08.13 ~ 2012.09.25
Test Standard : JESD22 STANDER Method-A101
Operator: Bruce Chang

Test Result: PASS

	Before			After		
No	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)
1	0.004	0.658	96.09	0.034	0.660	108.00
2	0.006	0.650	97.35	0.034	0.666	95.84
3	0.006	0.678	92.61	0.035	0.670	105.05
4	0.010	0.676	90.69	0.029	0.664	103.67
5	0.005	0.647	95.67	0.031	0.657	105.83
6	0.003	0.649	96.24	0.034	0.655	108.24
7	0.009	0.668	92.69	0.026	0.663	97.22
8	0.001	0.659	95.07	0.032	0.658	105.82
9	0.002	0.678	98.23	0.023	0.684	98.38
10	0.006	0.649	95.45	0.025	0.681	101.75
11	0.008	0.678	91.25	0.033	0.669	99.95
12	0.003	0.664	94.72	0.030	0.662	101.84
13	0.009	0.648	97.05	0.024	0.675	95.59
14	0.005	0.671	96.89	0.024	0.658	107.37
15	0.009	0.678	94.06	0.027	0.669	106.99
16	0.008	0.648	95.49	0.027	0.662	98.42
17	0.004	0.658	95.14	0.018	0.668	100.28
18	0.010	0.676	91.01	0.022	0.684	107.83
19	0.008	0.652	91.33	0.021	0.662	102.44
20	0.004	0.679	95.20	0.021	0.684	96.48
21	0.008	0.677	90.09	0.033	0.653	95.02
22	0.008	0.662	98.51	0.029	0.682	97.24
23	0.007	0.663	91.47	0.027	0.655	102.18
24	0.011	0.646	98.34	0.023	0.651	101.02
25	0.010	0.671	97.49	0.033	0.656	102.96
26	0.007	0.677	91.58	0.028	0.665	98.56
27	0.002	0.671	94.36	0.020	0.661	102.13
28	0.005	0.672	95.70	0.026	0.665	97.38
29	0.003	0.666	97.11	0.034	0.661	107.14
30	0.007	0.660	90.82	0.017	0.653	103.64
31	0.007	0.652	95.96	0.028	0.684	102.03
32	0.005	0.672	93.66	0.016	0.653	102.57
33	0.005	0.663	93.64	0.028	0.673	102.72
34	0.008	0.656	92.72	0.019	0.679	102.96

35	0.009	0.647	90.70	0.020	0.666	106.90
36	0.010	0.659	94.18	0.030	0.673	105.89
37	0.007	0.664	92.58	0.020	0.682	105.56
38	0.008	0.644	94.58	0.017	0.665	106.46
39	0.006	0.644	92.77	0.026	0.677	102.72
40	0.006	0.645	95.86	0.032	0.655	100.90
41	0.002	0.675	95.19	0.032	0.668	104.29
42	0.008	0.679	97.83	0.035	0.656	101.45
43	0.010	0.651	97.00	0.018	0.658	100.71
44	0.010	0.674	92.43	0.033	0.675	107.11
45	0.008	0.653	93.13	0.033	0.673	97.99
46	0.002	0.652	97.94	0.032	0.653	105.02
47	0.006	0.646	95.50	0.035	0.681	103.87
48	0.003	0.669	90.60	0.020	0.685	107.77
49	0.005	0.662	96.87	0.026	0.678	103.92
50	0.001	0.667	97.27	0.016	0.683	101.92
51	0.010	0.660	98.38	0.023	0.655	107.40
52	0.004	0.672	97.01	0.027	0.653	105.32
53	0.010	0.652	94.01	0.027	0.678	98.14
54	0.005	0.661	98.52	0.031	0.676	104.34
55	0.010	0.652	93.39	0.024	0.680	99.06
56	0.001	0.678	94.87	0.017	0.659	106.05
57	0.003	0.647	98.46	0.024	0.665	107.65
58	0.008	0.677	95.26	0.034	0.680	107.76
59	0.010	0.654	96.43	0.034	0.653	98.15
60	0.003	0.672	90.86	0.026	0.650	98.60
61	0.008	0.663	90.67	0.030	0.654	103.94
62	0.004	0.667	95.42	0.021	0.663	96.38
63	0.008	0.658	97.56	0.022	0.653	95.98
64	0.009	0.644	92.89	0.025	0.658	97.58
65	0.010	0.662	90.32	0.018	0.665	103.01
66	0.007	0.652	94.16	0.023	0.656	95.19
67	0.005	0.658	98.19	0.016	0.668	105.06
68	0.004	0.667	98.53	0.021	0.677	95.68
69	0.003	0.673	93.74	0.023	0.651	106.14
70	0.007	0.654	91.63	0.017	0.668	100.14
71	0.004	0.673	98.33	0.026	0.659	103.11
72	0.009	0.656	91.53	0.019	0.669	106.36
73	0.010	0.652	92.74	0.017	0.661	96.12
74	0.009	0.651	91.04	0.032	0.650	97.16
75	0.010	0.647	93.13	0.022	0.660	101.07
76	0.005	0.645	92.04	0.018	0.669	101.91
77	0.010	0.650	94.52	0.025	0.663	96.87
MAX	0.011	0.679	98.51	0.035	0.684	108.24
MIN	0.001	0.646	90.09	0.016	0.651	95.02
AVG	0.006	0.664	94.60	0.027	0.665	101.84

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T120801-001
Part No : SMG2301
Test Equipment: JUNO Test System DTS-1000
Test Condition : IDSS < -1μA@VDS=-20V ； VGS(th) > -0.5V@ID=-250μA
RDS(ON) < 130mΩ@VGS=-5.0V, ID=-2.8A
Test Condition: 245 ± 5℃, 5Sec the inspected area of each lead must have 95% solder coverage minimu
Test Date: 2012.08.30 ~ 2012.08.30
Test Standard : JESD22 STANDER Method-B102
Operator: Bruce Chang

Test Result: PASS

	Before			After		
No	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)	I_{DSS} (μA)	$V_{GS(th)}$ (V)	$R_{DS(ON)}$ (mΩ)
1	0.008	0.660	97.89	0.024	0.685	101.92
2	0.004	0.655	90.80	0.028	0.657	102.86
3	0.001	0.656	95.39	0.021	0.662	108.13
4	0.008	0.677	95.85	0.029	0.651	95.88
5	0.010	0.669	95.92	0.029	0.683	103.78
6	0.009	0.665	92.93	0.027	0.669	95.90
7	0.008	0.668	93.73	0.034	0.663	96.22
8	0.010	0.656	92.86	0.029	0.663	108.14
9	0.009	0.645	90.91	0.034	0.677	107.14
10	0.008	0.670	96.12	0.017	0.678	102.04
MAX	0.010	0.677	97.890	0.034	0.685	108.140
MIN	0.001	0.645	90.800	0.017	0.651	95.880
AVG	0.008	0.662	94.240	0.027	0.669	102.201

Made By: King Huang

Approval: Peter Yang