Headquarter Address:
8F.No.33, Lane 155, Sec.3, Bei-Shen Rd.,
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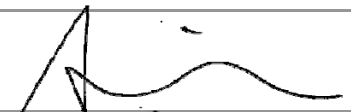
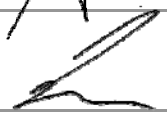
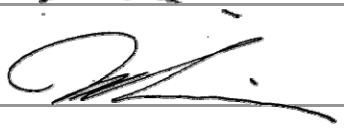
Product/Process Change Notification

PCN#	Effective Date	Issue Date
2015-04-01C-02	2015/10/1	2015/4/1
PCN Classification	**Product Category**	
Major	Small Signal Switching	
Subject		
Changing lead frame		
Affected Product(s)		
1N4448W		
Description of Change(s)		
In order to enhance the effectiveness of the product, to achieve the better electrical conductivity of the copper lead frame		
Content of Change(s)		
Changing lead frame from Iron-nickel to copper		
Impact(s)		
N/A		
Attachment(s)		
Reliability Teat Report. SGS Report. MSDS 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

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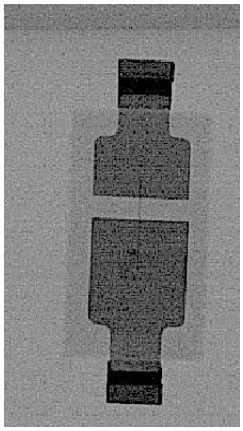
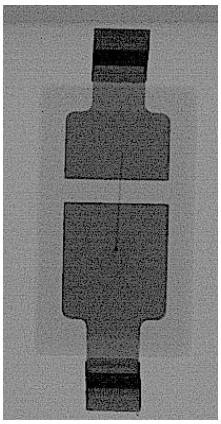
Exterior comparison Chart

Original (Iron-Nickel)	New (Copper)
 Top View	 Top View

Material comparison Chart

Original (Iron-Nickel)

Material Composition	Iron-Nickel
Cu	
Fe	Balance
Si	≤0.30
Mn	≤0.8
Ni	40.5～42.5
S	≤0.025
P	≤0.025
Zn	
Al	≤0.1
Cr	≤0.1
Pb	
C	≤0.05

New (Copper)

Material Composition	Copper
Cu	Balance
Fe	
Si	
Mn	
Ni	0.7～0.9
S	
P	
Zn	1.0～2.0
Al	0.02-0.09
Cr	
Pb	
C	

SeCoS Corporation

Reliability Testing Summary Report

Date: 2015/03/31 Document No.: SI15 -03- 12

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	1N4448W	150 ± 5℃, 80%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	1N4448W	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	1N4448W	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	1N4448W	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	1N4448W	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	1N4448W	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	1N4448W	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: 2015.02.02 Testing End Date: 2015.03.31

Tester: King Huang Approval: Peter Yang

SeCoS Corporation

Electrical Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 25℃
Test Date: 2015.02.02
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	VB (V)	IR (uA)
1	933mV	154.0V	0.013uA
2	933mV	156.6V	0.012uA
3	931mV	154.1V	0.012uA
4	933mV	153.0V	0.014uA
5	935mV	160.0V	0.016uA
6	929mV	142.7V	0.013uA
7	933mV	154.9V	0.014uA
8	930mV	152.2V	0.014uA
9	933mV	149.1V	0.015uA
10	931mV	154.5V	0.014uA
11	935mV	158.6V	0.012uA
12	934mV	159.2V	0.013uA
13	929mV	146.8V	0.012uA
14	931mV	150.1V	0.010uA
15	933mV	153.4V	0.014uA
16	927mV	137.5V	0.012uA
17	933mV	157.8V	0.012uA
18	934mV	155.2V	0.015uA
19	932mV	154.2V	0.014uA
20	931mV	154.4V	0.012uA
21	936mV	157.8V	0.014uA
22	933mV	158.0V	0.015uA
23	935mV	159.5V	0.015uA
24	930mV	152.5V	0.015uA
25	935mV	154.9V	0.015uA
26	932mV	154.7V	0.013uA
27	932mV	156.9V	0.015uA
28	931mV	149.8V	0.013uA
29	931mV	154.4V	0.014uA
30	928mV	148.1V	0.011uA
31	928mV	151.4V	0.012uA

SeCoS Corporation

Electrical Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 25℃
Test Date: 2015.02.02
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	VB (V)	IR (uA)
32	935mV	156.6V	0.016uA
33	930mV	149.5V	0.013uA
34	932mV	155.6V	0.014uA
35	933mV	151.1V	0.017uA
36	929mV	151.8V	0.013uA
37	935mV	159.4V	0.017uA
38	930mV	147.7V	0.011uA
39	932mV	158.2V	0.015uA
40	931mV	156.2V	0.016uA
41	933mV	158.7V	0.015uA
42	934mV	154.9V	0.017uA
43	933mV	154.1V	0.014uA
44	934mV	155.0V	0.014uA
45	932mV	156.7V	0.012uA
46	935mV	159.9V	0.018uA
47	935mV	156.2V	0.018uA
48	931mV	152.6V	0.011uA
49	925mV	130.6V	0.012uA
50	934mV	154.3V	0.014uA
51	933mV	158.3V	0.014uA
52	933mV	153.1V	0.018uA
53	934mV	152.3V	0.015uA
54	933mV	154.0V	0.011uA
55	934mV	155.3V	0.015uA
56	930mV	146.6V	0.014uA
57	934mV	154.2V	0.015uA
58	932mV	150.2V	0.014uA
59	931mV	155.6V	0.014uA
60	935mV	158.9V	0.016uA
61	932mV	154.4V	0.014uA
62	931mV	156.0V	0.013uA

SeCoS Corporation

Electrical Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 25℃
Test Date: 2015.02.02
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	VB (V)	IR (uA)
63	931mV	152.9V	0.015uA
64	933mV	154.4V	0.014uA
65	934mV	159.0V	0.013uA
66	931mV	149.8V	0.011uA
67	935mV	155.6V	0.015uA
68	931mV	151.7V	0.013uA
69	934mV	155.1V	0.017uA
70	934mV	155.2V	0.013uA
71	932mV	155.0V	0.014uA
72	934mV	154.5V	0.015uA
73	933mV	153.3V	0.015uA
74	933mV	150.3V	0.013uA
75	929mV	147.7V	0.012uA
76	933mV	151.0V	0.018uA
77	933mV	158.9V	0.014uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 150 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2015.02.02 ~ 2015.03.16
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	934.3mV	146.0V	0.013uA	923.4mV	153.2V	0.014uA
2	929.9mV	159.3V	0.016uA	930.6mV	135.7V	0.011uA
3	930.5mV	153.4V	0.017uA	933.2mV	152.1V	0.013uA
4	925.8mV	156.3V	0.015uA	924.7mV	137.9V	0.017uA
5	931.2mV	142.1V	0.012uA	931.1mV	154.7V	0.015uA
6	926.7mV	154.6V	0.016uA	929.5mV	154.1V	0.012uA
7	930.2mV	145.0V	0.015uA	927.0mV	144.9V	0.012uA
8	935.2mV	157.0V	0.016uA	929.4mV	145.3V	0.012uA
9	935.2mV	159.1V	0.011uA	923.7mV	151.8V	0.013uA
10	928.1mV	140.9V	0.013uA	926.3mV	138.9V	0.016uA
11	928.5mV	143.2V	0.012uA	931.1mV	159.4V	0.018uA
12	932.8mV	152.1V	0.011uA	933.9mV	146.0V	0.013uA
13	935.5mV	137.5V	0.016uA	924.2mV	157.8V	0.014uA
14	935.9mV	157.1V	0.011uA	934.5mV	144.4V	0.015uA
15	924.6mV	157.1V	0.014uA	929.1mV	138.7V	0.017uA
16	928.2mV	136.3V	0.016uA	934.6mV	144.7V	0.014uA
17	928.6mV	140.0V	0.014uA	928.1mV	140.4V	0.012uA
18	934.1mV	154.8V	0.017uA	931.8mV	152.1V	0.013uA
19	927.3mV	143.2V	0.016uA	932.7mV	150.4V	0.012uA
20	933.2mV	138.1V	0.018uA	932.6mV	155.6V	0.012uA
21	932.7mV	135.7V	0.015uA	933.8mV	139.1V	0.014uA
22	934.2mV	137.0V	0.014uA	925.7mV	145.6V	0.014uA
23	935.5mV	153.9V	0.018uA	935.3mV	147.3V	0.016uA
24	932.9mV	158.6V	0.010uA	934.4mV	139.3V	0.016uA
25	930.4mV	136.7V	0.016uA	926.8mV	141.6V	0.016uA
26	923.2mV	138.6V	0.012uA	922.8mV	139.7V	0.015uA
27	930.5mV	146.2V	0.015uA	924.6mV	143.8V	0.017uA
28	923.9mV	150.7V	0.013uA	933.9mV	146.3V	0.014uA
29	926.5mV	151.3V	0.012uA	922.0mV	152.8V	0.012uA
30	930.9mV	135.7V	0.017uA	925.9mV	150.8V	0.016uA

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 150 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2015.02.02 ~ 2015.03.16
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
31	934.6mV	145.5V	0.017uA	926.9mV	149.1V	0.010uA
32	929.2mV	156.6V	0.014uA	923.2mV	157.1V	0.012uA
33	931.7mV	149.8V	0.013uA	923.6mV	142.8V	0.014uA
34	922.2mV	150.2V	0.018uA	925.8mV	137.3V	0.016uA
35	933.1mV	142.4V	0.013uA	923.4mV	150.1V	0.014uA
36	934.3mV	147.2V	0.016uA	931.8mV	141.4V	0.015uA
37	929.0mV	144.5V	0.016uA	924.5mV	158.1V	0.015uA
38	933.6mV	136.3V	0.017uA	923.2mV	158.8V	0.014uA
39	922.2mV	147.9V	0.015uA	935.2mV	138.2V	0.017uA
40	935.3mV	157.5V	0.018uA	928.1mV	145.1V	0.015uA
41	930.4mV	143.4V	0.014uA	935.8mV	159.3V	0.011uA
42	926.9mV	151.8V	0.015uA	922.2mV	141.8V	0.010uA
43	923.0mV	153.1V	0.015uA	923.3mV	142.5V	0.013uA
44	927.0mV	146.7V	0.017uA	928.1mV	157.2V	0.011uA
45	931.2mV	157.2V	0.012uA	929.6mV	160.1V	0.011uA
46	925.5mV	157.6V	0.012uA	930.8mV	155.5V	0.017uA
47	933.7mV	159.4V	0.013uA	924.3mV	160.5V	0.017uA
48	925.4mV	159.1V	0.016uA	934.0mV	135.6V	0.012uA
49	935.6mV	159.0V	0.011uA	932.9mV	152.9V	0.017uA
50	930.8mV	148.4V	0.011uA	932.5mV	160.0V	0.016uA
51	925.9mV	149.6V	0.014uA	933.0mV	146.3V	0.016uA
52	929.9mV	144.5V	0.013uA	922.3mV	140.2V	0.015uA
53	924.7mV	149.1V	0.012uA	927.2mV	159.9V	0.013uA
54	928.5mV	140.2V	0.018uA	925.4mV	153.8V	0.016uA
55	923.3mV	152.8V	0.013uA	929.4mV	153.9V	0.012uA
56	929.5mV	152.2V	0.015uA	926.0mV	159.4V	0.015uA
57	934.1mV	147.5V	0.017uA	932.9mV	139.3V	0.010uA
58	923.1mV	158.5V	0.016uA	924.3mV	146.5V	0.015uA
59	923.8mV	155.9V	0.015uA	924.9mV	153.7V	0.011uA
60	922.6mV	136.0V	0.011uA	929.3mV	146.2V	0.011uA

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 150 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2015.02.02 ~ 2015.03.16
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
61	924.5mV	141.4V	0.012uA	934.0mV	158.7V	0.014uA
62	927.8mV	142.7V	0.013uA	924.5mV	159.2V	0.010uA
63	927.5mV	157.4V	0.017uA	933.9mV	155.6V	0.015uA
64	926.5mV	145.1V	0.016uA	923.2mV	141.5V	0.012uA
65	927.4mV	139.0V	0.011uA	928.0mV	147.6V	0.016uA
66	928.4mV	147.0V	0.018uA	928.9mV	155.6V	0.015uA
67	925.5mV	157.5V	0.011uA	926.1mV	160.0V	0.017uA
68	935.0mV	160.3V	0.013uA	922.2mV	146.3V	0.015uA
69	930.1mV	154.7V	0.016uA	929.9mV	146.7V	0.013uA
70	927.3mV	160.3V	0.015uA	931.5mV	143.4V	0.010uA
71	929.3mV	152.5V	0.017uA	930.4mV	156.6V	0.011uA
72	932.1mV	159.1V	0.012uA	928.0mV	136.7V	0.017uA
73	923.4mV	159.6V	0.017uA	926.6mV	157.8V	0.011uA
74	934.4mV	160.0V	0.012uA	922.7mV	139.2V	0.017uA
75	935.7mV	159.8V	0.016uA	925.5mV	140.3V	0.015uA
76	923.6mV	143.0V	0.017uA	935.3mV	142.8V	0.013uA
77	922.8mV	154.1V	0.018uA	934.4mV	153.6V	0.013uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 150℃, 1000Hrs
Test Date: 2015.02.02 ~ 2015.03.16
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	929.5mV	136.3V	0.018uA	926.7mV	148.3V	0.010uA
2	925.1mV	144.0V	0.016uA	926.0mV	144.2V	0.011uA
3	926.4mV	151.4V	0.012uA	922.6mV	139.2V	0.016uA
4	927.9mV	145.7V	0.018uA	926.5mV	158.0V	0.011uA
5	932.2mV	158.2V	0.016uA	932.9mV	148.9V	0.011uA
6	932.3mV	159.8V	0.017uA	927.6mV	160.2V	0.010uA
7	931.1mV	150.5V	0.017uA	922.8mV	145.6V	0.014uA
8	928.4mV	151.2V	0.012uA	934.3mV	157.6V	0.012uA
9	927.6mV	139.9V	0.013uA	932.6mV	147.0V	0.011uA
10	932.4mV	141.3V	0.011uA	933.3mV	152.5V	0.017uA
11	933.4mV	138.4V	0.015uA	929.6mV	149.1V	0.013uA
12	930.7mV	156.5V	0.010uA	927.5mV	138.9V	0.014uA
13	928.1mV	148.0V	0.015uA	933.0mV	143.7V	0.016uA
14	930.7mV	146.2V	0.016uA	930.0mV	144.2V	0.018uA
15	935.5mV	157.6V	0.010uA	929.7mV	154.0V	0.015uA
16	931.4mV	145.5V	0.013uA	934.5mV	149.9V	0.011uA
17	933.3mV	155.4V	0.013uA	934.3mV	141.0V	0.010uA
18	935.0mV	154.6V	0.016uA	926.6mV	149.0V	0.012uA
19	926.9mV	144.9V	0.013uA	927.2mV	149.8V	0.016uA
20	933.2mV	155.9V	0.017uA	929.4mV	152.2V	0.014uA
21	924.6mV	148.6V	0.017uA	931.4mV	144.4V	0.012uA
22	923.1mV	155.7V	0.015uA	933.9mV	138.9V	0.014uA
23	928.0mV	150.8V	0.015uA	925.6mV	143.1V	0.013uA
24	924.6mV	155.2V	0.013uA	924.1mV	147.9V	0.010uA
25	935.4mV	138.4V	0.015uA	929.4mV	136.1V	0.017uA
26	926.8mV	153.9V	0.013uA	929.9mV	135.7V	0.013uA
27	929.3mV	155.0V	0.016uA	931.4mV	137.5V	0.011uA
28	933.3mV	140.9V	0.015uA	926.7mV	158.4V	0.016uA
29	931.4mV	155.6V	0.018uA	924.2mV	145.4V	0.016uA
30	923.0mV	158.0V	0.018uA	923.3mV	153.7V	0.016uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 150℃, 1000Hrs
Test Date: 2015.02.02 ~ 2015.03.16
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
31	922.9mV	151.3V	0.015uA	928.4mV	141.8V	0.010uA
32	926.9mV	141.1V	0.014uA	929.3mV	140.1V	0.017uA
33	928.0mV	150.7V	0.014uA	928.5mV	147.5V	0.013uA
34	935.7mV	154.0V	0.013uA	923.6mV	141.0V	0.013uA
35	925.2mV	160.1V	0.015uA	922.1mV	139.5V	0.011uA
36	932.6mV	157.7V	0.014uA	925.9mV	159.0V	0.017uA
37	923.3mV	145.8V	0.013uA	930.2mV	157.1V	0.017uA
38	931.3mV	154.3V	0.016uA	933.2mV	135.6V	0.013uA
39	934.6mV	159.4V	0.013uA	927.2mV	149.7V	0.013uA
40	933.0mV	147.4V	0.017uA	925.7mV	146.6V	0.017uA
41	929.0mV	147.4V	0.018uA	924.8mV	148.5V	0.017uA
42	935.2mV	143.5V	0.016uA	931.3mV	139.9V	0.013uA
43	935.7mV	154.6V	0.015uA	933.1mV	136.9V	0.017uA
44	934.9mV	159.4V	0.014uA	927.1mV	159.2V	0.010uA
45	935.4mV	141.3V	0.010uA	933.2mV	154.3V	0.014uA
46	933.8mV	137.9V	0.014uA	934.1mV	140.2V	0.011uA
47	928.6mV	138.6V	0.017uA	923.4mV	160.1V	0.011uA
48	933.0mV	146.7V	0.012uA	930.5mV	160.3V	0.017uA
49	929.4mV	143.9V	0.017uA	934.8mV	154.4V	0.010uA
50	923.6mV	138.4V	0.014uA	927.1mV	136.3V	0.015uA
51	928.4mV	135.5V	0.010uA	926.1mV	151.1V	0.016uA
52	927.1mV	150.8V	0.013uA	923.1mV	147.8V	0.010uA
53	934.5mV	154.6V	0.015uA	924.4mV	139.5V	0.016uA
54	927.7mV	154.6V	0.015uA	923.9mV	142.6V	0.017uA
55	922.2mV	153.8V	0.013uA	934.2mV	148.8V	0.015uA
56	927.7mV	147.0V	0.014uA	935.2mV	151.3V	0.014uA
57	932.8mV	137.7V	0.018uA	931.6mV	139.6V	0.011uA
58	925.8mV	153.7V	0.013uA	932.3mV	137.8V	0.015uA
59	929.6mV	151.6V	0.016uA	924.6mV	136.2V	0.017uA
60	922.4mV	144.1V	0.015uA	926.1mV	147.2V	0.011uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 150℃, 1000Hrs
Test Date: 2015.02.02 ~ 2015.03.16
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
61	933.3mV	148.6V	0.018uA	935.8mV	160.0V	0.010uA
62	933.9mV	160.2V	0.017uA	923.7mV	155.3V	0.015uA
63	924.4mV	143.3V	0.012uA	934.5mV	136.6V	0.010uA
64	933.4mV	137.2V	0.012uA	922.9mV	145.0V	0.011uA
65	929.8mV	136.4V	0.015uA	931.6mV	139.5V	0.016uA
66	922.3mV	159.7V	0.015uA	934.6mV	159.7V	0.016uA
67	928.4mV	146.3V	0.016uA	932.8mV	140.9V	0.011uA
68	930.8mV	146.8V	0.011uA	923.6mV	154.5V	0.011uA
69	931.1mV	156.2V	0.012uA	930.5mV	151.7V	0.011uA
70	931.3mV	154.1V	0.011uA	928.9mV	147.2V	0.016uA
71	927.6mV	138.5V	0.017uA	927.5mV	155.8V	0.017uA
72	923.2mV	155.4V	0.011uA	934.2mV	143.1V	0.013uA
73	931.2mV	143.3V	0.017uA	927.1mV	155.6V	0.014uA
74	923.2mV	153.9V	0.013uA	930.5mV	138.5V	0.011uA
75	930.2mV	141.7V	0.012uA	926.1mV	143.5V	0.011uA
76	930.1mV	160.4V	0.012uA	931.4mV	136.7V	0.015uA
77	927.0mV	150.2V	0.014uA	923.3mV	153.6V	0.017uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2015.02.02 ~ 2015.02.10
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	927.8mV	145.1V	0.016uA	927.2mV	150.4V	0.010uA
2	923.6mV	147.6V	0.012uA	928.8mV	140.4V	0.014uA
3	924.9mV	139.9V	0.012uA	927.6mV	159.1V	0.012uA
4	926.1mV	156.1V	0.013uA	925.5mV	145.4V	0.014uA
5	923.6mV	151.1V	0.016uA	922.5mV	148.0V	0.014uA
6	927.9mV	140.9V	0.013uA	928.9mV	145.5V	0.010uA
7	925.8mV	145.2V	0.016uA	924.1mV	159.2V	0.016uA
8	929.9mV	151.2V	0.015uA	932.8mV	151.3V	0.014uA
9	926.9mV	153.4V	0.017uA	932.3mV	149.8V	0.015uA
10	923.4mV	149.5V	0.012uA	935.9mV	135.7V	0.012uA
11	925.9mV	144.9V	0.012uA	931.9mV	148.8V	0.018uA
12	927.2mV	151.6V	0.015uA	935.3mV	155.7V	0.015uA
13	933.3mV	155.2V	0.012uA	923.0mV	136.8V	0.012uA
14	932.7mV	152.2V	0.014uA	922.1mV	138.2V	0.017uA
15	922.2mV	139.2V	0.010uA	924.1mV	147.5V	0.011uA
16	924.0mV	154.1V	0.013uA	922.3mV	142.4V	0.018uA
17	928.2mV	153.7V	0.018uA	926.6mV	141.3V	0.015uA
18	930.6mV	156.9V	0.014uA	932.2mV	154.3V	0.015uA
19	929.5mV	135.9V	0.014uA	930.4mV	144.3V	0.010uA
20	935.3mV	158.0V	0.015uA	929.8mV	157.7V	0.010uA
21	926.2mV	135.9V	0.012uA	930.2mV	150.9V	0.015uA
22	932.7mV	154.4V	0.012uA	933.0mV	150.9V	0.011uA
23	926.9mV	155.6V	0.012uA	924.5mV	152.7V	0.014uA
24	928.5mV	159.8V	0.013uA	932.9mV	140.0V	0.014uA
25	924.8mV	143.6V	0.012uA	928.3mV	151.4V	0.014uA
26	934.4mV	140.9V	0.013uA	932.0mV	158.9V	0.015uA
27	922.9mV	154.3V	0.015uA	923.0mV	158.8V	0.012uA
28	922.8mV	154.0V	0.013uA	930.9mV	159.8V	0.011uA
29	922.7mV	136.9V	0.015uA	924.1mV	135.6V	0.011uA
30	924.3mV	158.8V	0.012uA	931.8mV	158.9V	0.010uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2015.02.02 ~ 2015.02.10
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
31	929.5mV	153.3V	0.015uA	924.2mV	147.7V	0.016uA
32	925.6mV	157.2V	0.014uA	935.8mV	144.0V	0.012uA
33	930.5mV	139.6V	0.017uA	931.9mV	158.4V	0.012uA
34	925.0mV	156.0V	0.016uA	929.4mV	139.1V	0.011uA
35	924.6mV	152.8V	0.014uA	931.7mV	141.4V	0.013uA
36	932.8mV	160.1V	0.016uA	923.3mV	145.3V	0.010uA
37	923.1mV	143.5V	0.011uA	924.8mV	151.5V	0.017uA
38	927.9mV	155.2V	0.017uA	923.7mV	154.6V	0.012uA
39	924.3mV	144.8V	0.012uA	924.7mV	153.6V	0.015uA
40	925.9mV	150.7V	0.017uA	929.8mV	138.1V	0.015uA
41	934.6mV	136.9V	0.017uA	933.9mV	152.1V	0.015uA
42	934.6mV	136.5V	0.011uA	935.0mV	150.1V	0.014uA
43	934.5mV	143.9V	0.010uA	922.3mV	143.3V	0.017uA
44	923.6mV	145.6V	0.014uA	927.9mV	157.0V	0.014uA
45	929.0mV	136.6V	0.014uA	923.3mV	160.5V	0.014uA
46	924.2mV	158.9V	0.010uA	926.1mV	148.7V	0.010uA
47	935.1mV	138.5V	0.011uA	933.1mV	143.6V	0.014uA
48	922.8mV	141.1V	0.017uA	926.5mV	145.3V	0.017uA
49	929.0mV	155.2V	0.015uA	923.3mV	156.1V	0.017uA
50	935.7mV	145.1V	0.011uA	929.4mV	141.0V	0.015uA
51	929.2mV	158.2V	0.017uA	933.6mV	138.7V	0.014uA
52	927.3mV	151.6V	0.012uA	922.3mV	147.7V	0.018uA
53	929.1mV	153.1V	0.013uA	930.3mV	138.9V	0.017uA
54	924.6mV	142.9V	0.016uA	925.3mV	148.1V	0.012uA
55	929.2mV	138.4V	0.010uA	935.0mV	138.6V	0.010uA
56	922.8mV	147.4V	0.014uA	924.1mV	152.6V	0.010uA
57	925.2mV	159.5V	0.017uA	922.8mV	138.4V	0.013uA
58	931.5mV	146.1V	0.014uA	925.5mV	141.2V	0.017uA
59	930.6mV	139.8V	0.017uA	930.3mV	160.3V	0.012uA
60	931.5mV	147.3V	0.013uA	935.1mV	158.3V	0.016uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2015.02.02 ~ 2015.02.10
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
61	930.3mV	159.8V	0.018uA	930.7mV	151.0V	0.013uA
62	935.4mV	154.4V	0.014uA	923.4mV	135.8V	0.013uA
63	933.9mV	145.9V	0.013uA	926.9mV	153.0V	0.016uA
64	934.0mV	159.3V	0.013uA	930.4mV	157.1V	0.017uA
65	933.7mV	141.6V	0.016uA	932.4mV	151.1V	0.017uA
66	934.8mV	138.6V	0.011uA	923.7mV	144.3V	0.011uA
67	925.0mV	145.4V	0.014uA	925.3mV	159.8V	0.016uA
68	932.2mV	149.9V	0.016uA	924.3mV	144.8V	0.015uA
69	924.3mV	144.8V	0.011uA	924.7mV	150.6V	0.015uA
70	922.3mV	159.2V	0.012uA	925.6mV	142.8V	0.014uA
71	925.3mV	136.5V	0.011uA	922.6mV	150.7V	0.016uA
72	932.0mV	158.8V	0.012uA	927.0mV	146.4V	0.014uA
73	924.4mV	138.0V	0.015uA	932.1mV	147.4V	0.017uA
74	932.8mV	156.8V	0.018uA	930.0mV	158.1V	0.012uA
75	922.8mV	149.7V	0.013uA	922.4mV	150.2V	0.016uA
76	932.8mV	158.1V	0.013uA	929.6mV	139.4V	0.015uA
77	926.6mV	159.7V	0.013uA	932.7mV	159.7V	0.014uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2015.02.02 ~ 2015.03.30
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	935.1mV	157.6V	0.014uA	929.9mV	157.4V	0.011uA
2	926.2mV	146.5V	0.015uA	924.9mV	154.3V	0.014uA
3	935.3mV	144.6V	0.015uA	928.6mV	145.5V	0.011uA
4	924.1mV	153.9V	0.013uA	926.8mV	138.9V	0.012uA
5	935.8mV	143.1V	0.013uA	931.7mV	147.8V	0.011uA
6	934.9mV	146.9V	0.010uA	931.6mV	136.2V	0.011uA
7	926.8mV	157.0V	0.012uA	924.3mV	143.5V	0.014uA
8	922.0mV	153.8V	0.015uA	927.8mV	149.9V	0.011uA
9	931.8mV	156.2V	0.017uA	930.7mV	144.1V	0.013uA
10	929.8mV	157.0V	0.011uA	927.8mV	138.9V	0.015uA
11	928.5mV	158.5V	0.015uA	928.2mV	141.4V	0.015uA
12	924.9mV	144.9V	0.017uA	936.0mV	158.4V	0.013uA
13	931.4mV	142.7V	0.011uA	930.4mV	138.5V	0.013uA
14	923.5mV	141.1V	0.016uA	926.0mV	156.5V	0.014uA
15	925.5mV	145.9V	0.017uA	925.9mV	156.9V	0.016uA
16	928.3mV	152.3V	0.014uA	922.5mV	140.0V	0.018uA
17	930.6mV	135.6V	0.014uA	935.5mV	136.1V	0.014uA
18	922.8mV	153.4V	0.018uA	933.5mV	140.3V	0.014uA
19	932.4mV	151.1V	0.012uA	924.3mV	136.7V	0.011uA
20	924.9mV	160.4V	0.012uA	933.8mV	146.9V	0.013uA
21	931.8mV	153.7V	0.014uA	930.5mV	143.9V	0.012uA
22	923.5mV	159.5V	0.016uA	935.8mV	145.2V	0.012uA
23	926.4mV	138.1V	0.017uA	922.9mV	154.9V	0.018uA
24	924.6mV	155.3V	0.013uA	929.7mV	141.9V	0.012uA
25	927.3mV	135.9V	0.016uA	934.9mV	141.6V	0.015uA
26	928.9mV	139.7V	0.017uA	923.2mV	139.1V	0.016uA
27	933.5mV	142.0V	0.015uA	928.3mV	152.0V	0.011uA
28	935.6mV	141.7V	0.012uA	928.4mV	142.6V	0.015uA
29	930.2mV	146.1V	0.010uA	922.2mV	139.8V	0.018uA
30	930.2mV	138.1V	0.017uA	923.2mV	140.7V	0.015uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2015.02.02 ~ 2015.03.30
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
31	929.9mV	143.9V	0.015uA	930.7mV	143.2V	0.014uA
32	933.3mV	143.7V	0.017uA	935.4mV	136.0V	0.017uA
33	925.5mV	136.3V	0.010uA	934.4mV	140.9V	0.015uA
34	923.2mV	151.6V	0.016uA	934.5mV	151.9V	0.015uA
35	923.9mV	141.9V	0.013uA	928.5mV	148.9V	0.017uA
36	934.9mV	158.9V	0.013uA	924.4mV	146.2V	0.013uA
37	924.5mV	139.1V	0.015uA	923.8mV	139.5V	0.013uA
38	934.7mV	153.2V	0.012uA	935.7mV	147.6V	0.016uA
39	930.4mV	149.0V	0.011uA	934.5mV	157.9V	0.014uA
40	924.6mV	153.2V	0.012uA	924.5mV	142.8V	0.015uA
41	929.8mV	151.9V	0.017uA	927.5mV	160.2V	0.012uA
42	925.1mV	160.3V	0.014uA	933.3mV	143.3V	0.015uA
43	923.0mV	144.5V	0.012uA	933.3mV	148.9V	0.017uA
44	927.7mV	159.6V	0.013uA	922.7mV	147.4V	0.011uA
45	935.4mV	139.2V	0.013uA	930.5mV	138.2V	0.018uA
46	935.6mV	155.3V	0.014uA	929.0mV	141.5V	0.015uA
47	927.5mV	150.7V	0.014uA	928.2mV	159.5V	0.011uA
48	928.4mV	145.5V	0.016uA	930.1mV	153.4V	0.016uA
49	923.2mV	150.3V	0.014uA	925.4mV	139.0V	0.012uA
50	926.5mV	151.5V	0.015uA	926.4mV	140.6V	0.014uA
51	926.3mV	158.8V	0.011uA	925.6mV	150.0V	0.013uA
52	928.4mV	141.5V	0.012uA	933.1mV	147.1V	0.011uA
53	932.0mV	160.0V	0.015uA	933.8mV	138.6V	0.016uA
54	925.4mV	155.9V	0.015uA	927.2mV	144.6V	0.017uA
55	931.9mV	150.1V	0.014uA	932.3mV	140.3V	0.012uA
56	932.9mV	135.8V	0.012uA	933.0mV	146.1V	0.012uA
57	927.5mV	142.9V	0.011uA	930.9mV	142.9V	0.012uA
58	927.7mV	158.1V	0.015uA	926.9mV	140.6V	0.016uA
59	935.9mV	144.7V	0.016uA	934.7mV	145.4V	0.016uA
60	924.4mV	157.5V	0.017uA	930.6mV	143.3V	0.015uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2015.02.02 ~ 2015.03.30
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
61	935.8mV	152.0V	0.012uA	930.1mV	136.9V	0.014uA
62	926.0mV	160.5V	0.011uA	923.0mV	154.1V	0.014uA
63	923.2mV	146.7V	0.016uA	935.7mV	156.5V	0.017uA
64	927.7mV	146.2V	0.014uA	924.0mV	146.1V	0.011uA
65	923.7mV	143.9V	0.017uA	935.1mV	155.3V	0.016uA
66	931.1mV	149.9V	0.016uA	930.3mV	156.0V	0.016uA
67	928.8mV	155.6V	0.010uA	931.3mV	139.1V	0.018uA
68	934.3mV	154.0V	0.016uA	922.0mV	143.9V	0.018uA
69	925.5mV	157.9V	0.012uA	934.4mV	153.3V	0.017uA
70	928.8mV	144.7V	0.013uA	927.3mV	143.4V	0.017uA
71	931.2mV	136.1V	0.011uA	926.3mV	157.7V	0.012uA
72	926.6mV	150.5V	0.017uA	933.0mV	151.3V	0.014uA
73	925.5mV	137.7V	0.016uA	930.6mV	139.1V	0.016uA
74	933.1mV	140.7V	0.014uA	929.1mV	153.6V	0.012uA
75	926.8mV	159.8V	0.011uA	928.8mV	151.1V	0.013uA
76	927.3mV	154.6V	0.013uA	932.2mV	142.6V	0.013uA
77	934.4mV	144.7V	0.017uA	930.0mV	143.2V	0.011uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.02.09 ~ 2015.03.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	931.3mV	141.7V	0.017uA	933.6mV	153.7V	0.014uA
2	924.6mV	147.7V	0.015uA	922.9mV	157.8V	0.011uA
3	933.3mV	158.9V	0.011uA	924.2mV	141.5V	0.014uA
4	927.6mV	159.9V	0.014uA	923.5mV	154.1V	0.017uA
5	934.6mV	156.2V	0.013uA	929.7mV	141.4V	0.016uA
6	929.7mV	150.6V	0.013uA	927.5mV	147.6V	0.011uA
7	924.0mV	147.3V	0.011uA	928.7mV	153.7V	0.017uA
8	923.7mV	151.5V	0.016uA	932.6mV	148.5V	0.011uA
9	926.7mV	149.9V	0.016uA	935.5mV	145.9V	0.011uA
10	931.4mV	141.5V	0.017uA	922.8mV	151.1V	0.011uA
11	931.1mV	147.2V	0.015uA	925.8mV	142.6V	0.010uA
12	924.1mV	137.6V	0.014uA	926.8mV	160.0V	0.010uA
13	930.8mV	139.8V	0.011uA	926.8mV	154.9V	0.013uA
14	923.5mV	154.9V	0.018uA	934.6mV	140.8V	0.014uA
15	928.9mV	147.4V	0.013uA	925.9mV	142.2V	0.016uA
16	930.6mV	144.6V	0.012uA	925.2mV	146.8V	0.013uA
17	929.4mV	138.9V	0.010uA	933.8mV	143.3V	0.012uA
18	933.1mV	158.7V	0.012uA	934.6mV	143.7V	0.011uA
19	931.9mV	149.2V	0.013uA	934.3mV	149.5V	0.012uA
20	929.3mV	145.8V	0.018uA	926.3mV	157.9V	0.013uA
21	924.1mV	135.7V	0.018uA	933.8mV	147.5V	0.014uA
22	928.3mV	149.6V	0.016uA	932.5mV	141.0V	0.015uA
23	928.9mV	156.4V	0.016uA	926.3mV	140.6V	0.013uA
24	926.0mV	144.1V	0.014uA	930.9mV	159.6V	0.013uA
25	927.7mV	139.2V	0.017uA	926.3mV	143.8V	0.015uA
26	933.6mV	141.6V	0.010uA	924.1mV	147.5V	0.013uA
27	935.4mV	145.5V	0.016uA	929.4mV	142.5V	0.017uA
28	929.9mV	138.7V	0.016uA	924.4mV	144.0V	0.013uA
29	925.6mV	144.7V	0.018uA	922.5mV	145.8V	0.017uA
30	926.1mV	156.1V	0.017uA	932.5mV	142.2V	0.017uA

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.02.09 ~ 2015.03.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
31	925.7mV	155.9V	0.013uA	930.3mV	158.3V	0.012uA
32	929.3mV	152.3V	0.011uA	930.5mV	136.5V	0.018uA
33	926.4mV	144.0V	0.011uA	927.6mV	156.2V	0.014uA
34	929.9mV	149.1V	0.013uA	923.6mV	149.7V	0.014uA
35	932.4mV	145.5V	0.014uA	923.8mV	137.9V	0.014uA
36	926.4mV	139.0V	0.015uA	930.7mV	154.9V	0.016uA
37	927.9mV	155.7V	0.013uA	930.0mV	157.7V	0.015uA
38	933.2mV	154.8V	0.012uA	926.1mV	150.5V	0.011uA
39	926.4mV	153.9V	0.014uA	923.3mV	145.3V	0.017uA
40	924.2mV	146.6V	0.013uA	934.8mV	139.3V	0.013uA
41	933.5mV	154.3V	0.015uA	922.9mV	144.3V	0.012uA
42	927.1mV	142.7V	0.013uA	922.2mV	158.1V	0.013uA
43	925.1mV	142.3V	0.012uA	926.3mV	146.0V	0.017uA
44	927.2mV	160.5V	0.018uA	930.8mV	138.6V	0.014uA
45	931.9mV	154.0V	0.018uA	931.9mV	151.8V	0.013uA
46	925.6mV	138.7V	0.011uA	928.9mV	154.1V	0.014uA
47	928.4mV	160.4V	0.013uA	924.1mV	160.0V	0.018uA
48	932.0mV	135.7V	0.016uA	929.4mV	148.9V	0.017uA
49	922.6mV	148.1V	0.011uA	931.5mV	157.3V	0.011uA
50	933.0mV	153.4V	0.017uA	932.6mV	143.9V	0.015uA
51	927.1mV	149.1V	0.011uA	933.7mV	155.3V	0.015uA
52	928.8mV	140.5V	0.012uA	932.8mV	149.9V	0.015uA
53	922.2mV	139.6V	0.016uA	929.2mV	159.7V	0.013uA
54	927.4mV	137.3V	0.011uA	933.6mV	137.1V	0.016uA
55	934.6mV	146.4V	0.012uA	923.4mV	160.1V	0.011uA
56	928.0mV	142.6V	0.011uA	923.5mV	143.6V	0.013uA
57	924.9mV	139.6V	0.012uA	923.1mV	138.7V	0.013uA
58	931.3mV	149.2V	0.015uA	935.9mV	144.5V	0.014uA
59	924.3mV	158.5V	0.018uA	926.9mV	149.0V	0.013uA
60	935.2mV	142.7V	0.012uA	935.3mV	143.5V	0.010uA

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.02.09 ~ 2015.03.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
61	930.2mV	144.0V	0.014uA	924.5mV	141.8V	0.017uA
62	926.8mV	139.1V	0.010uA	932.5mV	149.6V	0.011uA
63	924.5mV	151.6V	0.013uA	929.4mV	149.9V	0.012uA
64	932.8mV	154.7V	0.013uA	927.8mV	153.1V	0.011uA
65	924.6mV	142.1V	0.010uA	924.4mV	158.0V	0.016uA
66	922.5mV	160.0V	0.014uA	929.5mV	158.6V	0.011uA
67	935.5mV	148.9V	0.014uA	926.1mV	156.0V	0.017uA
68	923.6mV	160.3V	0.014uA	925.7mV	136.3V	0.014uA
69	926.8mV	146.9V	0.014uA	923.0mV	140.3V	0.013uA
70	933.0mV	158.7V	0.015uA	931.1mV	145.5V	0.012uA
71	934.4mV	150.6V	0.011uA	924.9mV	148.1V	0.016uA
72	934.1mV	137.6V	0.012uA	929.4mV	135.4V	0.014uA
73	930.7mV	143.2V	0.010uA	922.3mV	144.6V	0.014uA
74	927.5mV	140.1V	0.016uA	922.8mV	150.8V	0.017uA
75	934.7mV	159.5V	0.016uA	930.1mV	155.7V	0.011uA
76	927.7mV	154.2V	0.010uA	930.3mV	145.1V	0.011uA
77	929.3mV	143.7V	0.018uA	924.0mV	139.0V	0.011uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.02.09 ~ 2015.03.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	933.2mV	153.7V	0.012uA	930.7mV	140.1V	0.016uA
2	932.6mV	159.4V	0.016uA	933.4mV	144.5V	0.011uA
3	929.5mV	148.4V	0.010uA	923.2mV	155.3V	0.015uA
4	923.1mV	149.4V	0.014uA	931.2mV	151.8V	0.015uA
5	931.6mV	137.7V	0.017uA	922.2mV	157.4V	0.013uA
6	933.8mV	159.9V	0.014uA	923.9mV	156.6V	0.011uA
7	928.7mV	149.8V	0.017uA	931.1mV	145.9V	0.016uA
8	928.9mV	151.3V	0.011uA	935.3mV	160.5V	0.010uA
9	922.5mV	135.9V	0.016uA	925.0mV	151.4V	0.011uA
10	922.2mV	141.0V	0.010uA	935.3mV	157.5V	0.012uA
11	923.9mV	151.1V	0.011uA	922.4mV	147.8V	0.011uA
12	928.0mV	138.9V	0.017uA	924.9mV	140.6V	0.015uA
13	933.4mV	151.5V	0.015uA	933.9mV	158.3V	0.011uA
14	936.0mV	145.5V	0.015uA	931.3mV	143.6V	0.011uA
15	922.4mV	151.2V	0.011uA	924.0mV	135.9V	0.013uA
16	925.7mV	159.7V	0.015uA	932.9mV	151.0V	0.012uA
17	930.1mV	153.8V	0.014uA	923.6mV	139.0V	0.012uA
18	933.5mV	157.5V	0.014uA	925.9mV	137.2V	0.017uA
19	935.5mV	145.4V	0.018uA	934.6mV	141.3V	0.010uA
20	929.6mV	147.7V	0.017uA	934.9mV	159.0V	0.016uA
21	927.7mV	141.2V	0.015uA	931.8mV	157.1V	0.011uA
22	925.7mV	145.0V	0.015uA	926.7mV	145.8V	0.015uA
23	935.8mV	146.9V	0.014uA	923.9mV	138.8V	0.015uA
24	931.3mV	141.4V	0.010uA	930.6mV	154.5V	0.014uA
25	928.4mV	142.8V	0.017uA	925.6mV	140.9V	0.012uA
26	926.5mV	156.6V	0.011uA	932.8mV	145.1V	0.011uA
27	928.8mV	154.3V	0.017uA	935.5mV	139.4V	0.015uA
28	928.7mV	158.8V	0.012uA	932.2mV	144.2V	0.011uA
29	926.6mV	158.4V	0.012uA	930.7mV	153.3V	0.017uA
30	932.6mV	159.5V	0.016uA	930.8mV	153.0V	0.011uA

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.02.09 ~ 2015.03.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
31	925.7mV	140.3V	0.015uA	930.8mV	147.4V	0.018uA
32	934.6mV	144.4V	0.010uA	932.0mV	140.9V	0.013uA
33	935.5mV	155.9V	0.014uA	933.1mV	143.5V	0.017uA
34	928.5mV	154.1V	0.015uA	924.0mV	139.6V	0.014uA
35	925.4mV	137.1V	0.015uA	923.6mV	149.6V	0.011uA
36	922.2mV	155.2V	0.014uA	935.7mV	155.7V	0.014uA
37	933.7mV	150.1V	0.015uA	929.2mV	137.5V	0.013uA
38	925.9mV	156.6V	0.011uA	924.7mV	139.3V	0.010uA
39	930.0mV	146.4V	0.012uA	928.8mV	148.2V	0.014uA
40	931.7mV	136.6V	0.016uA	932.9mV	158.8V	0.015uA
41	934.7mV	142.9V	0.011uA	934.4mV	140.7V	0.017uA
42	932.6mV	151.5V	0.012uA	933.8mV	157.1V	0.014uA
43	929.1mV	145.8V	0.017uA	935.2mV	140.7V	0.017uA
44	922.9mV	144.5V	0.015uA	932.9mV	144.2V	0.016uA
45	930.8mV	142.3V	0.013uA	930.0mV	138.8V	0.018uA
46	932.9mV	155.7V	0.011uA	932.8mV	158.2V	0.014uA
47	923.1mV	150.3V	0.016uA	932.0mV	156.8V	0.011uA
48	927.7mV	141.3V	0.012uA	932.2mV	158.4V	0.014uA
49	926.8mV	157.5V	0.016uA	931.2mV	148.6V	0.016uA
50	928.4mV	136.2V	0.017uA	935.4mV	137.3V	0.015uA
51	922.1mV	144.5V	0.012uA	930.3mV	153.6V	0.014uA
52	924.8mV	157.6V	0.010uA	929.2mV	138.5V	0.017uA
53	935.7mV	147.4V	0.013uA	930.4mV	149.4V	0.011uA
54	929.6mV	147.4V	0.013uA	934.3mV	154.3V	0.014uA
55	933.6mV	139.4V	0.014uA	927.3mV	157.7V	0.016uA
56	924.6mV	152.1V	0.012uA	927.6mV	150.1V	0.012uA
57	926.1mV	141.5V	0.011uA	929.4mV	148.9V	0.012uA
58	929.2mV	154.1V	0.016uA	926.8mV	145.2V	0.017uA
59	929.4mV	145.8V	0.011uA	931.1mV	153.0V	0.011uA
60	929.5mV	154.5V	0.013uA	924.9mV	151.4V	0.017uA

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.02.09 ~ 2015.03.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
61	936.0mV	149.2V	0.016uA	924.9mV	160.2V	0.010uA
62	924.0mV	159.7V	0.014uA	932.1mV	137.3V	0.012uA
63	924.0mV	149.9V	0.015uA	923.9mV	136.7V	0.010uA
64	934.1mV	152.6V	0.014uA	926.5mV	143.9V	0.017uA
65	931.1mV	148.1V	0.017uA	926.4mV	155.8V	0.014uA
66	928.7mV	159.6V	0.017uA	931.8mV	146.6V	0.017uA
67	927.8mV	137.7V	0.014uA	931.7mV	147.7V	0.014uA
68	935.0mV	158.7V	0.018uA	924.5mV	159.6V	0.011uA
69	935.6mV	158.0V	0.014uA	924.7mV	146.0V	0.015uA
70	932.4mV	138.4V	0.011uA	933.2mV	153.7V	0.011uA
71	933.8mV	157.0V	0.017uA	922.9mV	143.8V	0.017uA
72	933.5mV	158.0V	0.014uA	922.6mV	137.0V	0.015uA
73	932.8mV	158.5V	0.016uA	934.3mV	154.4V	0.015uA
74	931.5mV	140.7V	0.013uA	929.9mV	157.3V	0.013uA
75	931.4mV	159.0V	0.012uA	922.3mV	148.4V	0.015uA
76	929.8mV	148.2V	0.017uA	925.9mV	147.2V	0.016uA
77	925.1mV	144.0V	0.018uA	928.8mV	149.5V	0.013uA

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T150331-012
Part No : 1N4448W
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1250mV@IF=150mA, VB>100V@IR=1mA, IR<2.5uA@VR=75V
Test Condition: 245℃ ± 5℃, 5Sec
Test Date: 2015.03.30
Test Standard : JESD22 STANDER Method-B102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF (mV)	VB (V)	IR (uA)	VF (mV)	VB (V)	IR (uA)
1	928.3mV	160.3V	0.018uA	924.3mV	148.4V	0.014uA
2	926.7mV	147.6V	0.013uA	926.6mV	151.8V	0.010uA
3	928.9mV	152.9V	0.018uA	930.6mV	147.5V	0.013uA
4	932.5mV	143.8V	0.014uA	930.0mV	140.1V	0.016uA
5	927.8mV	153.9V	0.018uA	924.8mV	146.6V	0.017uA
6	930.7mV	150.7V	0.013uA	932.0mV	146.4V	0.014uA
7	929.5mV	153.5V	0.013uA	933.0mV	160.2V	0.012uA
8	927.6mV	158.9V	0.012uA	930.1mV	146.2V	0.018uA
9	922.1mV	152.4V	0.017uA	923.6mV	143.8V	0.018uA
10	934.3mV	142.3V	0.011uA	935.8mV	139.5V	0.014uA

Made By: King Huang

Approval: Peter Yang

MSDS/ Material Safety Data Sheet

1、Product and manufacturer information

Product name： Leadframe
Product number：
Manufacturer： Jiangyin KangQiang Electronic Co.,Ltd Address： No.3 Dongding Road, Jiangyin Economic Development Zone Telephone.：0510-68970900
Emergency telephone：0510-68970900 Fax：0510-68970902

2、Element material

This part is made up of several metal materials, the percentage of chemical composition is shown as follows：

composition / material	KFC	A194 C19400	C19210	Ni42 YEF42	BYP27	CAS NO.
Cu	99.76-99.875	>97	Balance			7440-50-8
Fe	0.05-0.15	2.1-2.6	0.05-0.15	Balance	Balance	7439-89-6
Si				≤0.30	≤0.30	7440-21-3
Mn				≤0.8	≤0.80	7439-96-5
Ni				40.5～42.5	40.0-42.5	7440-02-0
S				≤0.025	≤0.020	7704-34-9
P	0.025-0.04	0.015-0.15	0.015-0.04	≤0.025	≤0.020	7723-14-0
Zn		0.05-0.20				7440-66-6
Al				≤0.1	≤0.10	7429-90-5
Cr				≤0.1		7440-47-3
Pb		<0.01				7439-92-1
C				≤0.05	＜0.02	7440-44-0
Remark	Due to different demands of the products, a layer of metal coating is needed on the surface area of products, the material content of metal coating is about:					

Coating category	Content	CAS NO.
Silver coating products	0.01-0.08%	7440-22-4
Nickel coating products	0.01-0.08%	7440-02-0

composition / material	XYK-1	CAC5	XYK-4	42%Ni-Fe-1/ 2H-LS	K55	K75	CAS NO.
Cu	Balance	Balance			Balance	Balance	7440-50-8

Fe	0.05-0.15		2.1-2.6	Balance	≤2.4		7439-89-6
Si				≤0.30		≤0.02	7440-21-3
Mn				≤0.80			7439-95-4
Ni		0.7～0.9		40-42			7440-02-0
S				≤0.025			7704-34-9
Pb	≤0.015		≤0.03				7439-92-1
Sn		1.0～2.0				≤0.1	7440-31-5
P	0.025-0.04	0.02-0.09	0.015-0.15	≤0.025	≤0.03		7723-14-0
Al				≤0.100			7429-90-5
Cr				≤0.10		0.3	7440-47-3
C				≤0.05			7440-44-0
Zn			0.05-0.2		≤0.12		7440-66-6
Remark	Due to different demands of the products, a layer of metal coating is needed on the surface area of products, the material content of metal coating is about:						

Coating category	Content	CAS NO.
Silver coating products	0.01-0.08%	7440-22-4
Nickel coating products	0.01-0.08%	7440-02-0

composition / material	KLF194	GFC	C7025	/	/	CAS NO.
Cu	≥97	Balance	余量			7440-50-8
Fe	2.1-2.6	0.05-0.15	≤0.2			7439-89-6
Si			0.25-1.2			7440-21-3
Mn						7439-96-5
Ni			2.2-4.2			7440-02-0
S						7704-34-9
P	0.015-0.15	0.02-0.04				7723-14-0
Zn	0.05-0.2		≤1.0			7440-66-6
Al						7429-90-5
Cr						7440-47-3
Pb	≤0.03		≤0.05			7439-92-1
C						7440-44-0
Remark	Due to different demands of the products, a layer of metal coating is needed on the surface area of products, the material content of metal coating is about:					

Coating category	Content	CAS NO.
Silver coating products	0.01-0.08%	7440-22-4
Nickel coating products	0.01-0.08%	7440-02-0

3、Physical and chemical properties

Condition： Solid	Shape： Strip
Color： Silver coating is silvery， Nickel coating is shiny grey	Smell： No
Flammability： Nonflammable	Melting points： 1083℃(Cu) 960℃(Ag) 1430℃（Fe/Ni）
Specific gravity： 8.92g/cm^3(Cu) 10.5 g/cm^3(Ag) 8.1 g/cm^3(Fe/Ni)	(Solubility(to water)： Insoluble
Ignition temperature： No	Explosibility： No

4、Damage discrimination material

Poisonousness： There is no data showing that using such metal will have any damage under normal circumstances.
Environmental pollution： There is no data showing that the material will cause any environmental pollution under normal circumstances.
health risk：eye： NO swallow： NO inhalation： NO skin： Touching these metals may cause skin allergy, so please avoid scratching the skin by product burr.
harmful material code： health： NO Inflammability： NO Physical damage： NO Individual protection： NO

5、Emergency measures

If having the skin allergy, please wash around 15 minutes in clean water; if serious, please go to hospital at once.

6、Extinguishing measures

Extinguishing measures： These are inflammable materials, so it will not cause damage to human health as well as environment.
Dangerous combustion product： NO
Applicable extinguishing agent： No special requirements.

7、Spillage management

Precautionary measure and equipment： No spillage
Clean method： NO
Individual protective measures： NO

8、Stability

Stability： Leadframe is very stable in chemical characteristics. It will not break down the harmful materials to human health and environment with the change of environment.
Condition should avoided： NO
Material should be avoided： NO
Hazardous Decomposition Products： NO

9、Safety management and storage method

Safety management： It can be taken by hand directly, but to ensure the performance of products, it is highly suggested taking with clean cotton gloves.
Storage： It must be stored in a dry, well-ventilated and out of direct sunlight place, keeping away from chemical and sulfur-containing materials.

10、Poisonousness

Acute toxicity： NO
Carcinogenicity： NO
Anaphylaxis： It may cause allergic phenomenon when touching the products.
Slow toxicity： NO.

11、Exposure control and individule protection

Eye： If touching the eye, please go to hospital at once.
Swallow and inhalation： NO
Skin： It may cause allergic phenomenon when the skin touches the products.

12、Ecology material

Potential environmental influence： It will not cause the environmental pollution in normal use, but if abandoned in natural environment, after corrosion, the released harmful Copper ion and Silver ion will do the pollution.
Mobility： NO
Ecological toxicity： NO

13、Abandon management

Abandon management： Metal recycle

14、Transportation

International transport rules： No
U.N. number： No
Domestic transport rules： No
Special transportation and announcements： No

15、Laws and regulations

Applicable regulations： No

16、Other information

Tabulation	Company name：Jiangyin KangQiang Electronic Co.,Ltd	
	Address：No.3 Dongding Road, Jiangyin Economic Development Zone	
Tabulator：王莉	Check by：刘娜	Date：2014.1.10

Test Report

JIANGYIN KANGQIANG ELECTRONICS CO.,LTD

NO.3 DONGDING ROAD,JIANGYIN ECONOMIC DEVELOPMENT ZONE

The following sample(s) was/were submitted and identified on behalf of the clients as : Lead frame

SGS Job No. :	SP14-012762 - SH
Model No. :	Ag Plating Layer
Date of Sample Received :	09 May 2014
Testing Period :	09 May 2014 - 13 May 2014
Test Requested :	Selected test(s) as requested by client.
Test Method :	Please refer to next page(s).
Test Results :	Please refer to next page(s).
Conclusion :	Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.

Marry Ma
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA14-081682.001	Copper metal sheet with silvery plating

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by spot test / Colorimetric Method using UV-Vis.

Test Item(s)	Limit	Unit	MDL	*001*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative

Notes :

(1) The maximum permissible limit is quoted from directive 2011/65/EU, Annex II

(2) ◇Spot-test:
Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating;
(The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)
◇Boiling-water-extraction:
Negative = Absence of Cr(VI) coating
Positive = Presence of Cr(VI) coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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Element(s)

Test Method : With reference to US EPA Method 3050B:1996, analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	*001*
Antimony (Sb)	mg/kg	10	ND

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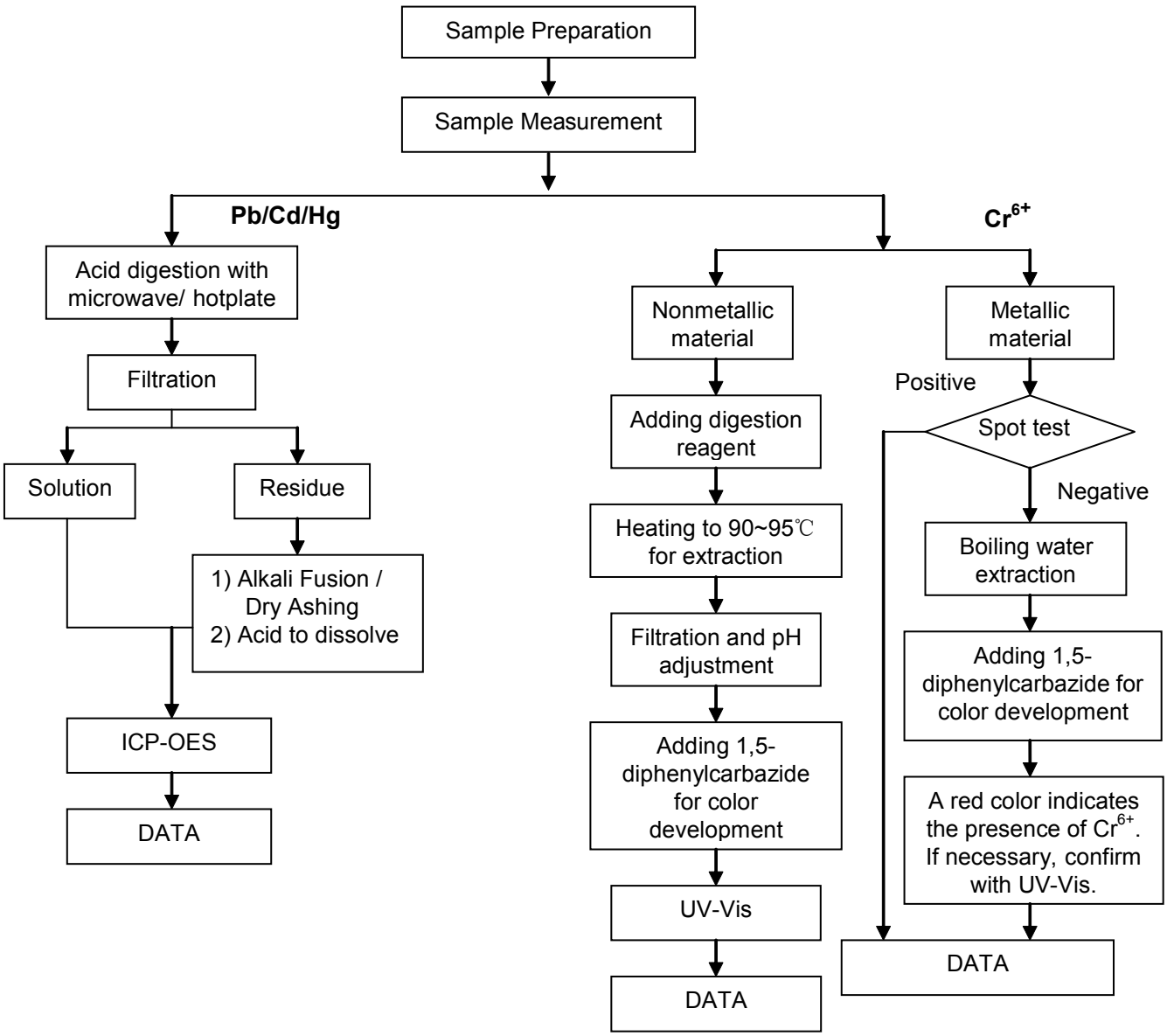
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Jan Shi/Star Wang / Shara Wang
2) Name of the person in charge of testing: Jeff Zhang
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)



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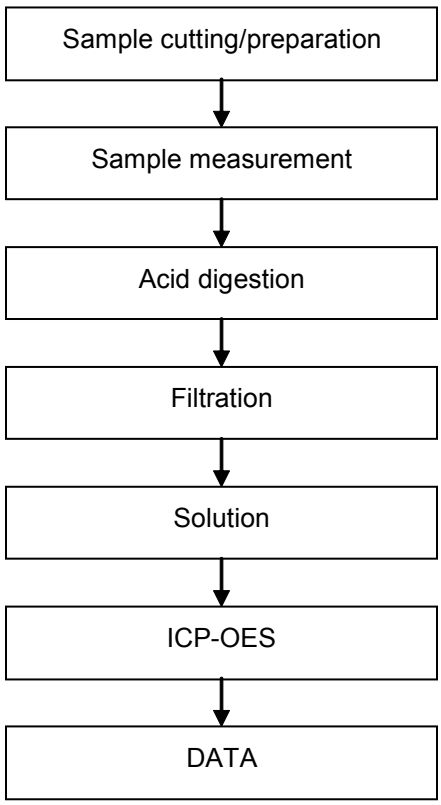
ATTACHMENTS

Elements Testing Flow Chart

1) Name of the person who made testing: Star Wang/ Jan Shi
2) Name of the person in charge of testing: Jeff Zhang



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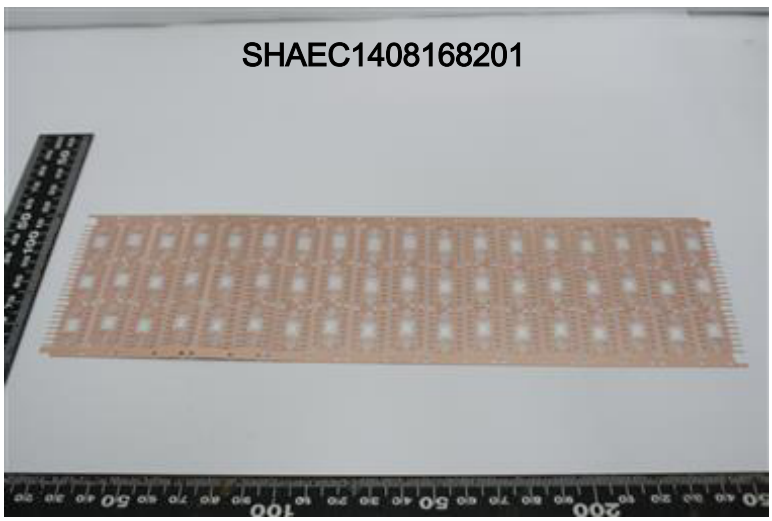
Sample photo:



SHA14-081682.001

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Test Report

No. SHAEC1500359101 Date: 10 Jan 2015

JIANGYIN KANGQIANG ELECTRONICS CO.,LTD

NO.3 DONGDING ROAD,JIANGYIN ECONOMIC DEVELOPMENT ZONE

The following sample(s) was/were submitted and identified on behalf of the clients as : Lead frame CAC5

SGS Job No. :	SP15-000285 - SH
Model No. :	SOT,SOD Lead frame
Date of Sample Received :	08 Jan 2015
Testing Period :	08 Jan 2015 - 10 Jan 2015
Test Requested :	Selected test(s) as requested by client.
Test Method :	Please refer to next page(s).
Test Results :	Please refer to next page(s).
Conclusion :	Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.

Marry Ma
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA15-003591.001	Copper/silver metal sheet

Remarks :

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-5:2013, determination of Lead by AAS.
(3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by spot test / Colorimetric Method using UV-Vis.
(5) With reference to IEC 62321:2008, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	*001*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Item(s)	Limit	Unit	MDL	*001*
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes :

(1) The maximum permissible limit is quoted from directive 2011/65/EU, Annex II

(2) ◇Spot-test:

Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)

◇Boiling-water-extraction:

Negative = Absence of Cr(VI) coating

Positive = Presence of Cr(VI) coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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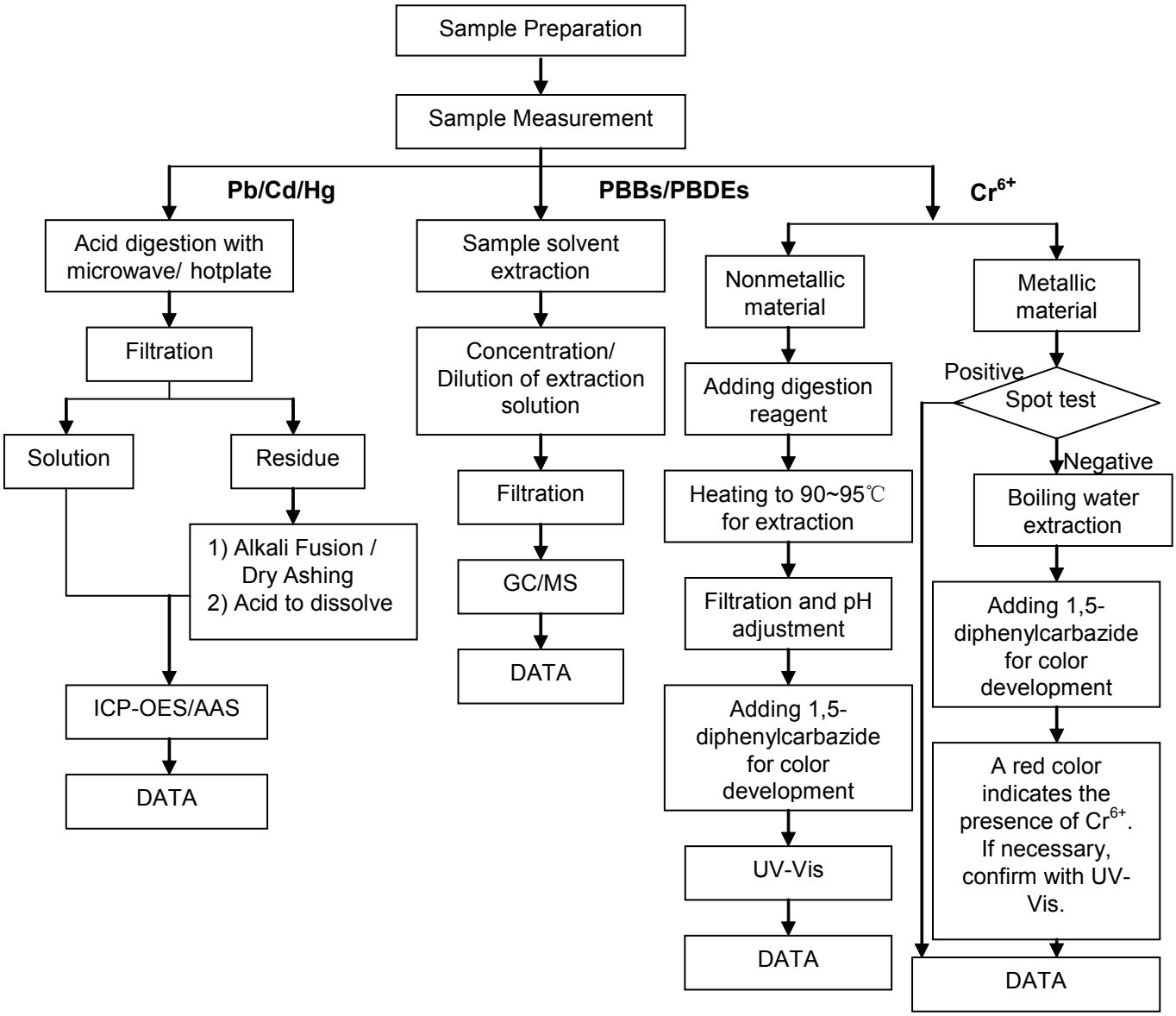
ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Bob Zhang/Gary Xu/Stone Chen/Sunny Qin
2) Name of the person in charge of testing: Jan Shi/Summer Jin/Jessy Huang
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} and PBBs/PBDEs test method excluded)



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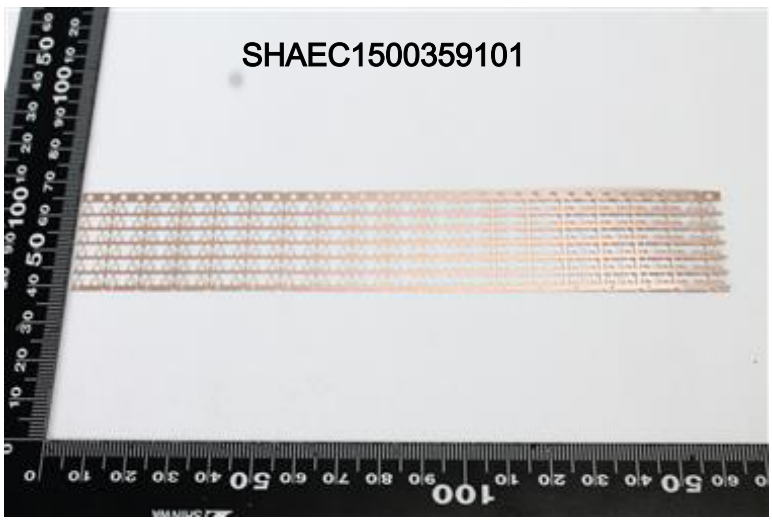
Sample photo:



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