www.SeCosGmbH.com

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
2015-10-21C-01	2016/4/21	2015/10/21

PCN Classification	Product Category
Major	Transistor

Subject
Change the assembly house.

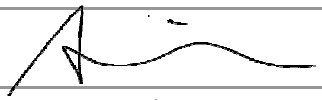
Affected Product(s)
CZD1182

Description of Change(s)
The original assembly house, GTM Corporation, was shut down; thus, we change to the second assembly house.

Content of Change(s)
Assembly house.

Impact(s)
None

Attachment(s)
Reliability Test Report.

Approval		
Issued by	Alice Lai	e-mail: alice@secosgmbh.com
Development Engineer		Alice Lai
QA Manager		Peter Yang
General Manger		Mathew Liu
Customer Approval		
Customer's Comment		
Customer's Consent with Signature		

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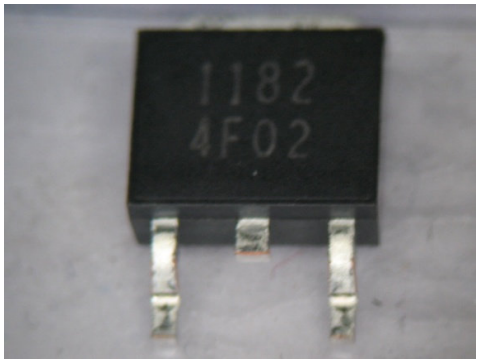
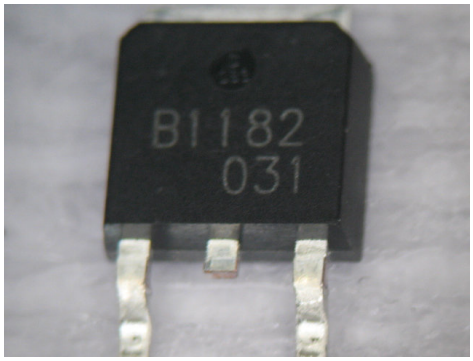
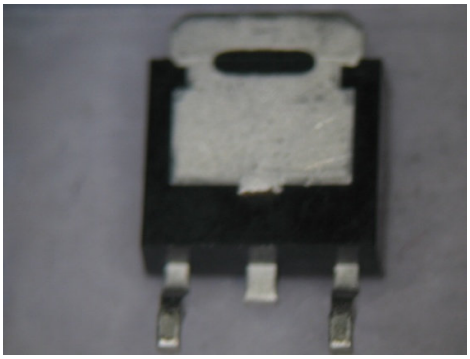
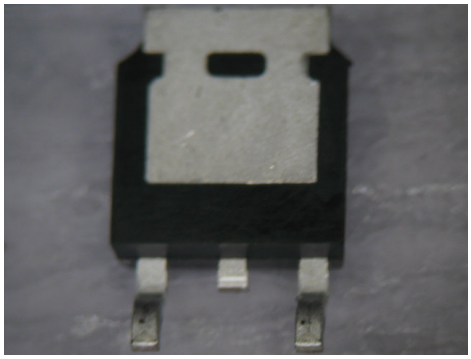
Exterior Comparison Chart	
Original	New
	
Top View	Top View
	
Back View	Back View

SeCoS Corporation

Reliability Testing Summary Report

Date: 2015/10/08 Document No.: SI15 -10-108

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	CZD1182	150 ± 5℃, 80%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	CZD1182	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	CZD1182	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	CZD1182	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	CZD1182	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	CZD1182	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	CZD1182	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: 2015.08.17 Testing End Date: 2015.10.08

Tester: King Huang Approval: Peter Yang

SeCoS Corporation

Electrical Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 25℃
Test Date: 2015.08.17
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-46.33V	217.6	-301.8mV
2	-47.60V	233.2	-300.7mV
3	-41.67V	225.2	-299.5mV
4	-41.86V	222.3	-306.4mV
5	-42.36V	225.0	-309.0mV
6	-42.42V	221.7	-315.3mV
7	-49.00V	234.1	-316.5mV
8	-41.81V	227.5	-311.0mV
9	-45.16V	223.5	-299.9mV
10	-48.88V	223.9	-299.7mV
11	-47.28V	234.0	-307.7mV
12	-43.62V	217.7	-316.7mV
13	-46.15V	227.5	-303.0mV
14	-41.79V	234.8	-315.3mV
15	-44.99V	234.7	-305.3mV
16	-46.61V	220.3	-302.7mV
17	-47.46V	225.2	-304.1mV
18	-48.41V	219.1	-304.8mV
19	-43.06V	226.0	-300.2mV
20	-45.96V	227.9	-314.9mV
21	-47.81V	217.9	-303.9mV
22	-47.44V	220.5	-314.5mV
23	-44.04V	233.5	-308.0mV
24	-42.55V	232.6	-308.2mV
25	-45.38V	233.7	-305.6mV
26	-43.79V	221.0	-307.4mV
27	-48.30V	219.6	-310.9mV
28	-42.73V	218.0	-316.8mV
29	-49.07V	223.4	-311.5mV
30	-43.46V	222.7	-306.5mV

SeCoS Corporation

Electrical Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 25℃
Test Date: 2015.08.17
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
31	-46.90V	221.8	-312.8mV
32	-42.00V	226.0	-315.8mV
33	-47.80V	219.7	-305.1mV
34	-43.34V	222.3	-314.9mV
35	-43.67V	223.0	-310.8mV
36	-47.39V	234.3	-298.3mV
37	-46.74V	218.6	-301.9mV
38	-44.37V	220.8	-300.3mV
39	-45.92V	218.1	-298.3mV
40	-42.90V	223.9	-312.2mV
41	-46.20V	231.8	-313.9mV
42	-46.37V	220.2	-298.3mV
43	-42.02V	231.4	-299.0mV
44	-48.44V	219.2	-315.7mV
45	-43.60V	233.0	-311.7mV
46	-42.72V	217.6	-311.6mV
47	-41.38V	222.6	-308.6mV
48	-46.89V	219.6	-299.7mV
49	-45.71V	224.8	-300.4mV
50	-45.24V	232.6	-299.9mV
51	-42.32V	218.8	-311.6mV
52	-42.13V	222.1	-316.3mV
53	-42.54V	225.6	-306.0mV
54	-41.78V	235.9	-315.9mV
55	-45.17V	223.5	-303.4mV
56	-43.09V	223.8	-314.3mV
57	-42.09V	222.7	-300.1mV
58	-42.17V	228.6	-315.7mV
59	-48.90V	235.6	-300.4mV
60	-48.60V	221.4	-306.2mV

SeCoS Corporation

Electrical Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 25℃
Test Date: 2015.08.17
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
61	-45.03V	225.0	-310.2mV
62	-49.03V	225.0	-302.4mV
63	-44.49V	235.5	-299.0mV
64	-45.64V	220.8	-312.3mV
65	-46.15V	235.6	-303.7mV
66	-44.58V	220.7	-304.3mV
67	-48.62V	223.5	-315.5mV
68	-43.60V	231.2	-309.6mV
69	-42.34V	222.8	-314.6mV
70	-45.52V	223.4	-315.1mV
71	-44.07V	220.8	-300.2mV
72	-43.44V	217.8	-315.2mV
73	-49.11V	236.2	-314.9mV
74	-43.58V	232.9	-303.4mV
75	-45.13V	231.1	-314.5mV
76	-46.87V	232.8	-306.8mV
77	-46.08V	220.9	-298.2mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 150 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2015.08.17 ~ 2015.09.29
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-47.27V	233.0	-309.5mV	-41.43V	225.4	-299.9mV
2	-42.95V	221.5	-307.3mV	-48.52V	227.8	-304.0mV
3	-43.72V	223.7	-305.4mV	-48.40V	231.1	-302.6mV
4	-44.23V	218.0	-307.5mV	-44.25V	229.1	-303.5mV
5	-46.54V	223.6	-314.0mV	-47.08V	234.8	-299.1mV
6	-44.34V	232.6	-311.6mV	-49.02V	219.3	-300.7mV
7	-44.32V	225.6	-301.0mV	-48.99V	224.8	-305.5mV
8	-41.59V	234.9	-315.6mV	-48.73V	223.5	-305.8mV
9	-41.44V	234.5	-307.3mV	-48.18V	232.4	-309.1mV
10	-44.96V	224.7	-299.4mV	-42.10V	223.0	-316.3mV
11	-47.38V	233.2	-317.1mV	-44.90V	230.1	-309.0mV
12	-42.38V	230.0	-307.0mV	-44.97V	235.6	-313.9mV
13	-46.42V	219.3	-310.5mV	-43.87V	229.1	-311.3mV
14	-48.80V	219.5	-312.8mV	-43.98V	222.3	-298.3mV
15	-43.83V	235.2	-313.5mV	-47.33V	227.5	-306.3mV
16	-47.60V	225.2	-303.8mV	-42.55V	230.5	-315.8mV
17	-42.60V	217.4	-298.6mV	-42.66V	228.4	-303.5mV
18	-47.92V	220.2	-310.3mV	-43.14V	226.9	-311.8mV
19	-48.69V	231.2	-298.8mV	-48.70V	228.9	-307.2mV
20	-46.09V	226.2	-307.3mV	-47.47V	222.0	-300.9mV
21	-42.23V	234.4	-312.7mV	-47.38V	233.9	-310.6mV
22	-48.72V	226.9	-317.2mV	-42.48V	227.7	-311.9mV
23	-47.83V	224.8	-303.7mV	-48.60V	225.3	-313.2mV
24	-45.15V	224.9	-310.1mV	-43.83V	226.7	-303.7mV
25	-47.06V	218.0	-315.8mV	-48.75V	235.7	-300.2mV
26	-45.55V	231.1	-301.8mV	-41.70V	228.7	-315.3mV
27	-46.34V	232.9	-315.7mV	-45.14V	225.5	-310.7mV
28	-44.90V	227.2	-309.3mV	-43.83V	224.5	-317.0mV
29	-46.79V	232.8	-299.4mV	-42.03V	220.8	-306.5mV

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 150 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2015.08.17 ~ 2015.09.29
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	-44.05V	223.9	-309.0mV	-44.58V	219.0	-312.8mV
31	-45.07V	233.9	-300.0mV	-43.02V	218.5	-306.4mV
32	-44.29V	218.6	-311.6mV	-46.02V	230.7	-304.6mV
33	-47.42V	223.7	-309.0mV	-48.67V	220.9	-316.6mV
34	-41.71V	224.1	-308.3mV	-47.57V	226.3	-316.1mV
35	-48.11V	236.0	-303.9mV	-44.48V	224.1	-306.5mV
36	-46.22V	223.1	-311.7mV	-46.05V	224.8	-303.7mV
37	-44.45V	226.5	-310.3mV	-42.01V	231.9	-307.8mV
38	-43.78V	232.7	-310.0mV	-46.66V	228.1	-304.5mV
39	-46.81V	231.2	-310.6mV	-43.15V	217.4	-309.0mV
40	-44.82V	230.3	-310.1mV	-49.03V	236.1	-298.3mV
41	-44.08V	234.9	-298.2mV	-43.78V	221.1	-307.3mV
42	-45.89V	221.0	-309.7mV	-47.75V	231.6	-311.4mV
43	-48.37V	226.6	-306.2mV	-43.68V	233.0	-302.9mV
44	-43.85V	225.8	-310.0mV	-44.53V	223.7	-310.9mV
45	-42.28V	220.3	-315.0mV	-47.23V	223.2	-303.2mV
46	-46.43V	225.9	-307.8mV	-47.95V	222.2	-302.5mV
47	-47.09V	217.9	-300.3mV	-45.08V	233.2	-300.6mV
48	-41.60V	218.9	-312.4mV	-45.42V	217.9	-308.4mV
49	-47.39V	234.6	-304.1mV	-45.04V	233.7	-299.4mV
50	-42.09V	226.2	-314.6mV	-43.02V	221.4	-299.5mV
51	-42.03V	224.2	-313.3mV	-48.76V	222.9	-303.8mV
52	-41.99V	236.6	-314.6mV	-46.73V	228.3	-314.8mV
53	-47.45V	228.7	-301.0mV	-44.96V	221.8	-300.2mV
54	-42.52V	229.2	-310.7mV	-41.54V	217.5	-304.4mV
55	-43.17V	226.5	-314.8mV	-45.37V	218.2	-298.8mV
56	-47.57V	229.0	-310.1mV	-48.59V	217.4	-305.8mV
57	-41.76V	232.9	-305.0mV	-44.96V	230.2	-299.4mV
58	-48.72V	228.9	-300.9mV	-47.47V	221.3	-313.6mV

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 150 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2015.08.17 ~ 2015.09.29
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	-47.44V	221.4	-313.7mV	-42.68V	222.8	-316.9mV
60	-42.88V	220.4	-299.7mV	-41.65V	230.1	-302.3mV
61	-41.44V	228.6	-311.0mV	-49.13V	227.2	-299.9mV
62	-41.58V	221.8	-308.2mV	-44.02V	221.5	-301.4mV
63	-46.45V	222.5	-306.7mV	-49.11V	229.8	-316.3mV
64	-42.23V	226.6	-301.3mV	-42.16V	227.5	-314.2mV
65	-45.39V	228.6	-307.0mV	-47.00V	218.0	-311.2mV
66	-44.55V	233.4	-305.8mV	-41.87V	231.9	-300.9mV
67	-48.75V	236.4	-310.1mV	-46.86V	222.3	-313.8mV
68	-44.93V	222.3	-316.8mV	-45.53V	225.1	-306.1mV
69	-44.56V	234.0	-315.2mV	-45.66V	234.9	-310.7mV
70	-41.77V	223.3	-313.1mV	-47.96V	226.0	-317.3mV
71	-48.57V	231.7	-307.9mV	-42.24V	220.3	-315.1mV
72	-47.48V	233.0	-310.0mV	-44.78V	231.9	-308.6mV
73	-43.70V	217.9	-312.7mV	-47.87V	222.8	-304.9mV
74	-46.83V	226.8	-307.5mV	-48.30V	221.6	-315.6mV
75	-44.78V	217.4	-307.4mV	-46.18V	222.7	-304.9mV
76	-45.84V	235.7	-309.0mV	-45.78V	228.2	-316.8mV
77	-48.18V	223.0	-306.8mV	-44.71V	229.1	-316.0mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 150℃, 1000Hrs
Test Date: 2015.08.17 ~ 2015.09.29
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-45.23V	230.2	-309.4mV	-44.53V	229.8	-302.3mV
2	-48.05V	231.8	-301.3mV	-47.41V	219.4	-315.8mV
3	-44.02V	236.3	-303.0mV	-46.71V	235.6	-304.2mV
4	-42.80V	228.3	-316.1mV	-42.72V	224.3	-298.6mV
5	-48.19V	222.4	-308.9mV	-48.20V	236.3	-309.6mV
6	-45.61V	233.1	-309.5mV	-44.91V	225.9	-302.9mV
7	-42.18V	235.8	-310.6mV	-47.18V	226.5	-298.4mV
8	-46.37V	224.8	-302.7mV	-45.72V	221.8	-307.6mV
9	-42.48V	226.5	-311.8mV	-46.99V	236.4	-314.2mV
10	-43.83V	221.7	-302.3mV	-42.99V	229.3	-306.3mV
11	-44.28V	232.6	-306.5mV	-42.57V	222.3	-305.9mV
12	-44.52V	234.5	-308.8mV	-44.30V	224.8	-309.5mV
13	-46.83V	232.9	-305.7mV	-43.43V	232.2	-301.9mV
14	-46.93V	225.0	-303.4mV	-41.90V	229.2	-314.2mV
15	-42.86V	232.0	-312.5mV	-43.47V	224.9	-313.5mV
16	-46.04V	223.4	-302.0mV	-47.66V	221.6	-310.8mV
17	-45.94V	228.1	-311.0mV	-47.53V	219.8	-308.5mV
18	-45.01V	219.1	-303.4mV	-41.68V	224.2	-314.0mV
19	-47.53V	222.1	-300.5mV	-49.03V	231.4	-298.3mV
20	-45.83V	233.4	-299.5mV	-48.39V	218.2	-312.8mV
21	-45.13V	224.1	-303.6mV	-44.48V	217.9	-310.7mV
22	-43.63V	228.0	-313.9mV	-47.64V	222.4	-312.8mV
23	-45.98V	228.0	-313.3mV	-47.86V	234.8	-304.7mV
24	-47.43V	234.2	-314.7mV	-42.93V	233.0	-309.2mV
25	-42.89V	219.6	-299.7mV	-44.15V	225.9	-313.2mV
26	-47.00V	230.7	-316.4mV	-45.42V	227.4	-311.9mV
27	-46.74V	235.4	-314.9mV	-46.74V	234.5	-312.4mV
28	-48.06V	232.0	-312.5mV	-48.12V	235.0	-311.0mV
29	-43.94V	227.0	-312.3mV	-46.66V	233.3	-316.2mV

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 150℃, 1000Hrs
Test Date: 2015.08.17 ~ 2015.09.29
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	-42.36V	233.7	-314.9mV	-45.77V	217.6	-315.3mV
31	-42.41V	233.0	-313.3mV	-43.16V	222.6	-301.1mV
32	-44.45V	224.1	-315.7mV	-44.35V	224.8	-315.6mV
33	-46.22V	231.2	-309.2mV	-42.84V	227.6	-311.8mV
34	-45.83V	219.1	-302.7mV	-46.29V	233.4	-299.2mV
35	-48.84V	219.2	-310.4mV	-47.04V	230.4	-309.1mV
36	-45.99V	232.4	-298.6mV	-48.86V	231.5	-302.4mV
37	-43.01V	218.2	-300.8mV	-47.36V	220.4	-310.0mV
38	-44.20V	218.5	-301.5mV	-43.05V	230.1	-312.0mV
39	-48.47V	233.9	-306.5mV	-41.47V	228.1	-303.8mV
40	-48.97V	230.7	-301.1mV	-48.92V	228.0	-299.3mV
41	-47.06V	224.4	-310.8mV	-48.96V	219.3	-309.4mV
42	-49.13V	231.4	-312.9mV	-47.97V	224.4	-317.2mV
43	-44.91V	228.0	-309.1mV	-43.37V	222.7	-312.4mV
44	-47.10V	230.3	-313.6mV	-41.58V	233.7	-308.5mV
45	-42.59V	224.4	-313.2mV	-46.17V	219.7	-306.3mV
46	-47.87V	219.1	-316.1mV	-44.00V	229.8	-303.8mV
47	-45.85V	221.3	-308.8mV	-42.33V	221.2	-302.4mV
48	-44.04V	221.5	-316.7mV	-44.28V	221.9	-299.8mV
49	-45.66V	230.1	-300.7mV	-47.47V	222.6	-314.2mV
50	-44.70V	219.6	-310.9mV	-42.55V	220.2	-304.3mV
51	-41.43V	234.9	-311.4mV	-48.62V	236.1	-317.2mV
52	-44.40V	221.2	-315.3mV	-43.21V	234.8	-304.9mV
53	-44.96V	231.6	-299.4mV	-46.23V	226.1	-307.9mV
54	-45.64V	224.2	-309.7mV	-42.93V	236.1	-303.8mV
55	-43.68V	223.0	-301.3mV	-48.33V	224.7	-316.6mV
56	-42.23V	220.8	-312.5mV	-42.02V	221.4	-302.4mV
57	-46.13V	224.1	-304.0mV	-42.90V	235.8	-316.7mV
58	-49.06V	232.6	-302.5mV	-44.87V	234.0	-304.6mV

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 150℃, 1000Hrs
Test Date: 2015.08.17 ~ 2015.09.29
Test Standard : JESD22 STANDARD Method-A103
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	-45.92V	229.7	-302.2mV	-47.39V	224.1	-311.1mV
60	-45.50V	233.8	-303.5mV	-45.96V	223.1	-305.0mV
61	-46.18V	224.0	-316.3mV	-48.24V	223.4	-317.2mV
62	-42.24V	234.6	-305.5mV	-46.45V	224.3	-306.5mV
63	-41.84V	220.0	-310.7mV	-48.42V	233.5	-299.1mV
64	-45.67V	234.9	-312.2mV	-48.51V	229.1	-309.3mV
65	-46.00V	231.0	-299.3mV	-45.87V	228.0	-306.5mV
66	-46.19V	223.2	-298.7mV	-41.50V	226.5	-303.7mV
67	-46.71V	222.6	-311.9mV	-45.50V	233.1	-300.5mV
68	-45.86V	222.9	-303.1mV	-42.96V	235.3	-311.5mV
69	-47.66V	219.5	-305.5mV	-48.11V	232.3	-315.0mV
70	-48.57V	226.9	-308.3mV	-43.71V	221.7	-302.6mV
71	-48.70V	222.2	-304.4mV	-44.15V	229.2	-307.8mV
72	-44.57V	220.3	-304.0mV	-42.69V	222.1	-314.5mV
73	-46.81V	223.0	-311.8mV	-43.33V	233.7	-299.7mV
74	-44.64V	220.4	-299.8mV	-43.47V	231.5	-308.9mV
75	-46.90V	223.5	-308.3mV	-48.35V	223.9	-305.5mV
76	-43.41V	220.7	-311.9mV	-43.89V	232.1	-304.3mV
77	-48.66V	218.4	-310.8mV	-48.02V	227.1	-303.3mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2015.08.17 ~ 2015.08.25
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-45.95V	230.1	-307.6mV	-43.13V	218.5	-311.8mV
2	-46.39V	227.3	-306.7mV	-44.12V	221.5	-313.8mV
3	-43.96V	219.9	-301.7mV	-42.98V	228.6	-314.0mV
4	-44.28V	229.6	-303.4mV	-45.80V	229.6	-310.6mV
5	-47.83V	223.3	-310.5mV	-46.70V	236.2	-300.8mV
6	-44.72V	224.8	-315.8mV	-44.22V	233.9	-316.2mV
7	-45.05V	217.7	-309.2mV	-43.38V	235.7	-300.9mV
8	-48.00V	233.0	-312.1mV	-46.30V	229.1	-306.4mV
9	-42.67V	227.9	-313.1mV	-41.44V	235.8	-305.9mV
10	-44.36V	231.6	-311.3mV	-42.49V	221.6	-309.3mV
11	-46.36V	233.2	-308.4mV	-47.06V	226.1	-314.2mV
12	-44.16V	220.0	-311.5mV	-46.44V	235.0	-316.2mV
13	-45.61V	219.0	-308.5mV	-46.50V	232.7	-307.7mV
14	-47.78V	222.5	-311.3mV	-45.16V	229.7	-307.5mV
15	-46.03V	227.3	-310.7mV	-44.70V	218.5	-310.5mV
16	-48.45V	233.2	-316.1mV	-43.40V	223.2	-300.0mV
17	-44.78V	230.9	-313.8mV	-48.02V	220.0	-307.7mV
18	-44.66V	226.7	-299.2mV	-45.80V	236.2	-311.0mV
19	-49.09V	224.3	-314.9mV	-46.49V	233.7	-300.0mV
20	-47.70V	220.6	-302.3mV	-41.98V	229.8	-316.4mV
21	-45.41V	232.2	-316.8mV	-42.43V	234.7	-314.9mV
22	-42.97V	224.3	-301.6mV	-48.41V	234.6	-315.3mV
23	-42.11V	220.7	-316.0mV	-43.53V	221.0	-301.7mV
24	-41.95V	221.8	-301.5mV	-44.86V	219.9	-309.7mV
25	-45.96V	236.1	-298.7mV	-41.73V	225.5	-307.6mV
26	-42.97V	220.7	-305.3mV	-47.20V	223.3	-313.1mV
27	-48.47V	231.0	-312.1mV	-47.23V	217.8	-312.3mV
28	-47.60V	222.2	-312.1mV	-44.59V	225.3	-307.2mV
29	-46.47V	223.5	-313.1mV	-45.44V	223.3	-303.1mV

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2015.08.17 ~ 2015.08.25
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	-44.17V	228.6	-298.3mV	-44.84V	230.7	-306.3mV
31	-48.45V	220.4	-315.1mV	-42.43V	224.2	-313.4mV
32	-44.39V	225.1	-302.2mV	-44.74V	233.6	-315.1mV
33	-42.48V	219.9	-299.5mV	-44.50V	232.7	-309.7mV
34	-43.19V	227.7	-299.0mV	-42.60V	236.8	-303.7mV
35	-47.30V	231.5	-312.4mV	-45.76V	227.3	-315.0mV
36	-42.09V	236.2	-299.0mV	-47.02V	231.6	-298.9mV
37	-46.21V	219.6	-311.1mV	-45.99V	223.4	-305.7mV
38	-44.03V	234.2	-304.7mV	-46.63V	229.7	-308.5mV
39	-45.89V	228.1	-298.6mV	-41.38V	229.2	-310.9mV
40	-44.76V	228.0	-304.8mV	-45.95V	227.2	-316.7mV
41	-43.94V	235.4	-300.1mV	-45.46V	230.6	-303.4mV
42	-42.17V	231.2	-300.8mV	-48.99V	225.7	-314.5mV
43	-43.54V	227.4	-305.4mV	-48.76V	219.9	-309.8mV
44	-44.65V	223.2	-303.9mV	-46.43V	222.7	-317.0mV
45	-46.89V	233.8	-306.5mV	-43.67V	222.5	-316.0mV
46	-45.94V	219.3	-313.0mV	-47.88V	226.9	-302.4mV
47	-48.10V	222.6	-303.4mV	-41.58V	228.7	-310.1mV
48	-46.44V	219.4	-301.9mV	-41.43V	223.5	-311.1mV
49	-46.36V	221.0	-313.5mV	-46.71V	235.1	-302.3mV
50	-41.41V	226.8	-299.8mV	-42.94V	231.3	-300.6mV
51	-44.77V	232.3	-315.7mV	-43.23V	218.4	-315.6mV
52	-44.12V	231.1	-316.0mV	-46.43V	224.7	-300.9mV
53	-46.92V	218.3	-301.0mV	-42.58V	228.2	-309.2mV
54	-45.22V	223.8	-309.0mV	-45.07V	217.9	-301.8mV
55	-46.38V	227.9	-313.0mV	-46.61V	231.2	-304.2mV
56	-45.78V	233.8	-300.8mV	-43.06V	218.9	-309.3mV
57	-43.62V	221.6	-302.5mV	-43.01V	220.6	-311.3mV
58	-44.27V	233.2	-298.2mV	-41.96V	235.8	-303.8mV

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2015.08.17 ~ 2015.08.25
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	-48.17V	228.4	-311.3mV	-44.67V	224.1	-299.5mV
60	-43.23V	223.4	-310.2mV	-47.79V	232.8	-312.0mV
61	-45.86V	223.8	-302.8mV	-41.93V	234.1	-316.6mV
62	-47.59V	234.7	-311.9mV	-43.43V	232.5	-305.2mV
63	-47.53V	224.0	-298.7mV	-47.18V	222.2	-304.4mV
64	-41.82V	228.6	-312.9mV	-45.43V	223.1	-312.6mV
65	-45.61V	221.4	-309.5mV	-43.06V	226.7	-308.6mV
66	-41.89V	224.6	-312.9mV	-45.73V	229.3	-302.1mV
67	-42.22V	235.1	-302.6mV	-46.53V	230.9	-308.6mV
68	-46.29V	235.0	-306.7mV	-48.44V	219.0	-298.8mV
69	-41.62V	226.9	-307.1mV	-44.47V	222.5	-311.3mV
70	-45.36V	231.8	-308.1mV	-46.66V	233.7	-312.7mV
71	-46.72V	224.5	-305.0mV	-46.27V	221.0	-309.5mV
72	-48.39V	224.5	-316.1mV	-48.81V	221.7	-298.5mV
73	-47.73V	229.2	-307.7mV	-47.39V	225.0	-312.0mV
74	-48.26V	226.8	-315.7mV	-41.47V	233.5	-315.4mV
75	-43.20V	234.0	-315.3mV	-41.88V	230.4	-313.3mV
76	-44.95V	229.7	-316.8mV	-46.64V	225.3	-302.7mV
77	-45.96V	229.0	-314.2mV	-43.03V	232.9	-302.5mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2015.08.17 ~ 2015.10.08
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-41.51V	223.2	-305.5mV	-48.59V	234.4	-302.5mV
2	-46.75V	221.3	-301.9mV	-46.13V	223.6	-299.2mV
3	-47.64V	218.7	-315.3mV	-44.07V	228.3	-311.1mV
4	-43.51V	232.3	-311.8mV	-46.64V	227.6	-298.7mV
5	-41.38V	221.0	-304.7mV	-48.59V	232.1	-314.4mV
6	-48.08V	233.2	-312.8mV	-47.21V	217.7	-309.7mV
7	-46.34V	218.3	-304.9mV	-44.35V	230.6	-310.5mV
8	-42.60V	225.2	-308.1mV	-46.58V	217.8	-317.2mV
9	-43.25V	236.4	-313.7mV	-45.11V	223.7	-316.5mV
10	-48.17V	234.8	-301.3mV	-44.92V	229.8	-314.9mV
11	-45.90V	229.2	-306.5mV	-45.40V	234.6	-305.6mV
12	-46.76V	234.2	-304.5mV	-45.10V	236.0	-305.1mV
13	-45.13V	223.5	-306.2mV	-46.24V	231.5	-308.8mV
14	-48.70V	220.2	-310.5mV	-46.41V	223.3	-304.9mV
15	-41.57V	236.3	-298.4mV	-48.09V	229.3	-316.6mV
16	-43.60V	232.1	-309.7mV	-45.32V	223.6	-311.0mV
17	-47.82V	222.9	-302.6mV	-44.13V	234.0	-309.2mV
18	-45.95V	225.9	-301.1mV	-47.82V	231.2	-308.2mV
19	-47.86V	223.9	-306.6mV	-46.28V	235.1	-302.4mV
20	-41.69V	227.2	-310.5mV	-48.38V	221.5	-311.5mV
21	-41.79V	227.4	-308.3mV	-43.37V	232.6	-299.1mV
22	-48.57V	226.2	-298.5mV	-41.67V	236.2	-306.8mV
23	-47.56V	227.2	-303.2mV	-45.84V	228.2	-314.2mV
24	-43.57V	228.1	-304.4mV	-42.35V	227.2	-301.0mV
25	-46.80V	218.8	-313.3mV	-45.21V	225.7	-299.0mV
26	-44.93V	234.3	-311.1mV	-45.12V	222.3	-308.8mV
27	-43.56V	219.7	-316.1mV	-44.26V	230.1	-312.9mV
28	-45.94V	226.8	-303.6mV	-46.48V	226.0	-306.6mV
29	-46.65V	226.7	-312.9mV	-42.71V	225.4	-315.3mV

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2015.08.17 ~ 2015.10.08
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	-44.24V	234.2	-315.3mV	-48.39V	231.2	-300.5mV
31	-47.84V	229.3	-305.5mV	-47.28V	235.1	-315.2mV
32	-44.51V	218.5	-298.5mV	-42.64V	230.8	-316.7mV
33	-47.70V	235.7	-307.7mV	-45.41V	218.9	-302.4mV
34	-42.40V	225.2	-299.2mV	-44.29V	219.3	-298.9mV
35	-46.09V	221.6	-312.0mV	-47.95V	226.7	-307.3mV
36	-46.56V	222.3	-307.0mV	-48.08V	224.0	-306.9mV
37	-44.01V	219.7	-317.0mV	-44.81V	229.5	-303.2mV
38	-48.98V	223.0	-315.9mV	-44.85V	222.4	-305.0mV
39	-42.89V	234.3	-309.2mV	-48.10V	236.2	-302.4mV
40	-48.28V	219.7	-299.7mV	-44.15V	226.4	-301.4mV
41	-48.31V	231.2	-299.5mV	-45.47V	217.7	-304.9mV
42	-45.49V	236.2	-315.4mV	-48.99V	220.1	-302.2mV
43	-44.78V	232.8	-302.6mV	-47.81V	225.9	-313.8mV
44	-46.90V	228.3	-310.8mV	-46.19V	226.8	-299.3mV
45	-48.34V	226.1	-313.0mV	-43.13V	228.7	-299.0mV
46	-42.92V	218.4	-301.6mV	-45.79V	235.3	-304.4mV
47	-42.74V	235.4	-315.5mV	-42.75V	217.8	-300.5mV
48	-42.37V	228.4	-301.1mV	-45.27V	226.2	-313.4mV
49	-41.58V	217.6	-303.0mV	-44.75V	233.3	-298.4mV
50	-42.62V	226.6	-312.0mV	-46.25V	220.8	-302.6mV
51	-48.41V	228.5	-307.7mV	-44.70V	217.9	-298.7mV
52	-43.50V	222.5	-305.4mV	-46.83V	232.0	-304.5mV
53	-42.30V	220.9	-303.2mV	-45.82V	224.9	-301.8mV
54	-46.40V	230.0	-300.2mV	-42.09V	219.3	-306.0mV
55	-44.64V	233.3	-312.9mV	-45.51V	228.1	-311.3mV
56	-46.79V	224.7	-300.8mV	-43.43V	226.9	-301.4mV
57	-48.99V	235.8	-307.4mV	-46.07V	223.1	-315.9mV
58	-47.80V	235.5	-314.5mV	-46.30V	219.3	-315.6mV

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2015.08.17 ~ 2015.10.08
Test Standard : JESD22 STANDARD Method-A104
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	-44.05V	233.0	-312.9mV	-47.69V	228.4	-299.1mV
60	-44.70V	223.7	-313.0mV	-42.54V	230.1	-314.7mV
61	-47.75V	226.3	-314.3mV	-45.43V	222.8	-305.5mV
62	-43.40V	235.6	-313.3mV	-44.05V	226.8	-302.3mV
63	-43.31V	225.8	-302.1mV	-49.03V	233.6	-305.1mV
64	-47.04V	232.1	-316.2mV	-44.14V	236.3	-310.0mV
65	-48.89V	225.3	-314.0mV	-44.08V	234.2	-315.3mV
66	-45.93V	219.9	-315.0mV	-48.82V	236.0	-302.4mV
67	-43.94V	230.8	-309.6mV	-43.75V	226.8	-306.4mV
68	-42.49V	230.9	-313.5mV	-48.00V	230.2	-314.6mV
69	-43.10V	234.1	-310.7mV	-47.72V	224.5	-308.1mV
70	-47.74V	221.0	-304.6mV	-46.92V	217.7	-314.2mV
71	-48.79V	222.8	-310.3mV	-42.90V	223.0	-304.9mV
72	-46.47V	228.5	-312.4mV	-48.73V	229.1	-303.2mV
73	-48.40V	235.5	-303.4mV	-41.37V	221.3	-313.9mV
74	-41.46V	232.5	-307.0mV	-48.77V	223.3	-306.6mV
75	-45.67V	235.3	-313.9mV	-46.34V	226.7	-304.5mV
76	-44.70V	223.9	-301.7mV	-42.77V	221.9	-302.6mV
77	-48.33V	234.0	-308.7mV	-43.41V	221.4	-317.1mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.08.25 ~ 2015.10.06
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-46.07V	220.7	-301.5mV	-41.91V	221.2	-310.5mV
2	-44.69V	233.0	-314.1mV	-44.22V	233.5	-300.6mV
3	-47.85V	232.7	-316.4mV	-45.05V	218.4	-304.6mV
4	-47.61V	228.3	-306.6mV	-47.88V	217.9	-305.3mV
5	-43.45V	225.0	-313.4mV	-43.72V	226.2	-298.5mV
6	-47.14V	224.2	-316.6mV	-45.07V	227.3	-309.6mV
7	-43.40V	224.5	-301.7mV	-43.80V	228.2	-309.7mV
8	-41.43V	225.9	-299.0mV	-46.34V	228.5	-315.8mV
9	-41.91V	229.4	-313.9mV	-45.81V	235.3	-301.2mV
10	-43.38V	227.0	-304.3mV	-45.25V	229.0	-308.2mV
11	-44.58V	222.3	-309.9mV	-48.58V	223.0	-307.3mV
12	-49.00V	218.7	-306.9mV	-49.04V	234.1	-307.0mV
13	-43.25V	228.1	-307.9mV	-48.62V	235.1	-300.9mV
14	-43.98V	235.3	-312.4mV	-48.52V	236.3	-308.1mV
15	-48.13V	233.3	-300.0mV	-44.20V	231.5	-308.1mV
16	-49.10V	232.7	-315.1mV	-45.94V	234.9	-311.9mV
17	-47.49V	218.1	-301.2mV	-44.05V	226.5	-306.3mV
18	-42.35V	233.3	-312.9mV	-47.74V	222.1	-302.0mV
19	-46.40V	220.5	-311.2mV	-42.35V	220.5	-310.3mV
20	-49.17V	229.5	-303.6mV	-44.33V	226.3	-302.6mV
21	-47.82V	231.6	-298.6mV	-44.91V	219.9	-301.4mV
22	-47.63V	230.6	-311.5mV	-42.31V	224.4	-303.0mV
23	-41.87V	224.9	-315.2mV	-47.17V	221.2	-311.6mV
24	-48.00V	233.6	-310.3mV	-46.11V	226.4	-300.3mV
25	-43.62V	229.7	-304.2mV	-42.30V	226.7	-307.0mV
26	-48.40V	220.3	-314.7mV	-48.99V	236.3	-317.1mV
27	-46.54V	231.9	-314.7mV	-48.90V	223.1	-309.5mV
28	-44.68V	220.0	-302.5mV	-44.14V	227.8	-315.9mV
29	-45.81V	218.2	-301.2mV	-44.55V	221.6	-316.7mV

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.08.25 ~ 2015.10.06
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	-43.78V	219.9	-311.9mV	-46.37V	225.8	-308.0mV
31	-41.43V	217.6	-305.9mV	-44.31V	236.3	-310.0mV
32	-42.63V	228.6	-316.5mV	-44.37V	224.2	-311.2mV
33	-41.78V	231.8	-311.1mV	-47.81V	233.6	-299.1mV
34	-43.90V	221.8	-305.3mV	-45.01V	232.6	-301.2mV
35	-45.64V	233.0	-310.1mV	-43.93V	232.5	-308.0mV
36	-48.93V	232.9	-309.1mV	-42.09V	218.2	-299.3mV
37	-41.61V	217.9	-302.5mV	-44.55V	217.5	-306.3mV
38	-41.55V	221.4	-300.0mV	-44.54V	219.1	-311.3mV
39	-43.53V	218.2	-309.7mV	-45.01V	236.0	-301.5mV
40	-48.08V	222.9	-303.4mV	-42.25V	226.1	-302.1mV
41	-41.66V	218.4	-315.3mV	-44.31V	222.7	-300.1mV
42	-47.33V	229.4	-299.6mV	-42.96V	217.8	-308.0mV
43	-41.47V	234.1	-316.8mV	-49.11V	222.6	-302.6mV
44	-42.33V	224.2	-313.7mV	-46.86V	229.4	-308.4mV
45	-43.19V	222.1	-299.3mV	-47.64V	222.6	-315.6mV
46	-47.60V	229.0	-299.2mV	-42.08V	223.6	-304.5mV
47	-46.65V	234.6	-308.7mV	-42.39V	227.1	-300.3mV
48	-45.39V	227.5	-310.0mV	-46.00V	234.5	-309.4mV
49	-41.56V	217.7	-307.9mV	-42.15V	222.7	-309.3mV
50	-48.76V	221.9	-305.4mV	-46.46V	228.7	-314.2mV
51	-48.94V	224.3	-317.1mV	-43.27V	231.8	-308.1mV
52	-47.54V	224.7	-310.0mV	-46.34V	224.2	-312.8mV
53	-44.76V	226.6	-310.7mV	-47.82V	227.6	-316.2mV
54	-43.48V	233.1	-300.5mV	-43.35V	223.7	-303.8mV
55	-47.55V	226.8	-298.5mV	-41.80V	222.7	-314.4mV
56	-42.13V	229.2	-306.8mV	-48.95V	232.9	-301.8mV
57	-43.57V	235.6	-300.6mV	-48.39V	220.8	-302.4mV
58	-41.54V	235.7	-303.9mV	-45.29V	231.6	-314.5mV

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.08.25 ~ 2015.10.06
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	-46.11V	227.1	-317.2mV	-46.68V	222.2	-299.9mV
60	-44.48V	236.7	-309.7mV	-44.29V	232.1	-304.8mV
61	-43.60V	228.4	-305.3mV	-42.02V	226.3	-315.8mV
62	-48.33V	226.3	-299.1mV	-47.81V	232.3	-312.4mV
63	-46.88V	218.3	-300.4mV	-42.97V	221.3	-305.5mV
64	-44.86V	236.1	-300.2mV	-47.07V	217.9	-299.7mV
65	-45.16V	221.9	-305.5mV	-43.71V	235.4	-301.6mV
66	-43.48V	234.5	-307.1mV	-47.19V	222.3	-314.3mV
67	-45.27V	224.2	-316.6mV	-42.97V	224.6	-309.0mV
68	-48.75V	235.3	-299.0mV	-44.68V	229.6	-309.6mV
69	-45.61V	221.1	-304.3mV	-45.59V	235.0	-308.7mV
70	-47.87V	224.6	-298.6mV	-48.58V	220.0	-301.2mV
71	-47.37V	217.7	-315.8mV	-42.06V	222.6	-302.6mV
72	-46.57V	221.8	-315.7mV	-43.40V	230.8	-312.0mV
73	-44.05V	233.0	-304.5mV	-46.44V	235.8	-314.2mV
74	-43.87V	221.4	-313.5mV	-42.15V	221.7	-311.3mV
75	-43.13V	220.3	-306.3mV	-48.94V	232.7	-303.4mV
76	-45.61V	223.5	-308.8mV	-46.07V	232.1	-316.4mV
77	-45.93V	231.0	-301.2mV	-48.64V	233.5	-304.8mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.08.25 ~ 2015.10.06
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-48.23V	229.0	-299.4mV	-47.49V	218.7	-308.8mV
2	-41.42V	225.6	-312.8mV	-43.97V	232.1	-316.4mV
3	-42.85V	233.5	-300.0mV	-42.17V	222.3	-312.3mV
4	-48.73V	234.5	-305.9mV	-41.87V	236.1	-303.8mV
5	-47.52V	235.3	-298.3mV	-43.44V	233.4	-300.4mV
6	-45.43V	230.4	-302.8mV	-46.05V	236.4	-312.3mV
7	-45.09V	227.8	-302.1mV	-45.91V	223.7	-302.1mV
8	-41.71V	231.2	-304.2mV	-42.70V	222.5	-303.3mV
9	-45.87V	226.3	-309.3mV	-42.35V	226.1	-305.5mV
10	-41.64V	225.9	-305.7mV	-42.48V	218.4	-303.4mV
11	-47.82V	228.1	-315.2mV	-48.97V	230.7	-302.4mV
12	-42.58V	221.4	-314.1mV	-45.76V	224.4	-302.2mV
13	-45.90V	220.5	-304.9mV	-45.13V	230.3	-311.8mV
14	-44.91V	231.5	-312.9mV	-41.91V	228.7	-311.2mV
15	-48.40V	229.1	-315.3mV	-49.14V	223.4	-313.4mV
16	-47.07V	235.5	-304.7mV	-47.34V	219.2	-307.0mV
17	-48.50V	222.7	-304.2mV	-42.53V	235.5	-312.4mV
18	-45.85V	234.7	-302.4mV	-48.33V	227.1	-309.0mV
19	-47.71V	229.2	-316.5mV	-43.85V	230.1	-306.4mV
20	-45.00V	219.2	-300.4mV	-44.69V	227.7	-311.5mV
21	-42.43V	227.1	-298.5mV	-46.98V	228.0	-306.1mV
22	-48.75V	218.5	-303.4mV	-47.99V	235.5	-299.6mV
23	-49.16V	223.7	-313.6mV	-46.17V	234.6	-298.4mV
24	-47.62V	224.3	-315.1mV	-46.75V	224.2	-302.1mV
25	-49.09V	223.4	-314.7mV	-46.64V	236.8	-300.8mV
26	-45.45V	230.9	-310.3mV	-45.59V	230.2	-316.5mV
27	-48.68V	227.0	-299.0mV	-44.12V	225.4	-311.2mV
28	-48.63V	231.7	-308.8mV	-46.95V	224.4	-306.0mV
29	-47.32V	221.3	-302.8mV	-41.59V	227.6	-309.8mV

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.08.25 ~ 2015.10.06
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	-45.14V	225.6	-306.7mV	-45.57V	231.7	-307.7mV
31	-45.45V	219.5	-311.7mV	-44.07V	230.9	-299.0mV
32	-46.25V	227.0	-315.6mV	-42.51V	225.2	-301.6mV
33	-44.79V	231.2	-305.2mV	-44.28V	221.4	-312.2mV
34	-44.01V	229.7	-298.6mV	-47.19V	234.2	-301.9mV
35	-43.92V	225.7	-315.2mV	-41.63V	229.5	-310.3mV
36	-47.43V	220.2	-305.5mV	-43.70V	227.3	-309.9mV
37	-48.57V	224.1	-316.0mV	-43.96V	222.9	-309.0mV
38	-47.45V	231.2	-317.1mV	-45.54V	221.8	-306.8mV
39	-45.80V	228.4	-300.8mV	-48.58V	236.6	-299.5mV
40	-41.61V	228.8	-305.7mV	-46.76V	235.3	-307.8mV
41	-42.50V	227.5	-316.6mV	-45.75V	235.7	-302.1mV
42	-41.48V	224.3	-313.9mV	-47.21V	222.7	-308.7mV
43	-46.09V	227.1	-309.6mV	-45.00V	227.4	-315.7mV
44	-41.86V	222.8	-314.9mV	-43.62V	219.9	-311.5mV
45	-44.07V	217.9	-314.1mV	-42.09V	236.0	-316.8mV
46	-48.74V	225.9	-303.0mV	-45.30V	229.4	-306.2mV
47	-46.15V	231.4	-306.8mV	-49.06V	234.4	-304.1mV
48	-43.70V	234.6	-309.4mV	-41.94V	227.3	-302.2mV
49	-42.79V	222.0	-307.4mV	-46.73V	218.6	-309.0mV
50	-43.58V	219.0	-311.3mV	-46.87V	235.7	-308.9mV
51	-46.28V	220.9	-316.6mV	-44.74V	222.9	-316.5mV
52	-42.68V	225.3	-310.0mV	-41.53V	219.7	-302.2mV
53	-46.53V	221.9	-312.6mV	-45.75V	217.6	-301.4mV
54	-45.44V	217.7	-312.8mV	-47.05V	225.7	-305.2mV
55	-44.47V	222.6	-312.1mV	-47.99V	232.4	-303.5mV
56	-42.36V	229.8	-312.5mV	-47.90V	224.7	-305.2mV
57	-48.70V	220.2	-310.8mV	-47.10V	218.3	-311.5mV
58	-48.73V	219.5	-308.4mV	-48.24V	225.0	-311.0mV

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2015.08.25 ~ 2015.10.06
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	-44.80V	230.4	-314.2mV	-47.13V	231.4	-306.6mV
60	-45.49V	233.8	-302.1mV	-49.15V	233.7	-305.2mV
61	-46.85V	229.5	-310.0mV	-48.56V	232.7	-315.0mV
62	-44.49V	236.7	-316.0mV	-45.92V	230.8	-306.0mV
63	-44.20V	235.2	-304.4mV	-41.42V	234.4	-308.3mV
64	-44.58V	232.2	-311.7mV	-43.67V	224.6	-300.3mV
65	-47.08V	218.9	-317.3mV	-45.95V	221.9	-305.9mV
66	-42.26V	230.9	-312.8mV	-42.83V	234.3	-313.8mV
67	-45.85V	231.3	-304.3mV	-42.98V	221.2	-310.8mV
68	-43.85V	226.1	-298.4mV	-46.35V	235.3	-312.3mV
69	-44.55V	232.2	-300.3mV	-47.49V	227.5	-316.8mV
70	-43.64V	221.8	-308.6mV	-44.15V	220.2	-308.2mV
71	-43.20V	226.8	-316.1mV	-42.02V	230.7	-310.7mV
72	-42.15V	224.5	-300.1mV	-41.51V	224.5	-302.3mV
73	-49.06V	220.0	-312.4mV	-47.32V	222.8	-302.0mV
74	-45.25V	217.6	-313.5mV	-41.48V	221.0	-313.5mV
75	-46.89V	230.7	-313.9mV	-42.90V	226.5	-317.0mV
76	-48.55V	225.2	-303.0mV	-46.19V	224.6	-312.6mV
77	-43.51V	221.8	-314.8mV	-48.12V	219.2	-301.3mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T151008-108
Part No : CZD1182
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 120 < hFE < 390@VCE=-3V, IC=-500mA
VCE(sat) < -800mV@IC=-2A, IB=-200mA
Test Condition: 245℃ ± 5℃, 5Sec
Test Date: 2015.10.08
Test Standard : JESD22 STANDER Method-B102
Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	-44.89V	220.5	-315.7mV	-41.79V	236.0	-312.1mV
2	-48.40V	228.0	-310.7mV	-48.41V	224.6	-304.2mV
3	-42.53V	222.7	-309.6mV	-45.77V	231.7	-301.2mV
4	-41.61V	229.5	-303.4mV	-44.55V	233.7	-301.9mV
5	-47.65V	232.1	-312.9mV	-43.96V	231.0	-311.0mV
6	-44.63V	228.6	-314.6mV	-44.60V	220.7	-308.4mV
7	-43.75V	232.5	-314.4mV	-41.83V	223.2	-308.7mV
8	-49.06V	219.8	-313.8mV	-45.86V	234.1	-316.1mV
9	-43.30V	232.2	-299.3mV	-48.35V	221.7	-303.9mV
10	-46.22V	235.2	-313.2mV	-41.67V	217.8	-305.2mV

Made By: King Huang

Approval: Peter Yang