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-03	2016/4/21	2015/10/21

PCN Classification	Product Category
Major	Transistor

Subject
Change the assembly house.

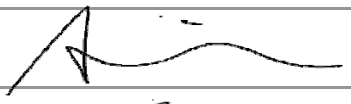
Affected Product(s)
2SB1188

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		
Issue 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		

Headquarter Address:
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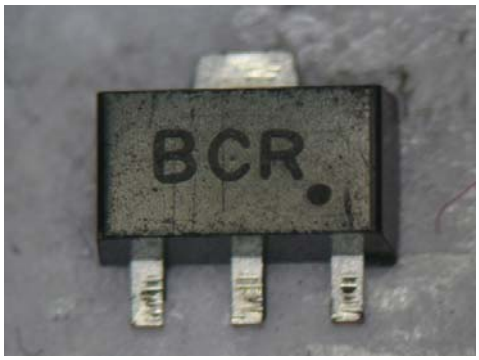
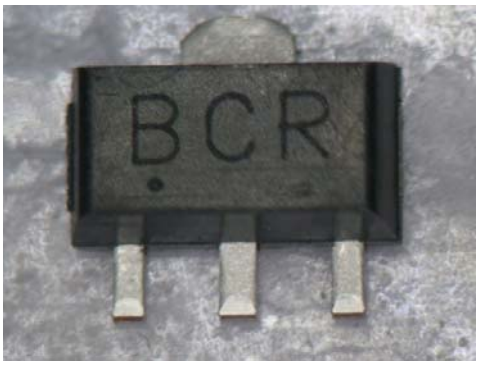
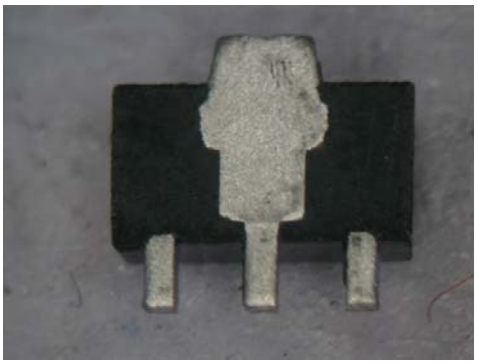
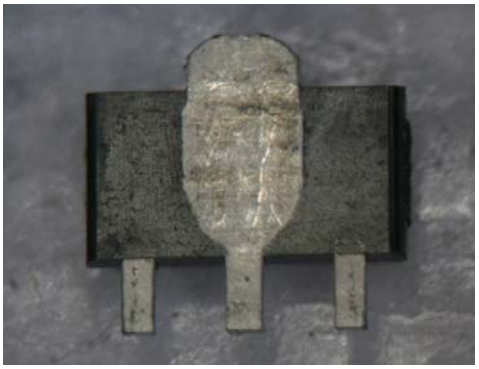
Exterior comparison Chart	
Original	New
 Top View	 Top View
 Back View	 Back View

SeCoS Corporation

Reliability Testing Summary Report

Date: 2015/10/08 Document No.: SI15 -10-101

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	2SB1188	150 ± 5℃, 80%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	2SB1188	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	2SB1188	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	2SB1188	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	2SB1188	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	2SB1188	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	2SB1188	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 : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-44.69V	271.7	-340mV
2	-45.77V	283.5	-327mV
3	-40.62V	241.2	-316mV
4	-44.42V	285.6	-348mV
5	-42.30V	280.0	-336mV
6	-41.61V	248.3	-363mV
7	-43.30V	251.2	-349mV
8	-41.61V	277.9	-342mV
9	-41.54V	286.3	-345mV
10	-45.28V	280.0	-349mV
11	-43.80V	273.2	-318mV
12	-43.79V	271.4	-320mV
13	-40.93V	257.5	-333mV
14	-43.84V	255.4	-354mV
15	-41.03V	258.2	-365mV
16	-43.17V	269.4	-333mV
17	-39.88V	277.0	-344mV
18	-42.91V	257.7	-364mV
19	-40.76V	263.4	-359mV
20	-43.42V	245.4	-340mV
21	-39.98V	273.6	-337mV
22	-42.76V	251.6	-328mV
23	-40.26V	261.3	-323mV
24	-39.86V	264.5	-363mV
25	-43.78V	253.4	-335mV
26	-45.79V	266.9	-318mV
27	-41.91V	286.9	-336mV
28	-40.73V	275.4	-349mV
29	-44.94V	280.9	-327mV
30	-44.84V	279.3	-351mV

SeCoS Corporation

Electrical Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-44.60V	257.3	-337mV
32	-44.72V	270.9	-326mV
33	-39.84V	254.0	-323mV
34	-41.18V	242.4	-324mV
35	-41.05V	258.8	-324mV
36	-43.71V	246.7	-325mV
37	-44.13V	264.3	-342mV
38	-40.37V	286.1	-354mV
39	-42.32V	249.7	-364mV
40	-41.41V	264.9	-320mV
41	-44.35V	260.1	-357mV
42	-41.45V	243.4	-327mV
43	-44.18V	267.9	-326mV
44	-45.76V	285.6	-335mV
45	-39.95V	282.7	-354mV
46	-40.97V	262.7	-333mV
47	-42.45V	286.5	-319mV
48	-43.50V	275.4	-342mV
49	-43.33V	255.0	-327mV
50	-40.50V	267.4	-356mV
51	-41.48V	255.6	-365mV
52	-44.50V	282.3	-337mV
53	-43.27V	257.6	-316mV
54	-41.50V	267.4	-347mV
55	-44.82V	258.2	-320mV
56	-44.82V	251.0	-322mV
57	-44.55V	284.3	-331mV
58	-40.79V	245.0	-336mV
59	-44.66V	288.4	-322mV
60	-42.30V	288.2	-338mV

SeCoS Corporation

Electrical Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-44.57V	242.2	-343mV
62	-43.65V	265.7	-318mV
63	-43.14V	280.0	-359mV
64	-44.49V	260.5	-318mV
65	-40.17V	255.7	-355mV
66	-43.45V	250.5	-330mV
67	-39.89V	266.1	-327mV
68	-43.94V	251.4	-354mV
69	-41.51V	251.7	-354mV
70	-43.30V	260.9	-332mV
71	-45.29V	287.2	-324mV
72	-45.23V	250.6	-335mV
73	-42.83V	253.2	-365mV
74	-43.21V	287.0	-333mV
75	-43.10V	273.8	-321mV
76	-43.89V	255.6	-316mV
77	-41.89V	266.9	-356mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-40.02V	274.5	-324mV	-45.87V	279.8	-359mV
2	-41.40V	284.7	-359mV	-41.83V	276.2	-360mV
3	-45.36V	254.2	-318mV	-40.16V	246.8	-350mV
4	-42.80V	261.3	-326mV	-41.26V	278.5	-327mV
5	-45.06V	246.9	-344mV	-44.06V	256.0	-328mV
6	-41.37V	246.8	-364mV	-40.95V	287.5	-343mV
7	-43.57V	248.3	-318mV	-45.08V	285.1	-336mV
8	-43.97V	250.4	-328mV	-45.27V	262.2	-365mV
9	-43.78V	266.3	-339mV	-39.84V	259.8	-358mV
10	-41.60V	255.2	-326mV	-44.78V	248.1	-364mV
11	-42.50V	266.9	-349mV	-45.10V	261.7	-326mV
12	-44.19V	280.8	-359mV	-44.24V	280.2	-334mV
13	-45.26V	255.4	-332mV	-42.16V	244.8	-323mV
14	-40.40V	266.7	-332mV	-45.47V	254.6	-339mV
15	-40.56V	243.5	-330mV	-45.03V	286.6	-328mV
16	-40.11V	288.8	-327mV	-42.99V	261.0	-363mV
17	-42.84V	253.4	-359mV	-44.79V	266.9	-317mV
18	-42.57V	260.7	-345mV	-43.74V	269.7	-355mV
19	-43.71V	248.2	-362mV	-40.18V	272.4	-349mV
20	-43.70V	247.8	-346mV	-42.02V	288.0	-329mV
21	-41.72V	262.7	-320mV	-39.99V	263.9	-346mV
22	-44.71V	244.0	-331mV	-44.63V	241.1	-316mV
23	-45.74V	277.2	-354mV	-44.87V	247.3	-348mV
24	-39.91V	263.9	-347mV	-43.72V	274.4	-330mV
25	-40.97V	244.0	-348mV	-45.87V	245.4	-336mV
26	-45.08V	254.6	-327mV	-43.48V	248.4	-361mV
27	-40.61V	244.3	-342mV	-42.95V	277.4	-343mV
28	-43.57V	267.0	-337mV	-39.92V	252.9	-325mV
29	-41.94V	255.7	-318mV	-45.01V	262.7	-329mV

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-40.34V	241.6	-339mV	-45.83V	269.9	-321mV
31	-43.04V	258.0	-340mV	-42.41V	274.0	-319mV
32	-41.47V	264.5	-321mV	-40.39V	276.8	-364mV
33	-42.58V	285.8	-319mV	-40.71V	263.1	-357mV
34	-40.04V	253.2	-324mV	-42.84V	280.2	-327mV
35	-45.11V	250.9	-316mV	-44.74V	251.9	-339mV
36	-44.15V	250.5	-334mV	-45.15V	251.3	-354mV
37	-45.71V	278.4	-365mV	-41.80V	246.4	-336mV
38	-44.82V	277.8	-348mV	-41.57V	259.6	-359mV
39	-40.75V	254.8	-322mV	-43.03V	241.5	-362mV
40	-44.09V	261.6	-363mV	-39.83V	272.9	-362mV
41	-44.50V	265.9	-333mV	-41.31V	258.9	-320mV
42	-45.80V	279.6	-355mV	-40.27V	257.9	-324mV
43	-43.83V	281.1	-334mV	-45.28V	253.6	-320mV
44	-44.04V	254.6	-360mV	-45.88V	251.1	-339mV
45	-40.44V	278.3	-358mV	-42.52V	268.7	-348mV
46	-42.02V	279.1	-326mV	-41.64V	277.6	-335mV
47	-42.16V	276.1	-336mV	-41.91V	265.0	-325mV
48	-44.43V	261.9	-334mV	-40.73V	264.8	-351mV
49	-45.79V	245.5	-354mV	-45.44V	259.1	-343mV
50	-40.37V	257.4	-356mV	-42.18V	289.7	-340mV
51	-42.13V	274.7	-354mV	-44.51V	246.1	-363mV
52	-42.84V	289.3	-334mV	-42.21V	248.0	-341mV
53	-42.33V	287.1	-329mV	-40.49V	250.2	-321mV
54	-43.39V	261.2	-323mV	-41.83V	254.0	-323mV
55	-40.12V	271.3	-326mV	-44.15V	265.0	-319mV
56	-42.07V	289.2	-320mV	-43.56V	279.3	-358mV
57	-41.15V	280.5	-325mV	-40.03V	270.4	-320mV
58	-41.70V	273.3	-362mV	-44.73V	272.2	-317mV

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-40.11V	251.8	-331mV	-41.84V	280.7	-333mV
60	-40.93V	248.5	-360mV	-43.48V	247.3	-345mV
61	-40.21V	284.6	-335mV	-42.92V	270.7	-328mV
62	-44.01V	241.5	-364mV	-44.22V	259.0	-344mV
63	-43.26V	261.2	-341mV	-42.33V	278.5	-355mV
64	-43.31V	270.6	-316mV	-45.03V	246.7	-335mV
65	-44.33V	269.5	-357mV	-40.23V	288.4	-324mV
66	-43.32V	244.5	-316mV	-44.47V	260.1	-332mV
67	-42.94V	259.8	-331mV	-41.79V	269.0	-338mV
68	-45.13V	243.3	-355mV	-41.68V	281.5	-324mV
69	-44.43V	249.7	-357mV	-40.07V	253.6	-320mV
70	-45.44V	267.0	-359mV	-40.53V	249.2	-361mV
71	-43.96V	243.6	-317mV	-42.46V	277.9	-352mV
72	-44.37V	275.3	-364mV	-41.45V	259.8	-355mV
73	-43.18V	278.6	-333mV	-44.05V	252.7	-337mV
74	-42.87V	283.1	-347mV	-44.08V	277.1	-338mV
75	-43.95V	261.7	-357mV	-40.78V	243.3	-355mV
76	-42.17V	267.7	-324mV	-40.69V	256.7	-323mV
77	-42.27V	265.7	-355mV	-41.40V	256.1	-355mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-41.17V	275.1	-354mV	-43.95V	271.6	-338mV
2	-44.61V	245.8	-365mV	-44.28V	270.8	-324mV
3	-42.10V	251.8	-315mV	-45.56V	261.8	-355mV
4	-40.93V	247.8	-364mV	-44.23V	279.9	-357mV
5	-41.11V	252.8	-353mV	-44.57V	253.2	-341mV
6	-43.33V	288.7	-324mV	-44.38V	249.1	-354mV
7	-44.20V	287.7	-322mV	-44.45V	249.1	-364mV
8	-44.92V	259.4	-346mV	-42.64V	285.8	-321mV
9	-41.28V	245.4	-351mV	-45.57V	251.0	-361mV
10	-44.76V	243.3	-331mV	-40.87V	253.1	-340mV
11	-43.67V	256.1	-354mV	-40.65V	278.5	-333mV
12	-41.66V	271.9	-364mV	-40.43V	258.7	-353mV
13	-42.26V	284.8	-362mV	-43.01V	247.4	-337mV
14	-42.89V	253.5	-344mV	-43.48V	261.7	-335mV
15	-45.19V	242.8	-360mV	-43.06V	277.5	-343mV
16	-43.06V	273.3	-351mV	-42.84V	276.7	-317mV
17	-40.97V	276.5	-342mV	-45.18V	250.7	-363mV
18	-44.01V	286.4	-320mV	-45.70V	270.1	-359mV
19	-41.86V	249.4	-364mV	-44.66V	274.1	-347mV
20	-41.80V	244.4	-365mV	-44.41V	282.2	-363mV
21	-41.40V	260.0	-330mV	-43.08V	280.8	-335mV
22	-41.63V	255.8	-351mV	-44.22V	279.7	-361mV
23	-45.69V	256.1	-335mV	-45.56V	269.0	-351mV
24	-42.19V	272.8	-332mV	-43.53V	248.3	-343mV
25	-45.16V	284.7	-336mV	-42.60V	278.9	-329mV
26	-42.20V	278.7	-357mV	-43.68V	264.3	-364mV
27	-43.81V	246.8	-337mV	-42.98V	288.0	-362mV
28	-40.03V	246.6	-316mV	-41.71V	265.1	-316mV
29	-45.43V	251.2	-357mV	-44.73V	272.7	-327mV

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-44.46V	272.2	-315mV	-42.21V	287.4	-338mV
31	-41.84V	253.1	-322mV	-43.28V	284.9	-351mV
32	-42.91V	278.4	-320mV	-40.73V	280.6	-339mV
33	-42.93V	288.5	-319mV	-42.08V	285.7	-337mV
34	-41.85V	265.5	-356mV	-42.24V	254.0	-317mV
35	-45.19V	278.5	-340mV	-45.16V	273.9	-345mV
36	-42.39V	281.4	-353mV	-42.91V	247.6	-322mV
37	-44.58V	266.2	-333mV	-42.97V	270.2	-341mV
38	-45.17V	251.7	-331mV	-40.58V	269.2	-346mV
39	-44.38V	247.2	-315mV	-45.16V	251.2	-365mV
40	-39.87V	267.0	-357mV	-39.97V	278.2	-339mV
41	-42.92V	268.4	-319mV	-41.76V	250.0	-324mV
42	-43.22V	275.3	-336mV	-41.59V	253.9	-330mV
43	-43.10V	253.6	-316mV	-40.77V	252.0	-330mV
44	-43.56V	265.2	-357mV	-44.68V	248.2	-356mV
45	-40.50V	281.0	-351mV	-42.08V	243.2	-349mV
46	-43.76V	262.1	-332mV	-44.75V	277.6	-359mV
47	-45.01V	273.8	-350mV	-44.65V	258.5	-317mV
48	-41.93V	247.0	-358mV	-42.47V	266.3	-322mV
49	-45.33V	286.8	-318mV	-43.09V	262.5	-320mV
50	-42.86V	276.0	-351mV	-41.16V	282.2	-330mV
51	-45.51V	269.4	-316mV	-39.85V	242.7	-335mV
52	-43.17V	253.3	-339mV	-42.19V	253.6	-345mV
53	-42.59V	286.6	-358mV	-43.96V	288.7	-351mV
54	-45.83V	264.2	-363mV	-45.23V	240.9	-352mV
55	-45.02V	254.7	-345mV	-42.29V	278.4	-332mV
56	-40.32V	277.8	-350mV	-44.93V	285.4	-363mV
57	-44.75V	269.2	-317mV	-44.30V	250.8	-333mV
58	-41.23V	245.9	-335mV	-39.90V	243.2	-342mV

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-41.52V	250.5	-321mV	-41.08V	276.4	-364mV
60	-42.73V	251.0	-334mV	-45.13V	249.1	-334mV
61	-40.51V	269.9	-315mV	-39.97V	271.8	-359mV
62	-42.20V	254.0	-338mV	-42.42V	262.3	-357mV
63	-41.53V	253.6	-317mV	-45.12V	265.7	-332mV
64	-44.88V	247.3	-320mV	-41.57V	265.8	-327mV
65	-43.32V	284.0	-332mV	-45.25V	277.7	-355mV
66	-44.58V	255.0	-318mV	-42.90V	262.9	-331mV
67	-42.39V	242.2	-357mV	-41.28V	245.0	-364mV
68	-45.67V	257.8	-353mV	-45.50V	286.2	-355mV
69	-42.25V	250.4	-329mV	-42.10V	250.5	-344mV
70	-45.72V	254.1	-324mV	-40.69V	263.4	-354mV
71	-43.12V	261.2	-320mV	-43.81V	243.7	-321mV
72	-41.29V	278.9	-340mV	-40.81V	278.5	-339mV
73	-41.04V	266.3	-363mV	-43.51V	274.2	-317mV
74	-44.78V	247.8	-344mV	-41.18V	275.0	-349mV
75	-40.21V	257.6	-364mV	-42.88V	273.4	-325mV
76	-42.69V	254.1	-352mV	-44.16V	244.2	-365mV
77	-42.29V	251.1	-330mV	-45.87V	264.0	-342mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-42.62V	246.5	-353mV	-41.28V	289.2	-348mV
2	-43.57V	274.4	-317mV	-40.20V	266.4	-349mV
3	-42.11V	255.1	-357mV	-44.42V	287.5	-363mV
4	-44.13V	286.4	-345mV	-42.38V	279.8	-323mV
5	-44.49V	274.7	-317mV	-41.91V	262.7	-326mV
6	-44.44V	252.1	-343mV	-41.20V	270.5	-333mV
7	-45.14V	288.4	-342mV	-41.35V	245.5	-364mV
8	-45.54V	242.7	-344mV	-41.48V	279.6	-359mV
9	-41.04V	278.7	-362mV	-40.03V	285.3	-315mV
10	-43.78V	255.6	-341mV	-41.32V	242.9	-327mV
11	-42.03V	260.3	-364mV	-41.27V	243.8	-321mV
12	-41.87V	259.2	-352mV	-42.50V	279.6	-326mV
13	-45.55V	265.0	-358mV	-40.37V	286.2	-338mV
14	-43.03V	267.6	-319mV	-41.58V	245.9	-344mV
15	-40.80V	248.9	-346mV	-43.98V	286.3	-356mV
16	-44.38V	287.1	-318mV	-44.44V	287.6	-339mV
17	-40.43V	270.6	-337mV	-41.84V	283.4	-329mV
18	-42.44V	280.7	-358mV	-45.70V	256.6	-349mV
19	-41.27V	245.4	-322mV	-45.64V	248.5	-317mV
20	-45.63V	280.2	-326mV	-45.43V	257.7	-339mV
21	-45.64V	285.8	-361mV	-40.70V	263.1	-322mV
22	-41.41V	268.0	-354mV	-40.97V	258.5	-364mV
23	-40.47V	243.1	-344mV	-45.66V	286.2	-321mV
24	-45.73V	279.3	-344mV	-45.22V	280.2	-331mV
25	-45.78V	260.1	-327mV	-40.64V	249.3	-348mV
26	-40.44V	284.3	-340mV	-44.20V	282.0	-320mV
27	-43.24V	281.3	-334mV	-43.86V	267.6	-354mV
28	-42.55V	281.4	-325mV	-44.31V	254.5	-344mV
29	-42.59V	251.5	-317mV	-42.19V	280.9	-331mV

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-41.73V	289.3	-347mV	-41.42V	262.8	-351mV
31	-40.31V	282.6	-332mV	-43.54V	288.1	-327mV
32	-45.85V	266.0	-351mV	-41.57V	273.3	-342mV
33	-40.33V	266.2	-341mV	-43.29V	288.9	-353mV
34	-43.93V	286.8	-323mV	-44.96V	242.9	-349mV
35	-39.88V	248.2	-352mV	-42.91V	269.9	-362mV
36	-43.45V	265.1	-331mV	-42.67V	289.6	-356mV
37	-43.67V	273.9	-318mV	-45.60V	272.3	-357mV
38	-39.87V	277.6	-322mV	-42.57V	250.4	-315mV
39	-43.06V	244.8	-323mV	-41.79V	280.7	-345mV
40	-44.97V	286.9	-364mV	-45.20V	276.3	-355mV
41	-43.00V	245.5	-344mV	-40.11V	289.3	-365mV
42	-44.33V	266.6	-343mV	-40.57V	241.3	-327mV
43	-40.02V	278.8	-356mV	-42.59V	243.4	-322mV
44	-42.63V	280.7	-328mV	-43.43V	280.6	-355mV
45	-45.07V	256.1	-351mV	-42.54V	254.2	-335mV
46	-45.73V	279.2	-334mV	-44.81V	271.4	-336mV
47	-41.19V	278.7	-347mV	-44.82V	275.8	-345mV
48	-41.28V	254.2	-320mV	-42.23V	265.2	-330mV
49	-45.63V	289.8	-323mV	-43.39V	275.2	-346mV
50	-42.72V	245.3	-350mV	-45.85V	286.9	-324mV
51	-43.82V	241.7	-337mV	-43.48V	277.0	-362mV
52	-40.48V	260.9	-345mV	-40.77V	254.3	-342mV
53	-43.55V	251.9	-364mV	-43.83V	256.4	-327mV
54	-42.60V	284.6	-343mV	-42.12V	287.2	-363mV
55	-41.76V	243.7	-319mV	-44.57V	263.9	-338mV
56	-45.41V	241.2	-360mV	-44.00V	255.8	-319mV
57	-43.61V	267.4	-319mV	-42.27V	288.8	-332mV
58	-43.29V	287.5	-318mV	-41.39V	280.0	-318mV

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-41.31V	263.3	-328mV	-43.31V	254.0	-329mV
60	-39.93V	250.9	-343mV	-40.18V	248.5	-343mV
61	-42.13V	259.0	-354mV	-40.50V	270.4	-362mV
62	-45.69V	273.8	-339mV	-42.66V	277.9	-356mV
63	-41.44V	252.8	-357mV	-40.15V	255.7	-359mV
64	-44.62V	269.7	-343mV	-42.27V	278.6	-356mV
65	-43.74V	282.6	-365mV	-45.02V	280.9	-337mV
66	-45.53V	248.4	-322mV	-45.15V	284.5	-318mV
67	-41.39V	252.3	-324mV	-42.58V	275.9	-316mV
68	-40.89V	269.6	-321mV	-45.59V	256.8	-347mV
69	-42.79V	251.9	-326mV	-44.35V	287.2	-362mV
70	-43.47V	282.3	-351mV	-43.86V	284.3	-363mV
71	-42.50V	289.1	-340mV	-44.32V	257.4	-327mV
72	-43.29V	288.1	-346mV	-41.98V	275.0	-334mV
73	-45.28V	257.3	-343mV	-45.16V	251.7	-361mV
74	-42.91V	281.0	-364mV	-43.32V	250.9	-324mV
75	-43.30V	260.2	-326mV	-40.26V	265.1	-363mV
76	-42.01V	253.0	-350mV	-40.59V	259.4	-354mV
77	-43.48V	246.5	-358mV	-39.85V	254.1	-323mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-40.98V	271.7	-328mV	-45.38V	258.5	-340mV
2	-40.02V	285.8	-321mV	-44.61V	284.0	-337mV
3	-45.63V	288.7	-356mV	-43.96V	270.5	-320mV
4	-41.43V	275.5	-343mV	-43.10V	242.9	-365mV
5	-45.82V	286.6	-344mV	-42.30V	252.4	-328mV
6	-43.85V	253.8	-338mV	-45.76V	253.2	-348mV
7	-41.54V	277.9	-333mV	-44.44V	278.3	-356mV
8	-43.70V	265.9	-323mV	-40.44V	267.8	-322mV
9	-41.32V	287.5	-318mV	-39.80V	260.4	-325mV
10	-43.11V	289.4	-317mV	-42.99V	255.3	-334mV
11	-40.88V	260.9	-354mV	-40.09V	276.4	-322mV
12	-40.73V	258.5	-343mV	-44.48V	257.6	-322mV
13	-41.70V	249.3	-326mV	-40.06V	269.6	-323mV
14	-42.40V	269.8	-356mV	-43.15V	253.4	-347mV
15	-40.50V	242.0	-344mV	-40.90V	287.3	-350mV
16	-45.56V	245.5	-347mV	-41.46V	281.2	-334mV
17	-44.41V	256.3	-318mV	-44.48V	248.4	-336mV
18	-44.85V	267.9	-318mV	-44.11V	268.2	-350mV
19	-41.23V	257.4	-349mV	-41.19V	276.5	-334mV
20	-41.53V	267.8	-323mV	-44.04V	257.8	-333mV
21	-42.29V	281.2	-358mV	-42.63V	256.8	-353mV
22	-45.72V	263.3	-347mV	-43.60V	248.5	-324mV
23	-45.64V	243.1	-336mV	-40.91V	285.8	-319mV
24	-44.57V	244.8	-335mV	-43.49V	255.1	-358mV
25	-41.48V	273.5	-346mV	-42.71V	272.7	-332mV
26	-44.91V	279.5	-354mV	-42.05V	257.3	-345mV
27	-40.24V	280.6	-340mV	-40.73V	276.7	-352mV
28	-40.56V	256.4	-363mV	-44.27V	270.8	-326mV
29	-40.24V	272.7	-320mV	-41.81V	270.1	-322mV

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-42.07V	278.9	-325mV	-41.40V	283.4	-364mV
31	-40.19V	249.1	-316mV	-42.88V	281.8	-354mV
32	-42.89V	263.8	-364mV	-45.30V	284.2	-317mV
33	-45.73V	264.7	-318mV	-40.89V	273.3	-326mV
34	-42.24V	253.9	-364mV	-40.14V	266.9	-353mV
35	-41.74V	253.6	-361mV	-42.93V	262.2	-347mV
36	-45.58V	274.6	-332mV	-45.87V	265.2	-319mV
37	-39.98V	281.9	-355mV	-43.96V	242.2	-349mV
38	-44.05V	245.0	-351mV	-42.78V	263.1	-365mV
39	-40.19V	283.1	-361mV	-41.02V	283.2	-317mV
40	-42.50V	275.9	-363mV	-44.90V	254.2	-341mV
41	-45.39V	262.3	-348mV	-41.02V	279.3	-330mV
42	-43.45V	284.6	-359mV	-39.80V	252.0	-342mV
43	-39.96V	250.5	-352mV	-44.01V	272.4	-345mV
44	-43.92V	257.5	-334mV	-45.58V	289.6	-336mV
45	-45.32V	259.6	-357mV	-43.48V	262.5	-332mV
46	-43.50V	263.1	-349mV	-42.95V	249.4	-326mV
47	-40.63V	251.3	-344mV	-40.43V	276.2	-360mV
48	-42.49V	247.4	-319mV	-40.94V	273.2	-315mV
49	-45.10V	268.5	-332mV	-45.11V	287.9	-322mV
50	-42.92V	286.0	-344mV	-45.26V	261.2	-360mV
51	-42.90V	281.0	-315mV	-42.59V	274.7	-324mV
52	-45.69V	244.8	-338mV	-40.52V	251.8	-320mV
53	-41.02V	260.3	-340mV	-45.81V	241.5	-322mV
54	-45.42V	258.1	-360mV	-40.91V	282.4	-351mV
55	-43.93V	257.1	-363mV	-44.63V	284.6	-323mV
56	-43.45V	259.2	-341mV	-45.08V	274.6	-326mV
57	-41.43V	252.3	-363mV	-40.84V	243.9	-347mV
58	-39.90V	242.5	-360mV	-42.10V	262.8	-333mV

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-39.85V	269.8	-344mV	-40.65V	245.2	-353mV
60	-45.61V	250.8	-325mV	-43.05V	254.2	-330mV
61	-43.64V	272.3	-347mV	-40.05V	246.2	-316mV
62	-45.36V	256.3	-340mV	-44.42V	257.4	-350mV
63	-43.64V	248.7	-329mV	-40.64V	254.0	-358mV
64	-41.71V	273.2	-331mV	-41.91V	267.6	-359mV
65	-42.33V	248.0	-351mV	-44.76V	242.1	-348mV
66	-40.79V	268.0	-324mV	-43.20V	256.3	-332mV
67	-42.24V	252.9	-350mV	-44.53V	252.5	-320mV
68	-43.32V	247.4	-326mV	-42.00V	258.0	-323mV
69	-41.82V	259.7	-355mV	-42.72V	251.4	-329mV
70	-43.49V	258.6	-328mV	-42.15V	260.2	-354mV
71	-42.79V	246.6	-365mV	-40.21V	260.4	-339mV
72	-40.30V	270.1	-326mV	-42.10V	278.2	-324mV
73	-43.08V	276.3	-342mV	-41.84V	255.8	-338mV
74	-45.12V	285.3	-321mV	-45.30V	269.8	-333mV
75	-43.28V	244.3	-359mV	-43.77V	260.3	-364mV
76	-45.70V	289.0	-325mV	-41.51V	289.2	-326mV
77	-40.03V	274.3	-348mV	-43.87V	256.4	-361mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-39.91V	281.4	-364mV	-43.08V	285.7	-317mV
2	-43.48V	264.2	-354mV	-45.63V	245.4	-363mV
3	-40.02V	268.1	-344mV	-44.31V	286.3	-359mV
4	-40.67V	283.0	-365mV	-44.98V	275.2	-354mV
5	-39.90V	285.5	-325mV	-42.20V	261.2	-349mV
6	-45.43V	253.5	-346mV	-45.21V	258.1	-338mV
7	-41.15V	261.9	-350mV	-40.61V	253.6	-316mV
8	-44.81V	253.6	-337mV	-42.21V	267.9	-325mV
9	-44.32V	272.1	-338mV	-44.57V	261.5	-327mV
10	-41.67V	287.3	-323mV	-41.55V	282.5	-318mV
11	-45.78V	258.1	-316mV	-39.82V	244.8	-356mV
12	-40.67V	241.6	-354mV	-45.60V	270.2	-339mV
13	-44.60V	265.6	-361mV	-42.72V	287.2	-338mV
14	-44.79V	287.3	-335mV	-45.26V	253.0	-331mV
15	-40.02V	286.0	-320mV	-43.04V	284.5	-325mV
16	-43.48V	265.7	-322mV	-42.27V	271.2	-324mV
17	-40.19V	282.7	-357mV	-45.27V	250.5	-315mV
18	-41.39V	274.5	-364mV	-42.03V	264.0	-358mV
19	-43.60V	272.0	-355mV	-42.33V	246.3	-339mV
20	-40.58V	254.0	-344mV	-41.03V	264.3	-356mV
21	-43.16V	258.7	-320mV	-41.40V	286.4	-328mV
22	-42.91V	243.6	-360mV	-45.21V	275.4	-318mV
23	-43.20V	273.1	-361mV	-44.17V	261.3	-341mV
24	-41.78V	257.3	-351mV	-40.77V	250.3	-349mV
25	-42.74V	250.5	-349mV	-40.70V	257.4	-358mV
26	-45.45V	288.2	-336mV	-39.94V	259.3	-335mV
27	-42.84V	264.3	-339mV	-44.49V	243.7	-335mV
28	-42.88V	269.0	-338mV	-40.53V	253.3	-348mV
29	-43.95V	265.7	-360mV	-40.63V	281.0	-321mV

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-42.80V	256.6	-360mV	-44.52V	248.5	-356mV
31	-39.84V	251.7	-342mV	-43.94V	251.0	-365mV
32	-40.54V	283.0	-320mV	-45.03V	250.7	-347mV
33	-43.86V	252.8	-334mV	-45.28V	277.8	-345mV
34	-44.37V	285.0	-350mV	-40.29V	267.7	-320mV
35	-45.34V	241.0	-352mV	-45.55V	264.5	-335mV
36	-40.76V	273.8	-349mV	-40.31V	261.4	-315mV
37	-45.70V	261.3	-326mV	-44.87V	264.8	-342mV
38	-45.18V	255.7	-344mV	-45.17V	266.1	-339mV
39	-42.70V	289.1	-346mV	-41.80V	286.3	-363mV
40	-44.53V	288.6	-356mV	-40.29V	288.3	-330mV
41	-39.89V	287.0	-363mV	-44.01V	268.9	-359mV
42	-44.62V	269.7	-345mV	-40.47V	261.5	-338mV
43	-41.63V	275.4	-324mV	-45.66V	247.6	-332mV
44	-39.99V	271.2	-316mV	-45.52V	278.3	-332mV
45	-43.96V	241.8	-334mV	-42.46V	275.9	-322mV
46	-39.93V	269.6	-351mV	-41.03V	281.4	-359mV
47	-41.73V	279.2	-316mV	-39.81V	258.6	-323mV
48	-45.82V	280.5	-332mV	-40.71V	254.9	-362mV
49	-40.71V	265.8	-359mV	-39.93V	270.7	-350mV
50	-45.20V	246.4	-325mV	-41.11V	250.3	-333mV
51	-45.52V	282.6	-364mV	-43.85V	245.3	-339mV
52	-42.99V	261.9	-362mV	-40.81V	265.9	-334mV
53	-41.30V	270.7	-355mV	-43.15V	279.9	-346mV
54	-41.54V	280.4	-363mV	-40.60V	280.0	-359mV
55	-44.49V	287.4	-362mV	-45.12V	275.9	-326mV
56	-41.99V	282.0	-331mV	-45.48V	254.9	-322mV
57	-45.39V	268.7	-358mV	-41.53V	284.4	-359mV
58	-45.65V	248.5	-336mV	-42.56V	258.9	-338mV

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-42.74V	260.6	-348mV	-44.85V	258.9	-318mV
60	-45.65V	256.9	-343mV	-40.80V	268.0	-339mV
61	-44.15V	245.6	-316mV	-44.65V	262.2	-341mV
62	-40.37V	264.1	-324mV	-41.72V	272.7	-336mV
63	-41.83V	241.0	-320mV	-42.71V	248.3	-355mV
64	-43.25V	288.0	-348mV	-45.65V	269.3	-363mV
65	-41.70V	252.8	-348mV	-41.18V	271.7	-350mV
66	-42.53V	284.0	-333mV	-41.71V	275.6	-343mV
67	-43.90V	279.9	-330mV	-41.85V	268.3	-323mV
68	-42.15V	284.8	-354mV	-41.95V	255.0	-362mV
69	-45.72V	283.6	-360mV	-40.79V	257.0	-324mV
70	-43.46V	270.5	-336mV	-40.83V	242.3	-358mV
71	-40.69V	262.3	-316mV	-42.39V	261.0	-316mV
72	-43.28V	269.1	-356mV	-42.54V	285.0	-323mV
73	-41.70V	253.7	-353mV	-42.91V	244.4	-359mV
74	-43.66V	284.1	-352mV	-41.02V	256.1	-316mV
75	-41.66V	259.6	-354mV	-41.01V	278.4	-344mV
76	-42.76V	278.0	-343mV	-42.11V	270.8	-317mV
77	-42.22V	269.9	-323mV	-41.10V	280.2	-331mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-41.78V	258.6	-323mV	-43.97V	245.3	-318mV
2	-44.73V	281.4	-328mV	-43.44V	243.6	-340mV
3	-42.14V	257.8	-352mV	-42.90V	261.0	-342mV
4	-41.24V	279.0	-361mV	-41.17V	277.8	-326mV
5	-43.59V	251.9	-358mV	-41.69V	282.3	-363mV
6	-40.13V	284.2	-318mV	-41.68V	279.8	-363mV
7	-40.15V	286.4	-339mV	-45.10V	249.5	-352mV
8	-42.40V	262.3	-325mV	-40.26V	254.7	-343mV
9	-44.42V	286.5	-342mV	-42.67V	267.7	-356mV
10	-43.82V	241.8	-362mV	-43.40V	258.5	-362mV
11	-41.99V	242.8	-356mV	-41.89V	249.3	-327mV
12	-42.23V	268.5	-351mV	-45.29V	288.1	-323mV
13	-40.94V	272.0	-344mV	-42.95V	279.9	-331mV
14	-40.57V	242.6	-323mV	-42.28V	283.3	-344mV
15	-43.10V	278.7	-362mV	-41.79V	243.0	-335mV
16	-41.30V	280.3	-342mV	-40.64V	275.1	-337mV
17	-43.64V	288.2	-350mV	-44.59V	249.5	-319mV
18	-40.99V	262.0	-341mV	-42.22V	273.6	-344mV
19	-44.86V	273.3	-356mV	-41.10V	284.4	-326mV
20	-41.28V	263.7	-319mV	-42.42V	265.6	-330mV
21	-45.80V	265.2	-323mV	-45.42V	252.8	-326mV
22	-41.08V	279.5	-347mV	-40.09V	248.9	-342mV
23	-42.75V	250.6	-322mV	-44.11V	275.3	-337mV
24	-44.14V	247.7	-318mV	-41.57V	246.7	-323mV
25	-45.73V	253.7	-331mV	-44.85V	244.2	-342mV
26	-43.38V	258.0	-348mV	-43.95V	266.7	-327mV
27	-44.55V	274.7	-363mV	-39.93V	257.9	-363mV
28	-41.09V	286.0	-329mV	-43.99V	248.1	-345mV
29	-40.72V	243.3	-364mV	-40.71V	267.5	-347mV

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-40.96V	247.1	-363mV	-42.03V	244.7	-350mV
31	-43.21V	275.5	-338mV	-42.57V	279.6	-326mV
32	-44.43V	284.0	-345mV	-45.73V	246.9	-344mV
33	-40.70V	274.4	-356mV	-41.38V	273.0	-338mV
34	-44.67V	262.9	-360mV	-41.92V	252.9	-337mV
35	-41.69V	281.4	-341mV	-45.22V	277.7	-315mV
36	-44.98V	285.5	-345mV	-45.34V	242.4	-343mV
37	-43.95V	249.6	-315mV	-44.75V	275.4	-341mV
38	-42.16V	253.3	-350mV	-45.00V	275.0	-354mV
39	-41.09V	288.2	-359mV	-40.23V	286.5	-346mV
40	-45.55V	278.4	-358mV	-41.03V	259.7	-365mV
41	-45.00V	277.4	-346mV	-42.97V	282.8	-346mV
42	-41.23V	247.0	-343mV	-45.13V	245.6	-325mV
43	-41.40V	276.0	-345mV	-44.31V	285.9	-321mV
44	-43.28V	287.1	-343mV	-41.71V	288.2	-336mV
45	-45.59V	278.7	-365mV	-41.63V	265.4	-328mV
46	-41.56V	243.1	-364mV	-40.29V	267.0	-338mV
47	-40.34V	259.7	-350mV	-42.94V	271.8	-349mV
48	-39.90V	286.9	-356mV	-44.42V	278.8	-348mV
49	-44.44V	250.8	-361mV	-41.42V	256.3	-329mV
50	-40.63V	272.0	-332mV	-42.65V	263.0	-342mV
51	-42.08V	254.4	-332mV	-45.73V	248.6	-363mV
52	-43.87V	265.5	-354mV	-41.51V	241.2	-315mV
53	-40.50V	276.0	-345mV	-42.02V	251.8	-362mV
54	-45.51V	285.7	-359mV	-41.50V	260.1	-322mV
55	-41.66V	251.4	-320mV	-41.20V	281.8	-321mV
56	-44.07V	280.2	-341mV	-43.97V	259.1	-351mV
57	-41.29V	266.1	-350mV	-42.73V	287.4	-331mV
58	-41.12V	242.7	-351mV	-42.02V	258.8	-365mV

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-43.45V	260.4	-325mV	-45.80V	264.6	-333mV
60	-44.30V	254.2	-343mV	-40.35V	251.1	-330mV
61	-40.31V	289.7	-323mV	-45.56V	269.5	-355mV
62	-44.62V	255.8	-341mV	-42.78V	248.1	-353mV
63	-40.19V	256.8	-317mV	-42.13V	247.6	-322mV
64	-44.10V	269.7	-319mV	-44.78V	246.4	-358mV
65	-41.40V	277.0	-342mV	-40.10V	266.8	-350mV
66	-42.13V	259.0	-357mV	-42.84V	280.6	-363mV
67	-44.71V	254.1	-358mV	-42.66V	285.2	-325mV
68	-43.93V	253.8	-318mV	-44.79V	254.0	-337mV
69	-43.73V	259.5	-355mV	-45.72V	266.8	-345mV
70	-43.89V	272.4	-349mV	-44.92V	257.2	-344mV
71	-43.33V	252.7	-365mV	-42.92V	270.8	-351mV
72	-44.74V	267.7	-319mV	-42.82V	258.8	-315mV
73	-40.64V	266.3	-327mV	-44.24V	289.1	-337mV
74	-40.35V	282.5	-349mV	-41.46V	263.1	-359mV
75	-43.88V	276.5	-326mV	-43.59V	273.6	-343mV
76	-41.82V	255.9	-362mV	-42.65V	287.6	-330mV
77	-45.30V	286.6	-356mV	-41.71V	287.9	-336mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T151008-101
Part No : 2SB1188
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -32V@IC=-1mA, IB=0 ； 82 < 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	-41.19V	244.8	-335mV	-42.67V	258.6	-361mV
2	-44.30V	272.0	-327mV	-41.50V	261.0	-337mV
3	-41.36V	272.1	-321mV	-42.46V	241.3	-359mV
4	-41.44V	253.6	-320mV	-44.54V	268.2	-338mV
5	-40.85V	243.3	-329mV	-45.33V	260.8	-337mV
6	-39.93V	287.5	-362mV	-40.68V	242.0	-321mV
7	-40.46V	273.2	-358mV	-44.87V	251.2	-361mV
8	-40.56V	245.8	-327mV	-45.02V	270.3	-365mV
9	-43.56V	265.1	-352mV	-45.72V	251.8	-337mV
10	-42.80V	256.5	-358mV	-42.08V	283.6	-324mV

Made By: King Huang

Approval: Peter Yang