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-11	2016/2/1	2015/10/21

PCN Classification	Product Category
Major	Transistor

Subject

Change the assembly house.

Affected Product(s)

BCP69

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)

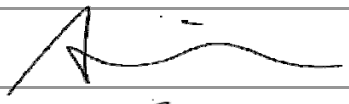
Assembly house.

Impact(s)

None

Attachment(s)

Reliability Test Report. Package Information.

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		

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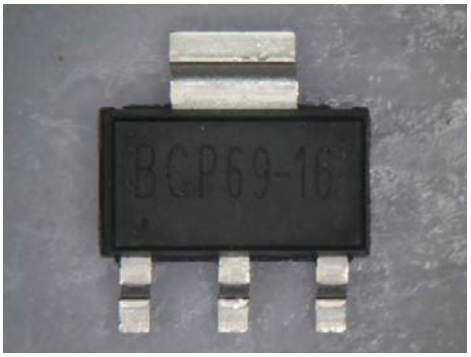
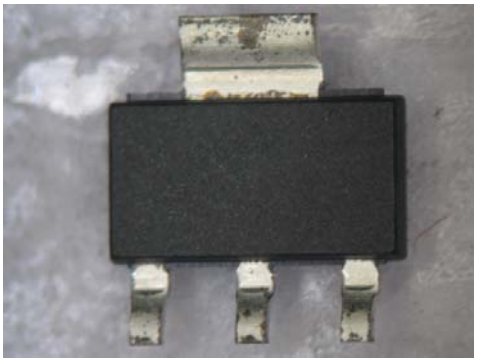
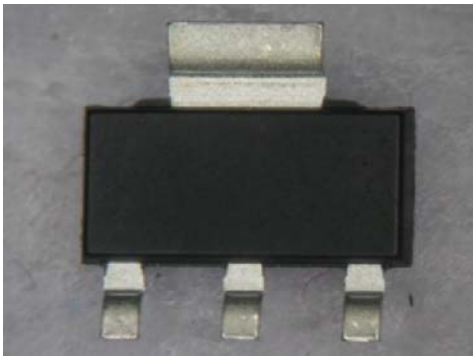
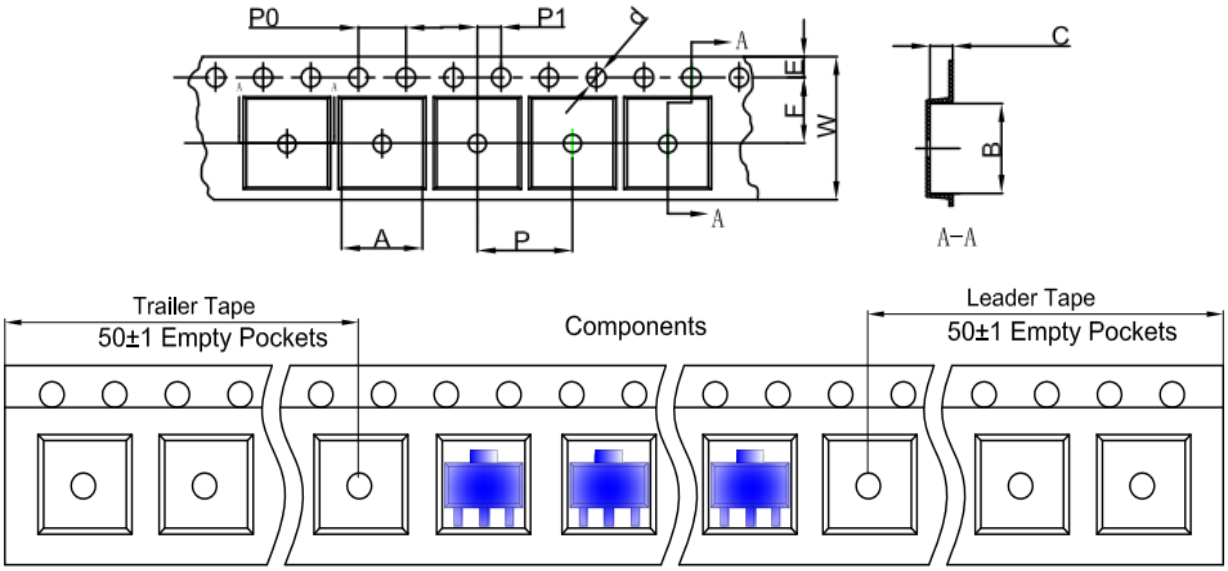
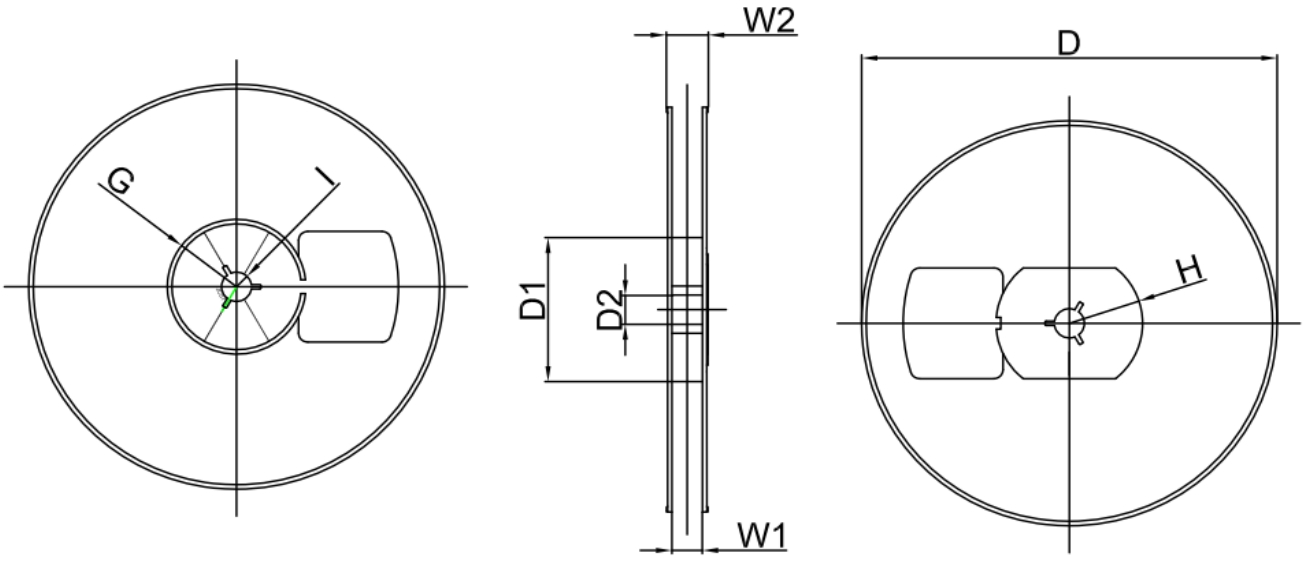
Exterior comparison Chart	
Original	New
	
Top View	Top View
	
Back View	Back View

Elektronische Bauelemente

Packaging Information
Taping Specification

SOT-223





Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	13.00	R30.00	R32.00	R6.50	13.20	16.50

Reel	Reel Size	Box	Box Size (mm)	Carton	Carton Size (mm)
1,000 pcs	7 inch	10,000 pcs	150*190*200	80,000	300*420*410

SeCoS Corporation

Reliability Testing Summary Report

Date: 2015/10/08 Document No.: SI15 -10-104

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	BCP69	150 ± 5℃, 80%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	BCP69	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	BCP69	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	BCP69	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	BCP69	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	BCP69	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	BCP69	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 : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-38.92V	155.3	-10.43mV
2	-43.00V	147.7	-10.60mV
3	-38.91V	138.7	-10.30mV
4	-42.69V	135.8	-10.38mV
5	-42.17V	147.5	-10.60mV
6	-43.87V	159.2	-10.38mV
7	-42.46V	150.5	-10.66mV
8	-40.77V	132.8	-10.55mV
9	-41.94V	139.7	-10.46mV
10	-40.92V	158.1	-10.35mV
11	-39.60V	156.1	-10.30mV
12	-44.48V	156.7	-10.72mV
13	-42.90V	144.1	-10.36mV
14	-39.15V	157.4	-10.70mV
15	-44.13V	140.8	-10.33mV
16	-41.07V	139.9	-10.57mV
17	-44.04V	140.8	-10.38mV
18	-43.41V	138.1	-10.39mV
19	-43.12V	138.4	-10.40mV
20	-40.48V	145.5	-10.61mV
21	-41.50V	159.0	-10.42mV
22	-40.48V	130.0	-10.49mV
23	-40.18V	134.2	-10.49mV
24	-40.94V	160.3	-10.51mV
25	-43.12V	129.7	-10.44mV
26	-41.05V	135.9	-10.63mV
27	-43.02V	149.7	-10.52mV
28	-40.96V	139.3	-10.71mV
29	-38.81V	142.2	-10.53mV
30	-39.49V	145.8	-10.64mV

SeCoS Corporation

Electrical Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-44.25V	153.4	-10.32mV
32	-42.78V	160.4	-10.43mV
33	-41.50V	151.5	-10.68mV
34	-41.79V	156.0	-10.56mV
35	-41.27V	135.8	-10.63mV
36	-42.29V	135.8	-10.36mV
37	-42.43V	145.7	-10.52mV
38	-42.56V	146.6	-10.73mV
39	-44.16V	158.1	-10.70mV
40	-43.75V	157.0	-10.70mV
41	-41.70V	135.2	-10.37mV
42	-43.23V	146.1	-10.35mV
43	-43.98V	145.1	-10.57mV
44	-42.11V	159.6	-10.54mV
45	-42.00V	146.2	-10.71mV
46	-41.05V	151.4	-10.37mV
47	-44.00V	137.6	-10.34mV
48	-42.87V	129.8	-10.42mV
49	-38.98V	131.3	-10.47mV
50	-44.45V	133.0	-10.31mV
51	-40.46V	134.0	-10.70mV
52	-38.85V	152.8	-10.63mV
53	-39.89V	129.2	-10.65mV
54	-42.41V	137.1	-10.42mV
55	-44.00V	145.0	-10.71mV
56	-43.32V	143.6	-10.66mV
57	-42.84V	130.0	-10.46mV
58	-41.24V	150.2	-10.51mV
59	-43.18V	152.7	-10.52mV
60	-39.04V	147.9	-10.35mV

SeCoS Corporation

Electrical Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-43.61V	155.8	-10.34mV
62	-42.73V	131.2	-10.52mV
63	-43.19V	159.1	-10.54mV
64	-43.84V	140.6	-10.60mV
65	-44.04V	137.0	-10.62mV
66	-38.95V	134.4	-10.71mV
67	-40.84V	139.4	-10.63mV
68	-40.96V	140.6	-10.32mV
69	-40.64V	150.8	-10.61mV
70	-39.15V	155.5	-10.39mV
71	-42.34V	154.2	-10.69mV
72	-41.84V	141.9	-10.52mV
73	-41.47V	131.1	-10.64mV
74	-44.49V	132.6	-10.61mV
75	-41.04V	139.5	-10.59mV
76	-39.65V	154.2	-10.50mV
77	-40.77V	150.0	-10.40mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-40.16V	138.4	-10.52mV	-43.39V	132.5	-10.61mV
2	-40.44V	132.0	-10.47mV	-40.55V	144.7	-10.31mV
3	-41.03V	137.9	-10.64mV	-43.70V	145.5	-10.57mV
4	-42.25V	141.0	-10.58mV	-39.88V	156.9	-10.30mV
5	-38.84V	157.9	-10.43mV	-40.14V	154.7	-10.64mV
6	-40.03V	138.6	-10.32mV	-42.97V	130.9	-10.62mV
7	-43.11V	152.1	-10.54mV	-39.41V	152.8	-10.67mV
8	-42.89V	158.6	-10.45mV	-42.17V	135.1	-10.31mV
9	-39.70V	151.6	-10.55mV	-42.38V	134.8	-10.41mV
10	-44.21V	156.4	-10.66mV	-42.74V	157.2	-10.68mV
11	-39.19V	133.6	-10.69mV	-39.71V	159.7	-10.63mV
12	-41.07V	140.9	-10.39mV	-42.36V	135.0	-10.35mV
13	-42.45V	140.5	-10.52mV	-42.12V	129.2	-10.45mV
14	-40.37V	149.4	-10.68mV	-41.79V	157.9	-10.48mV
15	-40.77V	144.4	-10.40mV	-41.95V	156.7	-10.67mV
16	-42.98V	138.2	-10.75mV	-40.75V	150.8	-10.72mV
17	-41.38V	155.0	-10.51mV	-39.59V	160.5	-10.56mV
18	-40.35V	155.0	-10.57mV	-44.22V	153.1	-10.53mV
19	-40.83V	143.5	-10.40mV	-41.72V	156.1	-10.56mV
20	-44.33V	149.8	-10.49mV	-43.42V	155.3	-10.55mV
21	-39.55V	134.2	-10.40mV	-42.37V	143.1	-10.54mV
22	-39.79V	155.7	-10.63mV	-39.24V	147.8	-10.52mV
23	-42.48V	160.7	-10.61mV	-40.29V	154.3	-10.50mV
24	-42.96V	155.7	-10.75mV	-41.34V	149.4	-10.60mV
25	-39.32V	154.1	-10.39mV	-42.81V	144.0	-10.62mV
26	-43.74V	147.0	-10.71mV	-39.76V	149.3	-10.48mV
27	-42.37V	156.6	-10.42mV	-39.42V	141.5	-10.55mV
28	-38.82V	136.3	-10.52mV	-42.49V	155.2	-10.34mV
29	-39.89V	130.4	-10.32mV	-42.75V	157.5	-10.73mV

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-42.94V	145.6	-10.58mV	-43.60V	149.2	-10.65mV
31	-40.23V	154.0	-10.39mV	-41.46V	157.6	-10.64mV
32	-43.31V	135.1	-10.48mV	-39.94V	131.1	-10.51mV
33	-41.21V	146.9	-10.36mV	-42.99V	151.2	-10.57mV
34	-38.96V	131.0	-10.65mV	-39.38V	159.2	-10.73mV
35	-44.22V	141.9	-10.32mV	-43.02V	141.2	-10.73mV
36	-41.87V	142.6	-10.45mV	-43.69V	142.0	-10.67mV
37	-40.63V	141.7	-10.72mV	-44.23V	146.1	-10.69mV
38	-44.11V	145.9	-10.65mV	-42.07V	145.5	-10.46mV
39	-43.15V	130.8	-10.56mV	-42.69V	151.8	-10.61mV
40	-43.01V	142.4	-10.70mV	-40.67V	149.2	-10.49mV
41	-44.42V	138.3	-10.62mV	-39.80V	157.7	-10.58mV
42	-41.47V	131.3	-10.49mV	-40.79V	159.2	-10.69mV
43	-39.49V	150.3	-10.36mV	-39.36V	157.5	-10.58mV
44	-39.81V	150.6	-10.36mV	-42.64V	152.2	-10.56mV
45	-42.62V	133.0	-10.49mV	-41.11V	154.5	-10.69mV
46	-44.11V	155.0	-10.55mV	-40.30V	158.2	-10.38mV
47	-41.94V	151.0	-10.36mV	-41.62V	159.2	-10.63mV
48	-39.64V	136.1	-10.38mV	-41.46V	134.8	-10.68mV
49	-41.85V	140.4	-10.70mV	-43.93V	138.3	-10.72mV
50	-42.84V	151.2	-10.39mV	-40.78V	158.9	-10.68mV
51	-39.54V	156.8	-10.57mV	-41.91V	139.9	-10.71mV
52	-40.19V	160.6	-10.52mV	-39.54V	147.7	-10.68mV
53	-43.33V	140.6	-10.44mV	-40.44V	131.9	-10.63mV
54	-41.72V	135.5	-10.68mV	-41.68V	131.8	-10.73mV
55	-42.04V	135.8	-10.49mV	-40.20V	144.0	-10.38mV
56	-39.10V	155.5	-10.31mV	-39.40V	156.0	-10.68mV
57	-43.42V	138.8	-10.42mV	-44.35V	137.5	-10.75mV
58	-41.68V	139.9	-10.56mV	-43.27V	148.2	-10.33mV

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-44.01V	147.7	-10.54mV	-39.20V	142.2	-10.58mV
60	-39.11V	157.1	-10.70mV	-39.83V	155.2	-10.49mV
61	-40.24V	134.6	-10.70mV	-44.37V	134.7	-10.34mV
62	-44.27V	156.9	-10.30mV	-44.02V	140.4	-10.70mV
63	-42.92V	143.7	-10.60mV	-39.85V	133.6	-10.72mV
64	-43.72V	138.5	-10.72mV	-40.95V	145.4	-10.48mV
65	-43.65V	141.1	-10.45mV	-41.94V	129.3	-10.44mV
66	-39.77V	139.7	-10.53mV	-39.98V	139.6	-10.31mV
67	-39.36V	137.3	-10.57mV	-39.27V	158.4	-10.65mV
68	-43.49V	159.9	-10.55mV	-43.30V	137.9	-10.48mV
69	-40.00V	141.1	-10.65mV	-44.04V	153.8	-10.33mV
70	-40.87V	155.5	-10.65mV	-43.64V	145.3	-10.72mV
71	-43.10V	141.9	-10.71mV	-42.15V	143.6	-10.74mV
72	-40.13V	147.0	-10.51mV	-41.02V	148.5	-10.40mV
73	-41.92V	144.3	-10.31mV	-43.80V	146.0	-10.64mV
74	-40.32V	150.4	-10.66mV	-41.32V	159.9	-10.61mV
75	-39.35V	146.6	-10.61mV	-44.12V	150.9	-10.71mV
76	-43.00V	155.6	-10.32mV	-44.29V	146.7	-10.44mV
77	-44.07V	159.8	-10.54mV	-41.95V	154.1	-10.53mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-41.91V	144.7	-10.40mV	-39.71V	137.8	-10.31mV
2	-44.36V	158.7	-10.38mV	-42.81V	154.8	-10.38mV
3	-42.27V	156.4	-10.61mV	-44.22V	130.2	-10.73mV
4	-44.29V	143.3	-10.69mV	-44.24V	141.9	-10.56mV
5	-44.20V	158.3	-10.69mV	-43.97V	150.9	-10.75mV
6	-43.94V	155.9	-10.56mV	-43.66V	143.4	-10.63mV
7	-40.97V	136.9	-10.31mV	-39.15V	157.1	-10.49mV
8	-43.58V	156.0	-10.46mV	-42.28V	132.2	-10.66mV
9	-40.35V	140.2	-10.63mV	-39.89V	154.8	-10.42mV
10	-44.35V	131.8	-10.55mV	-42.55V	150.5	-10.75mV
11	-42.08V	146.9	-10.47mV	-41.99V	157.7	-10.45mV
12	-40.20V	133.7	-10.68mV	-44.28V	151.3	-10.35mV
13	-41.93V	160.7	-10.47mV	-39.34V	134.4	-10.30mV
14	-38.87V	131.1	-10.74mV	-41.40V	145.5	-10.61mV
15	-41.68V	129.8	-10.35mV	-41.11V	138.9	-10.41mV
16	-41.60V	129.8	-10.62mV	-43.75V	137.6	-10.43mV
17	-39.25V	140.9	-10.59mV	-42.38V	137.3	-10.54mV
18	-41.85V	155.0	-10.66mV	-43.73V	151.6	-10.69mV
19	-40.83V	151.6	-10.49mV	-42.56V	135.9	-10.55mV
20	-43.64V	130.4	-10.31mV	-41.58V	142.0	-10.40mV
21	-41.08V	146.9	-10.37mV	-44.02V	135.3	-10.63mV
22	-42.63V	135.0	-10.55mV	-40.50V	134.1	-10.32mV
23	-42.89V	149.2	-10.66mV	-39.21V	152.1	-10.72mV
24	-39.01V	159.9	-10.72mV	-40.71V	134.3	-10.35mV
25	-39.83V	160.7	-10.49mV	-41.23V	154.7	-10.65mV
26	-39.51V	143.2	-10.37mV	-40.50V	150.0	-10.41mV
27	-42.62V	158.8	-10.43mV	-40.26V	140.4	-10.54mV
28	-41.56V	154.4	-10.37mV	-41.82V	131.9	-10.36mV
29	-40.46V	138.9	-10.57mV	-40.02V	148.5	-10.57mV

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-43.96V	132.9	-10.51mV	-39.73V	153.2	-10.59mV
31	-44.43V	150.9	-10.67mV	-41.27V	151.3	-10.51mV
32	-39.72V	153.6	-10.66mV	-44.25V	129.9	-10.47mV
33	-41.38V	146.3	-10.40mV	-42.37V	149.4	-10.65mV
34	-39.46V	138.3	-10.38mV	-43.66V	136.6	-10.36mV
35	-42.33V	160.9	-10.73mV	-43.07V	156.4	-10.55mV
36	-40.53V	142.3	-10.60mV	-40.77V	141.2	-10.36mV
37	-40.58V	138.6	-10.59mV	-42.95V	150.3	-10.44mV
38	-39.12V	142.8	-10.34mV	-41.56V	143.8	-10.37mV
39	-40.21V	140.7	-10.61mV	-39.38V	157.2	-10.56mV
40	-43.11V	139.6	-10.60mV	-43.72V	146.4	-10.64mV
41	-41.23V	140.9	-10.44mV	-40.02V	129.5	-10.35mV
42	-41.41V	137.2	-10.57mV	-42.17V	158.6	-10.61mV
43	-39.70V	139.5	-10.67mV	-42.70V	155.9	-10.34mV
44	-42.70V	136.4	-10.63mV	-42.83V	151.2	-10.32mV
45	-43.37V	151.0	-10.75mV	-43.91V	135.8	-10.66mV
46	-44.40V	140.7	-10.46mV	-43.94V	130.2	-10.36mV
47	-41.79V	143.7	-10.54mV	-43.38V	132.9	-10.69mV
48	-41.39V	139.1	-10.74mV	-41.81V	136.6	-10.36mV
49	-41.48V	142.7	-10.32mV	-40.38V	157.6	-10.47mV
50	-39.30V	134.7	-10.40mV	-39.01V	156.4	-10.65mV
51	-40.06V	152.8	-10.40mV	-38.98V	145.7	-10.52mV
52	-41.16V	137.4	-10.32mV	-42.80V	160.8	-10.45mV
53	-44.44V	140.1	-10.42mV	-39.29V	133.9	-10.38mV
54	-38.85V	157.7	-10.34mV	-41.47V	130.1	-10.63mV
55	-41.15V	134.3	-10.43mV	-39.11V	131.4	-10.65mV
56	-43.13V	147.0	-10.49mV	-42.31V	154.8	-10.50mV
57	-38.89V	153.6	-10.43mV	-41.55V	154.0	-10.64mV
58	-42.61V	129.1	-10.49mV	-41.74V	141.9	-10.34mV

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-43.57V	154.2	-10.64mV	-42.44V	147.8	-10.49mV
60	-40.62V	153.4	-10.63mV	-39.19V	156.1	-10.53mV
61	-44.47V	133.7	-10.72mV	-42.30V	140.8	-10.33mV
62	-41.34V	132.4	-10.54mV	-43.02V	129.8	-10.65mV
63	-42.71V	135.3	-10.44mV	-42.16V	139.3	-10.60mV
64	-42.47V	147.3	-10.64mV	-40.41V	153.3	-10.37mV
65	-42.45V	146.9	-10.63mV	-39.89V	136.7	-10.46mV
66	-43.00V	153.1	-10.66mV	-42.09V	147.9	-10.58mV
67	-41.97V	140.2	-10.35mV	-43.89V	145.8	-10.67mV
68	-41.17V	137.1	-10.34mV	-42.50V	129.9	-10.38mV
69	-44.35V	148.2	-10.66mV	-40.99V	140.6	-10.67mV
70	-42.49V	149.3	-10.56mV	-41.89V	136.8	-10.39mV
71	-41.17V	146.3	-10.72mV	-39.18V	130.1	-10.36mV
72	-42.15V	135.5	-10.64mV	-43.73V	131.8	-10.38mV
73	-42.78V	146.1	-10.45mV	-41.87V	136.9	-10.35mV
74	-39.52V	140.8	-10.49mV	-41.98V	140.9	-10.58mV
75	-42.27V	144.7	-10.64mV	-43.18V	137.3	-10.36mV
76	-42.08V	131.4	-10.41mV	-43.78V	140.7	-10.49mV
77	-41.50V	134.6	-10.43mV	-40.88V	134.0	-10.42mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-43.40V	159.1	-10.41mV	-39.50V	155.1	-10.64mV
2	-44.48V	143.7	-10.75mV	-42.47V	142.5	-10.66mV
3	-43.61V	153.8	-10.66mV	-42.37V	139.5	-10.68mV
4	-43.52V	144.3	-10.55mV	-42.77V	153.8	-10.66mV
5	-41.03V	142.2	-10.47mV	-40.28V	145.8	-10.46mV
6	-44.32V	138.6	-10.41mV	-41.57V	138.1	-10.74mV
7	-44.51V	139.1	-10.49mV	-42.26V	153.4	-10.49mV
8	-41.53V	129.6	-10.62mV	-41.96V	135.8	-10.33mV
9	-38.92V	147.0	-10.67mV	-41.32V	137.0	-10.37mV
10	-41.11V	140.3	-10.36mV	-39.40V	146.3	-10.46mV
11	-40.50V	152.3	-10.70mV	-43.85V	147.2	-10.33mV
12	-44.24V	157.7	-10.38mV	-44.44V	149.8	-10.56mV
13	-41.29V	145.2	-10.32mV	-41.31V	145.5	-10.73mV
14	-41.89V	141.4	-10.56mV	-40.70V	154.0	-10.49mV
15	-39.88V	153.5	-10.70mV	-42.67V	147.7	-10.54mV
16	-41.42V	142.9	-10.51mV	-40.75V	158.8	-10.45mV
17	-40.51V	144.6	-10.51mV	-44.05V	142.9	-10.57mV
18	-43.23V	142.2	-10.33mV	-42.57V	139.9	-10.30mV
19	-42.23V	159.9	-10.49mV	-43.58V	142.7	-10.44mV
20	-44.24V	141.1	-10.51mV	-39.75V	147.2	-10.62mV
21	-44.30V	144.7	-10.56mV	-44.39V	136.3	-10.38mV
22	-42.27V	158.9	-10.74mV	-44.26V	158.5	-10.51mV
23	-40.45V	129.7	-10.38mV	-42.21V	155.9	-10.36mV
24	-42.23V	151.1	-10.31mV	-42.36V	160.0	-10.43mV
25	-40.75V	137.9	-10.52mV	-43.19V	132.2	-10.73mV
26	-41.88V	129.6	-10.54mV	-42.21V	138.9	-10.30mV
27	-41.36V	137.5	-10.65mV	-40.17V	145.6	-10.44mV
28	-40.78V	130.1	-10.71mV	-43.40V	143.8	-10.37mV
29	-43.93V	135.5	-10.37mV	-43.33V	157.1	-10.66mV

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-40.41V	154.4	-10.40mV	-41.94V	140.5	-10.52mV
31	-41.94V	159.2	-10.30mV	-41.52V	142.2	-10.60mV
32	-43.21V	135.2	-10.68mV	-39.88V	146.1	-10.47mV
33	-41.07V	130.9	-10.45mV	-40.12V	145.4	-10.72mV
34	-41.22V	160.0	-10.60mV	-42.78V	157.6	-10.71mV
35	-41.53V	150.7	-10.68mV	-41.24V	135.6	-10.52mV
36	-41.89V	147.1	-10.67mV	-40.69V	142.5	-10.47mV
37	-39.40V	136.3	-10.51mV	-39.25V	129.4	-10.70mV
38	-42.31V	139.9	-10.51mV	-41.84V	147.7	-10.65mV
39	-40.72V	141.6	-10.67mV	-40.49V	154.2	-10.31mV
40	-43.77V	129.3	-10.50mV	-41.63V	144.5	-10.74mV
41	-41.94V	148.0	-10.53mV	-43.42V	145.4	-10.45mV
42	-43.60V	156.5	-10.47mV	-44.51V	135.7	-10.73mV
43	-41.34V	135.2	-10.73mV	-39.77V	156.8	-10.65mV
44	-41.88V	132.8	-10.55mV	-43.68V	133.9	-10.46mV
45	-43.72V	158.6	-10.62mV	-39.69V	132.4	-10.54mV
46	-42.48V	142.7	-10.46mV	-43.70V	141.5	-10.57mV
47	-42.39V	141.2	-10.34mV	-42.58V	149.2	-10.70mV
48	-41.27V	152.7	-10.55mV	-43.83V	152.3	-10.31mV
49	-43.61V	149.5	-10.48mV	-40.49V	150.2	-10.72mV
50	-42.63V	147.0	-10.67mV	-42.04V	149.2	-10.33mV
51	-41.98V	147.8	-10.41mV	-42.24V	130.0	-10.60mV
52	-44.20V	138.8	-10.62mV	-41.43V	159.1	-10.37mV
53	-42.32V	136.4	-10.50mV	-41.90V	148.9	-10.47mV
54	-43.98V	131.0	-10.45mV	-44.39V	132.0	-10.45mV
55	-42.10V	153.9	-10.35mV	-40.79V	129.5	-10.74mV
56	-42.00V	160.1	-10.50mV	-40.62V	143.4	-10.36mV
57	-41.15V	134.9	-10.69mV	-39.22V	137.6	-10.62mV
58	-44.10V	133.9	-10.61mV	-39.97V	139.7	-10.42mV

SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-43.05V	151.6	-10.69mV	-40.04V	141.7	-10.66mV
60	-43.09V	158.6	-10.32mV	-38.98V	132.7	-10.65mV
61	-44.28V	133.6	-10.39mV	-42.04V	129.7	-10.41mV
62	-41.83V	157.5	-10.73mV	-44.27V	152.6	-10.43mV
63	-43.94V	142.0	-10.67mV	-39.33V	150.6	-10.54mV
64	-39.91V	153.3	-10.54mV	-42.16V	155.1	-10.42mV
65	-41.86V	149.1	-10.60mV	-42.01V	147.5	-10.49mV
66	-39.82V	136.0	-10.35mV	-40.79V	137.5	-10.55mV
67	-41.68V	140.3	-10.38mV	-40.99V	139.1	-10.42mV
68	-41.39V	145.0	-10.72mV	-39.02V	139.1	-10.59mV
69	-43.99V	137.5	-10.40mV	-43.48V	149.6	-10.53mV
70	-41.27V	148.3	-10.44mV	-40.24V	139.1	-10.39mV
71	-41.83V	141.9	-10.36mV	-40.49V	152.2	-10.74mV
72	-44.41V	156.7	-10.39mV	-39.73V	146.3	-10.47mV
73	-42.43V	159.5	-10.47mV	-43.09V	155.6	-10.72mV
74	-38.96V	152.0	-10.61mV	-42.86V	129.7	-10.53mV
75	-42.06V	129.8	-10.66mV	-43.28V	153.2	-10.66mV
76	-40.19V	149.9	-10.47mV	-43.60V	134.8	-10.32mV
77	-41.20V	154.1	-10.52mV	-41.47V	149.2	-10.41mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-39.66V	138.5	-10.70mV	-39.56V	150.5	-10.67mV
2	-42.93V	160.7	-10.48mV	-43.98V	151.3	-10.36mV
3	-42.93V	145.2	-10.56mV	-40.93V	153.9	-10.62mV
4	-43.35V	131.3	-10.35mV	-41.99V	159.3	-10.58mV
5	-39.93V	142.5	-10.64mV	-39.23V	143.1	-10.38mV
6	-44.19V	149.4	-10.43mV	-42.20V	131.1	-10.32mV
7	-43.81V	159.4	-10.31mV	-40.16V	137.6	-10.52mV
8	-40.87V	132.8	-10.62mV	-42.13V	135.3	-10.74mV
9	-41.05V	155.3	-10.33mV	-41.50V	143.5	-10.62mV
10	-41.72V	154.8	-10.60mV	-39.68V	139.1	-10.35mV
11	-44.12V	146.0	-10.65mV	-41.41V	156.5	-10.32mV
12	-44.40V	160.8	-10.47mV	-41.28V	149.2	-10.51mV
13	-40.62V	137.0	-10.33mV	-39.90V	138.1	-10.61mV
14	-39.35V	132.7	-10.62mV	-41.80V	155.1	-10.73mV
15	-44.23V	140.2	-10.63mV	-40.54V	153.7	-10.69mV
16	-43.55V	142.7	-10.70mV	-41.39V	135.7	-10.42mV
17	-43.28V	140.4	-10.31mV	-43.05V	151.9	-10.51mV
18	-43.46V	149.1	-10.38mV	-40.40V	159.3	-10.59mV
19	-41.56V	145.5	-10.68mV	-40.55V	131.0	-10.36mV
20	-42.45V	136.3	-10.49mV	-40.11V	131.3	-10.31mV
21	-44.04V	148.7	-10.49mV	-40.37V	155.8	-10.52mV
22	-42.95V	143.8	-10.50mV	-42.44V	132.0	-10.43mV
23	-39.26V	144.8	-10.65mV	-40.84V	133.6	-10.55mV
24	-40.57V	129.6	-10.75mV	-41.64V	160.5	-10.37mV
25	-40.84V	133.8	-10.35mV	-42.13V	132.3	-10.72mV
26	-42.33V	134.3	-10.59mV	-42.46V	139.7	-10.42mV
27	-44.23V	153.8	-10.39mV	-41.93V	148.3	-10.63mV
28	-41.60V	140.7	-10.72mV	-38.83V	142.4	-10.54mV
29	-42.29V	138.2	-10.33mV	-43.20V	141.0	-10.38mV

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-41.38V	151.7	-10.63mV	-41.58V	134.4	-10.41mV
31	-40.58V	129.2	-10.59mV	-39.65V	158.0	-10.55mV
32	-42.71V	153.8	-10.49mV	-39.20V	149.2	-10.55mV
33	-39.47V	137.4	-10.72mV	-41.02V	133.4	-10.73mV
34	-39.32V	141.1	-10.61mV	-41.96V	146.0	-10.49mV
35	-42.47V	143.7	-10.56mV	-43.78V	148.0	-10.68mV
36	-41.30V	134.4	-10.67mV	-40.26V	144.0	-10.32mV
37	-39.79V	159.5	-10.37mV	-40.52V	157.3	-10.56mV
38	-39.51V	135.9	-10.32mV	-43.09V	154.0	-10.64mV
39	-43.03V	146.4	-10.60mV	-39.01V	136.0	-10.37mV
40	-42.69V	159.2	-10.64mV	-40.73V	156.4	-10.65mV
41	-42.02V	144.7	-10.52mV	-38.97V	155.4	-10.47mV
42	-42.37V	141.2	-10.67mV	-42.80V	132.4	-10.48mV
43	-39.05V	153.2	-10.55mV	-41.94V	147.0	-10.58mV
44	-38.84V	160.8	-10.56mV	-39.56V	138.7	-10.43mV
45	-39.54V	151.5	-10.66mV	-40.13V	147.6	-10.35mV
46	-39.93V	137.2	-10.60mV	-43.41V	158.7	-10.70mV
47	-42.56V	137.0	-10.45mV	-38.95V	151.1	-10.35mV
48	-44.48V	160.9	-10.45mV	-42.32V	145.3	-10.61mV
49	-41.23V	134.0	-10.74mV	-40.66V	137.9	-10.70mV
50	-41.96V	149.2	-10.59mV	-43.46V	152.7	-10.61mV
51	-39.49V	146.7	-10.55mV	-39.96V	132.8	-10.35mV
52	-41.54V	139.1	-10.59mV	-41.58V	143.5	-10.68mV
53	-38.95V	131.8	-10.61mV	-39.35V	143.8	-10.37mV
54	-42.47V	147.1	-10.37mV	-38.90V	142.6	-10.70mV
55	-41.63V	150.7	-10.61mV	-41.85V	150.1	-10.54mV
56	-40.25V	132.2	-10.50mV	-39.96V	131.5	-10.45mV
57	-42.42V	131.3	-10.45mV	-44.47V	156.8	-10.48mV
58	-39.60V	141.7	-10.34mV	-44.26V	132.9	-10.32mV

SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-40.40V	153.5	-10.57mV	-40.73V	134.1	-10.74mV
60	-42.57V	140.2	-10.57mV	-42.49V	144.6	-10.46mV
61	-44.44V	160.8	-10.75mV	-39.76V	134.3	-10.74mV
62	-41.23V	139.5	-10.39mV	-42.99V	152.7	-10.30mV
63	-43.07V	159.3	-10.42mV	-39.12V	148.8	-10.65mV
64	-42.60V	155.8	-10.53mV	-41.36V	142.8	-10.73mV
65	-44.32V	150.7	-10.35mV	-39.97V	132.0	-10.33mV
66	-42.63V	135.7	-10.70mV	-40.72V	148.6	-10.45mV
67	-43.82V	157.0	-10.74mV	-42.90V	141.3	-10.75mV
68	-44.39V	142.2	-10.30mV	-39.84V	133.3	-10.42mV
69	-43.92V	144.8	-10.55mV	-40.23V	145.0	-10.69mV
70	-39.55V	137.6	-10.68mV	-40.25V	142.5	-10.72mV
71	-40.88V	131.3	-10.59mV	-41.95V	159.6	-10.34mV
72	-43.78V	148.7	-10.45mV	-39.27V	144.9	-10.58mV
73	-40.54V	157.6	-10.62mV	-40.01V	145.6	-10.59mV
74	-40.64V	136.4	-10.55mV	-42.39V	138.7	-10.36mV
75	-38.82V	157.3	-10.47mV	-40.42V	136.3	-10.30mV
76	-39.86V	130.0	-10.43mV	-41.65V	143.5	-10.36mV
77	-43.81V	138.2	-10.31mV	-40.84V	152.6	-10.39mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-41.49V	152.3	-10.40mV	-40.29V	143.4	-10.36mV
2	-44.39V	139.5	-10.45mV	-40.44V	135.0	-10.64mV
3	-41.03V	148.6	-10.69mV	-42.82V	147.1	-10.37mV
4	-40.25V	129.2	-10.63mV	-41.06V	138.6	-10.55mV
5	-41.81V	147.8	-10.32mV	-44.27V	149.8	-10.59mV
6	-39.61V	152.7	-10.41mV	-43.15V	135.0	-10.48mV
7	-39.10V	158.3	-10.39mV	-43.98V	153.2	-10.56mV
8	-42.71V	150.5	-10.53mV	-42.85V	150.6	-10.45mV
9	-41.49V	133.8	-10.38mV	-40.06V	159.7	-10.53mV
10	-43.51V	139.4	-10.68mV	-39.05V	141.0	-10.69mV
11	-39.60V	153.5	-10.32mV	-39.20V	144.1	-10.54mV
12	-40.37V	133.0	-10.34mV	-43.71V	133.6	-10.45mV
13	-41.22V	153.5	-10.55mV	-42.56V	132.4	-10.37mV
14	-42.75V	135.3	-10.66mV	-40.80V	144.8	-10.46mV
15	-39.15V	138.7	-10.51mV	-39.68V	135.6	-10.58mV
16	-43.85V	150.0	-10.68mV	-41.26V	142.7	-10.65mV
17	-40.26V	150.2	-10.59mV	-41.76V	155.3	-10.37mV
18	-42.15V	138.0	-10.35mV	-40.95V	144.1	-10.41mV
19	-40.56V	158.4	-10.48mV	-41.33V	157.3	-10.39mV
20	-42.63V	142.0	-10.40mV	-42.26V	134.2	-10.52mV
21	-40.86V	140.4	-10.73mV	-40.51V	138.8	-10.45mV
22	-42.10V	140.7	-10.50mV	-43.44V	130.7	-10.71mV
23	-40.37V	156.1	-10.37mV	-39.35V	137.1	-10.54mV
24	-40.45V	140.0	-10.65mV	-39.87V	141.0	-10.51mV
25	-39.01V	134.6	-10.61mV	-42.29V	140.8	-10.53mV
26	-44.33V	150.3	-10.30mV	-42.44V	129.3	-10.39mV
27	-39.76V	135.6	-10.34mV	-44.24V	147.6	-10.35mV
28	-42.66V	146.4	-10.54mV	-38.97V	138.9	-10.63mV
29	-40.04V	159.8	-10.40mV	-39.44V	136.9	-10.36mV

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-42.26V	147.0	-10.39mV	-40.82V	139.4	-10.51mV
31	-42.45V	136.3	-10.68mV	-41.66V	134.0	-10.33mV
32	-43.00V	136.8	-10.70mV	-41.80V	137.1	-10.47mV
33	-40.35V	142.7	-10.57mV	-39.32V	153.2	-10.54mV
34	-42.65V	151.0	-10.33mV	-43.76V	130.0	-10.62mV
35	-39.17V	150.9	-10.36mV	-41.32V	145.8	-10.54mV
36	-43.60V	149.9	-10.70mV	-43.23V	154.9	-10.70mV
37	-39.38V	133.7	-10.36mV	-40.26V	143.1	-10.58mV
38	-42.15V	153.6	-10.64mV	-42.98V	145.1	-10.61mV
39	-40.55V	156.6	-10.51mV	-41.71V	140.2	-10.65mV
40	-39.66V	144.4	-10.44mV	-38.88V	144.3	-10.73mV
41	-43.77V	151.9	-10.56mV	-41.66V	156.0	-10.53mV
42	-44.49V	145.0	-10.33mV	-41.85V	155.5	-10.53mV
43	-39.38V	134.4	-10.55mV	-40.53V	159.1	-10.62mV
44	-41.71V	131.3	-10.35mV	-41.41V	150.5	-10.60mV
45	-44.28V	138.1	-10.53mV	-40.31V	143.3	-10.65mV
46	-41.75V	156.6	-10.59mV	-40.55V	139.4	-10.41mV
47	-44.35V	139.2	-10.63mV	-44.32V	158.7	-10.47mV
48	-39.18V	140.0	-10.48mV	-44.23V	147.3	-10.60mV
49	-39.88V	137.4	-10.54mV	-39.63V	159.9	-10.35mV
50	-40.28V	155.1	-10.36mV	-44.30V	131.9	-10.69mV
51	-43.70V	158.4	-10.63mV	-41.96V	129.3	-10.37mV
52	-39.00V	159.0	-10.40mV	-42.72V	140.1	-10.58mV
53	-39.18V	160.2	-10.69mV	-40.45V	155.1	-10.70mV
54	-42.20V	130.4	-10.72mV	-40.41V	139.5	-10.41mV
55	-44.44V	134.3	-10.41mV	-43.96V	154.6	-10.75mV
56	-43.70V	158.1	-10.49mV	-40.30V	159.5	-10.68mV
57	-41.44V	151.0	-10.54mV	-39.80V	139.3	-10.62mV
58	-41.66V	158.0	-10.60mV	-41.78V	137.0	-10.67mV

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-44.19V	147.2	-10.57mV	-44.43V	157.2	-10.31mV
60	-43.68V	142.9	-10.32mV	-39.90V	145.3	-10.30mV
61	-44.34V	143.9	-10.32mV	-39.34V	154.6	-10.55mV
62	-39.27V	159.8	-10.73mV	-39.95V	152.6	-10.65mV
63	-43.92V	157.9	-10.49mV	-38.87V	137.5	-10.44mV
64	-38.96V	130.8	-10.38mV	-41.75V	144.4	-10.72mV
65	-42.45V	147.9	-10.58mV	-39.94V	131.9	-10.39mV
66	-41.50V	137.1	-10.42mV	-40.77V	138.4	-10.32mV
67	-41.31V	155.5	-10.43mV	-40.08V	150.0	-10.59mV
68	-41.35V	147.9	-10.66mV	-41.35V	136.0	-10.74mV
69	-40.05V	140.7	-10.48mV	-42.48V	143.1	-10.30mV
70	-39.70V	146.8	-10.34mV	-44.47V	158.8	-10.50mV
71	-40.26V	136.3	-10.63mV	-43.51V	130.0	-10.63mV
72	-43.56V	159.6	-10.70mV	-42.19V	137.2	-10.69mV
73	-42.65V	147.6	-10.69mV	-40.06V	129.4	-10.44mV
74	-44.09V	146.5	-10.33mV	-40.71V	141.8	-10.49mV
75	-43.80V	156.6	-10.56mV	-41.57V	152.2	-10.49mV
76	-44.42V	158.2	-10.64mV	-40.62V	130.5	-10.64mV
77	-39.60V	139.8	-10.38mV	-44.07V	155.7	-10.57mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-42.80V	135.0	-10.74mV	-41.75V	157.4	-10.32mV
2	-42.81V	135.9	-10.64mV	-40.03V	152.8	-10.51mV
3	-41.45V	135.4	-10.37mV	-44.34V	150.7	-10.32mV
4	-40.59V	150.3	-10.71mV	-40.77V	145.4	-10.55mV
5	-42.94V	159.4	-10.58mV	-39.27V	137.1	-10.35mV
6	-43.29V	140.2	-10.66mV	-44.48V	139.6	-10.39mV
7	-40.24V	131.6	-10.69mV	-40.31V	129.5	-10.72mV
8	-40.29V	149.2	-10.42mV	-43.64V	131.2	-10.34mV
9	-39.26V	132.5	-10.60mV	-43.87V	151.6	-10.38mV
10	-41.47V	137.0	-10.55mV	-42.34V	148.0	-10.60mV
11	-38.89V	152.9	-10.54mV	-41.90V	139.6	-10.74mV
12	-41.01V	147.8	-10.47mV	-38.93V	156.1	-10.58mV
13	-42.71V	154.6	-10.66mV	-42.84V	149.1	-10.54mV
14	-41.85V	135.0	-10.33mV	-44.26V	132.9	-10.44mV
15	-41.64V	157.9	-10.60mV	-43.83V	138.1	-10.58mV
16	-42.81V	136.7	-10.68mV	-43.10V	156.0	-10.67mV
17	-44.17V	134.8	-10.31mV	-39.07V	142.2	-10.44mV
18	-41.78V	159.1	-10.65mV	-41.23V	130.8	-10.31mV
19	-41.84V	157.9	-10.66mV	-44.43V	146.1	-10.44mV
20	-40.94V	133.5	-10.38mV	-43.42V	144.8	-10.65mV
21	-39.19V	149.9	-10.38mV	-44.06V	144.6	-10.50mV
22	-44.25V	143.0	-10.45mV	-38.86V	144.4	-10.36mV
23	-42.85V	156.6	-10.74mV	-41.99V	150.6	-10.31mV
24	-41.47V	140.9	-10.48mV	-39.54V	132.8	-10.43mV
25	-42.30V	149.7	-10.39mV	-42.22V	158.8	-10.63mV
26	-39.38V	129.4	-10.35mV	-40.64V	152.7	-10.67mV
27	-43.60V	145.9	-10.48mV	-39.28V	143.3	-10.72mV
28	-44.08V	135.8	-10.69mV	-42.01V	137.8	-10.56mV
29	-39.34V	145.4	-10.69mV	-42.71V	129.9	-10.63mV

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-42.48V	131.0	-10.46mV	-42.66V	158.9	-10.67mV
31	-42.19V	148.8	-10.33mV	-41.46V	142.9	-10.36mV
32	-40.79V	139.8	-10.59mV	-43.11V	129.1	-10.50mV
33	-43.49V	132.3	-10.31mV	-42.48V	147.3	-10.40mV
34	-43.43V	156.2	-10.35mV	-40.67V	154.7	-10.47mV
35	-42.11V	133.2	-10.72mV	-44.49V	154.8	-10.36mV
36	-42.40V	151.9	-10.48mV	-40.11V	151.8	-10.62mV
37	-40.83V	145.1	-10.64mV	-41.73V	137.5	-10.49mV
38	-41.54V	139.4	-10.48mV	-44.00V	134.7	-10.56mV
39	-39.10V	143.7	-10.54mV	-39.77V	135.2	-10.49mV
40	-43.24V	152.8	-10.43mV	-38.93V	131.0	-10.69mV
41	-38.81V	139.8	-10.59mV	-40.56V	131.4	-10.58mV
42	-39.58V	143.2	-10.37mV	-44.06V	147.5	-10.59mV
43	-39.24V	151.3	-10.38mV	-42.80V	148.1	-10.63mV
44	-38.89V	152.1	-10.56mV	-44.21V	149.1	-10.63mV
45	-41.04V	143.4	-10.64mV	-39.99V	144.7	-10.58mV
46	-42.60V	160.1	-10.64mV	-39.06V	160.0	-10.70mV
47	-39.04V	133.4	-10.31mV	-40.99V	160.8	-10.53mV
48	-40.38V	134.9	-10.33mV	-42.83V	146.6	-10.30mV
49	-44.17V	143.4	-10.60mV	-42.82V	143.9	-10.48mV
50	-39.61V	139.4	-10.31mV	-44.30V	150.9	-10.72mV
51	-44.11V	147.5	-10.55mV	-41.30V	155.2	-10.50mV
52	-40.03V	143.4	-10.74mV	-40.50V	153.6	-10.41mV
53	-40.61V	143.3	-10.73mV	-42.71V	154.1	-10.65mV
54	-43.13V	149.3	-10.67mV	-40.69V	150.7	-10.37mV
55	-43.91V	151.4	-10.34mV	-40.79V	129.1	-10.60mV
56	-40.63V	149.0	-10.45mV	-42.99V	147.2	-10.44mV
57	-39.50V	134.5	-10.38mV	-40.11V	131.1	-10.36mV
58	-40.85V	152.8	-10.62mV	-41.80V	154.9	-10.54mV

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-44.46V	152.5	-10.53mV	-39.49V	133.2	-10.40mV
60	-39.94V	142.1	-10.51mV	-40.10V	160.3	-10.39mV
61	-41.94V	158.9	-10.58mV	-42.75V	152.1	-10.38mV
62	-42.69V	136.1	-10.34mV	-39.00V	154.3	-10.48mV
63	-39.06V	135.9	-10.57mV	-40.72V	153.9	-10.75mV
64	-41.15V	145.7	-10.75mV	-40.08V	140.8	-10.63mV
65	-41.21V	147.6	-10.57mV	-40.42V	134.5	-10.38mV
66	-43.88V	139.1	-10.40mV	-43.40V	147.4	-10.58mV
67	-41.00V	132.4	-10.30mV	-38.94V	148.4	-10.40mV
68	-43.91V	142.4	-10.64mV	-43.90V	151.7	-10.70mV
69	-43.56V	138.9	-10.69mV	-40.42V	138.6	-10.59mV
70	-39.41V	158.2	-10.35mV	-43.04V	129.8	-10.36mV
71	-40.79V	130.8	-10.59mV	-40.21V	158.5	-10.58mV
72	-39.47V	146.9	-10.67mV	-41.53V	138.7	-10.45mV
73	-44.49V	157.6	-10.36mV	-43.33V	137.3	-10.48mV
74	-42.53V	132.0	-10.68mV	-42.28V	160.6	-10.52mV
75	-40.82V	139.1	-10.50mV	-39.59V	137.8	-10.63mV
76	-42.98V	133.0	-10.73mV	-40.41V	156.9	-10.42mV
77	-39.31V	154.4	-10.74mV	-43.66V	132.7	-10.61mV

Made By: King Huang

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T151008-104
Part No : BCP69
Test Equipment: JUNO Test System DTS-1000
Test Condition : V(BR)CEO > -20V@IC=-1mA, IB=0 ； 85 < hFE < 375@VCE=-1V, IC=-500mA
VCE(sat) < -500mV@IC=-1mA, IB=-100mA
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	-39.06V	145.1	-10.65mV	-44.36V	135.8	-10.58mV
2	-39.74V	155.8	-10.42mV	-39.46V	159.9	-10.48mV
3	-41.51V	135.6	-10.36mV	-40.99V	137.9	-10.48mV
4	-40.11V	144.7	-10.57mV	-40.86V	145.1	-10.31mV
5	-42.91V	149.9	-10.49mV	-41.33V	158.7	-10.35mV
6	-44.07V	146.6	-10.34mV	-43.61V	150.1	-10.36mV
7	-42.10V	131.2	-10.62mV	-43.50V	133.2	-10.43mV
8	-38.82V	151.0	-10.41mV	-39.23V	131.7	-10.52mV
9	-42.41V	145.9	-10.60mV	-41.78V	131.4	-10.65mV
10	-41.45V	150.2	-10.35mV	-40.13V	159.3	-10.38mV

Made By: King Huang

Approval: Peter Yang