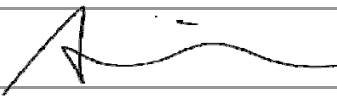



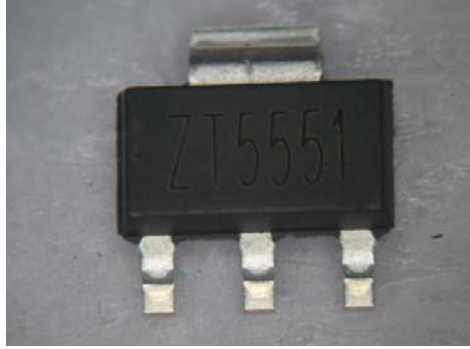
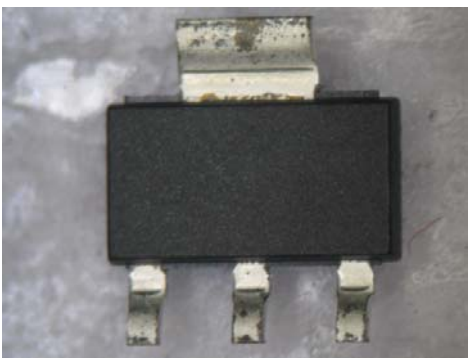
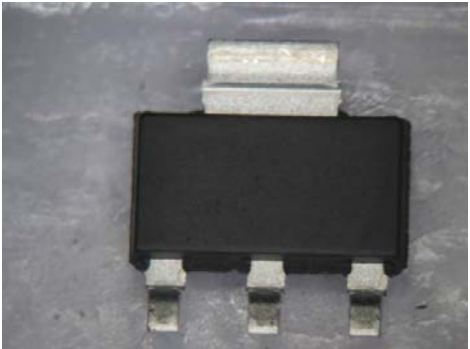


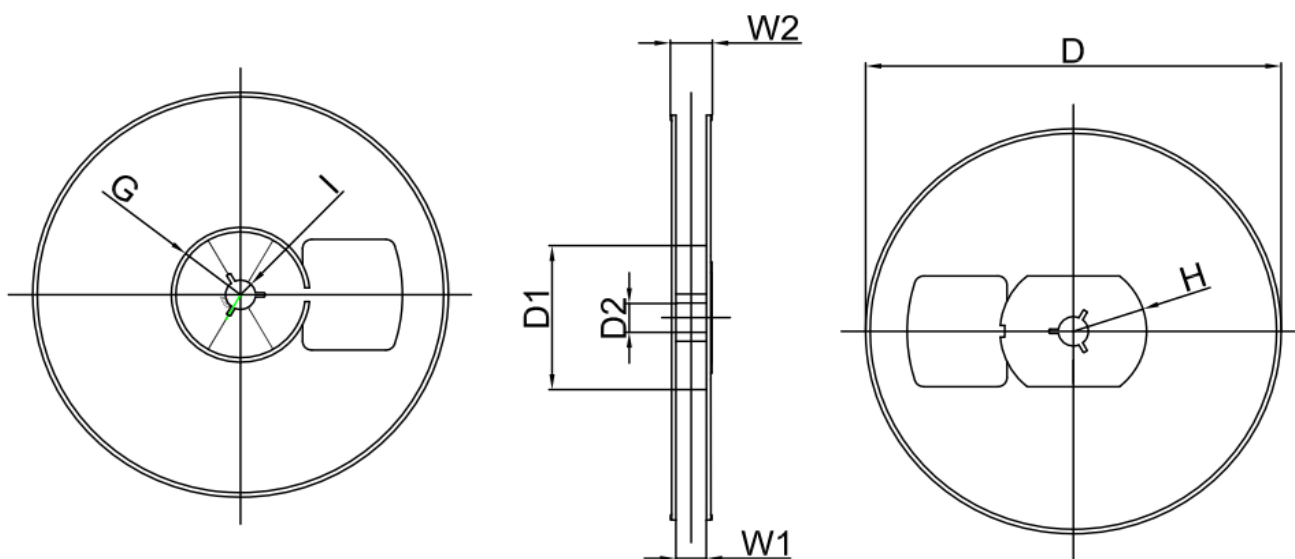
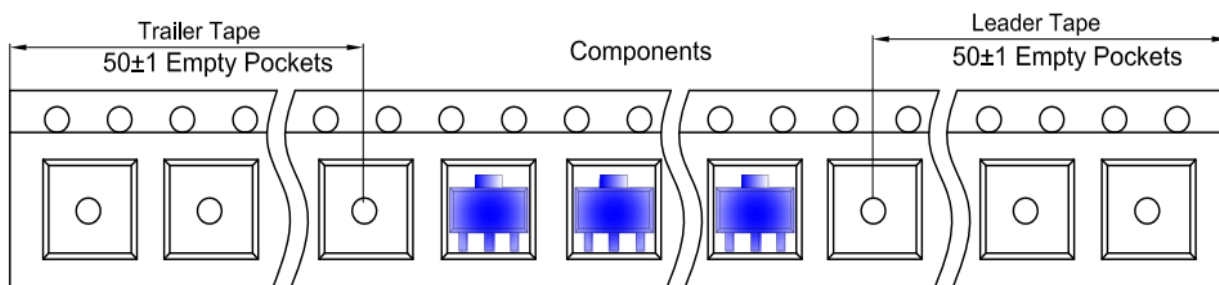
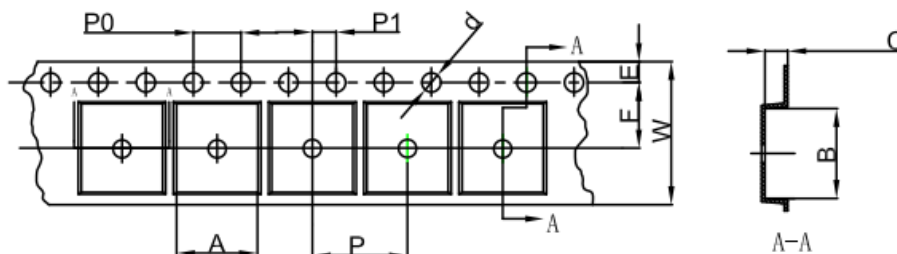
Product/Process Change Notification

PCN#	Effective Date	Issue Date
2015-10-21C-04	2016/2/1	2015/10/21
PCN Classification		Product Category
Major		Transistor
Subject		
Change the assembly house.		
Affected Product(s)		
CZT5551		
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. Packing 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		

Exterior comparison Chart	
Original	New
 <p>5551 7A02</p>	 <p>ZT5551</p>
Top View	Top View
	
Back View	Back View

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



Reliability Testing Summary Report

Date: 2015/10/08

Document No.: SI15 -10-109

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	CZT5551	150 ± 5°C, 80% VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	CZT5551	150°C, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	CZT5551	121°C, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	CZT5551	-55°C/30min, 150°C/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	CZT5551	85 ± 2°C, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	CZT5551	85 ± 2°C, RH=85±5%, 1000 hrs		77	0	0	ACC
Solderability	CZT5551	245 ± 5°C, 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



Electrical Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 25°C

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	224.7V	146.7	67.37mV
2	228.3V	150.4	67.81mV
3	225.3V	150.3	66.99mV
4	228.4V	149.0	67.97mV
5	225.0V	150.1	67.83mV
6	223.1V	149.2	68.08mV
7	223.8V	151.7	67.33mV
8	225.1V	146.4	67.78mV
9	223.7V	146.8	67.93mV
10	223.7V	146.3	67.34mV
11	222.4V	152.4	67.04mV
12	224.5V	148.5	67.31mV
13	223.2V	150.5	67.44mV
14	224.1V	151.2	68.02mV
15	223.4V	149.7	66.93mV
16	227.5V	152.4	67.72mV
17	222.7V	148.3	67.91mV
18	228.4V	146.7	67.98mV
19	223.5V	152.6	67.46mV
20	225.7V	146.7	67.04mV
21	224.8V	154.0	67.72mV
22	227.6V	154.2	67.96mV
23	222.6V	153.7	66.89mV
24	222.4V	147.8	66.86mV
25	228.3V	150.7	67.50mV
26	225.7V	147.9	67.43mV
27	225.5V	152.7	68.12mV
28	224.4V	146.4	67.88mV
29	225.6V	154.5	67.94mV
30	225.1V	153.2	68.18mV



Electrical Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 25°C

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	224.6V	155.8	66.87mV
32	226.1V	154.7	66.98mV
33	227.2V	149.9	66.90mV
34	223.7V	153.3	67.97mV
35	226.0V	155.5	66.97mV
36	226.1V	152.3	67.83mV
37	225.2V	156.1	67.99mV
38	227.0V	153.2	67.79mV
39	228.2V	148.3	68.10mV
40	226.2V	154.9	67.64mV
41	227.3V	149.0	67.72mV
42	222.7V	148.2	67.38mV
43	226.2V	154.7	67.44mV
44	225.1V	155.0	67.94mV
45	223.5V	154.5	68.00mV
46	224.8V	155.9	67.82mV
47	225.4V	147.7	68.12mV
48	222.8V	155.9	67.44mV
49	224.4V	151.5	66.94mV
50	223.7V	146.6	67.03mV
51	225.8V	154.8	67.37mV
52	222.5V	147.8	67.43mV
53	226.2V	154.0	68.16mV
54	223.1V	148.0	68.06mV
55	224.9V	153.0	67.47mV
56	225.6V	153.9	67.53mV
57	222.8V	152.6	67.16mV
58	223.7V	155.7	67.61mV
59	226.2V	148.9	66.85mV
60	223.6V	150.3	68.07mV



Electrical Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 25°C

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	226.0V	149.1	68.14mV
62	226.1V	150.6	66.82mV
63	228.2V	149.9	67.30mV
64	228.2V	146.2	67.73mV
65	223.4V	152.3	67.88mV
66	226.2V	154.3	67.66mV
67	226.8V	155.5	68.20mV
68	228.5V	152.8	67.45mV
69	226.7V	154.1	67.87mV
70	225.5V	154.4	68.10mV
71	226.2V	151.0	68.10mV
72	223.5V	155.8	68.13mV
73	224.7V	151.6	67.36mV
74	225.7V	153.9	66.91mV
75	225.5V	155.4	68.19mV
76	223.1V	152.2	68.04mV
77	226.4V	154.9	67.36mV

Made By: King Huang

Approval: Peter Yang



High Temperature Reverse Bias Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $150 \pm 5^\circ C$, 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

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	228.1V	148.2	67.88mV	223.5V	149.1	67.19mV
2	224.2V	152.7	66.88mV	226.8V	152.9	67.77mV
3	226.8V	150.5	67.40mV	226.9V	150.0	67.35mV
4	224.7V	150.8	67.13mV	225.4V	146.6	68.01mV
5	226.5V	152.6	68.17mV	226.4V	151.9	67.08mV
6	226.9V	149.8	67.35mV	223.6V	151.0	67.74mV
7	225.6V	146.2	67.96mV	226.6V	150.3	67.23mV
8	225.8V	147.4	67.62mV	222.4V	152.4	67.17mV
9	223.9V	151.1	67.29mV	226.6V	155.7	67.62mV
10	226.4V	151.2	67.89mV	222.8V	149.6	67.68mV
11	226.9V	153.9	67.45mV	225.7V	146.7	67.56mV
12	225.3V	151.8	67.48mV	223.3V	150.8	67.77mV
13	228.2V	151.5	68.14mV	224.5V	155.4	67.05mV
14	224.5V	153.6	67.71mV	222.4V	147.0	67.38mV
15	228.1V	149.8	67.99mV	223.3V	150.3	68.12mV
16	222.9V	147.9	66.96mV	228.1V	154.7	67.71mV
17	222.7V	155.7	67.18mV	224.1V	151.0	67.45mV
18	227.4V	153.8	67.05mV	227.0V	148.6	67.52mV
19	228.3V	155.4	67.03mV	228.2V	152.6	67.48mV
20	223.5V	146.7	68.04mV	223.4V	147.9	68.12mV
21	226.9V	154.9	68.17mV	223.4V	146.6	67.70mV
22	224.3V	149.5	67.02mV	227.7V	152.5	67.61mV
23	226.2V	155.0	68.12mV	223.4V	147.1	68.11mV
24	224.2V	151.9	67.21mV	227.9V	150.3	68.05mV
25	223.3V	151.4	67.93mV	223.1V	149.5	67.01mV
26	224.0V	148.5	67.84mV	223.1V	155.3	68.16mV
27	226.6V	155.6	68.18mV	225.3V	146.8	67.52mV
28	222.5V	149.1	67.97mV	227.2V	148.8	68.10mV
29	228.4V	151.8	67.93mV	228.1V	153.2	66.97mV



High Temperature Reverse Bias Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $150 \pm 5^\circ C$, 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

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	225.2V	147.1	67.29mV	224.9V	146.9	67.70mV
31	224.4V	149.4	67.50mV	225.6V	148.1	66.87mV
32	228.1V	154.8	66.87mV	224.7V	151.9	66.80mV
33	226.6V	155.4	68.00mV	226.1V	152.7	68.02mV
34	228.4V	153.8	67.97mV	228.0V	154.5	67.73mV
35	226.6V	148.9	67.80mV	225.4V	152.7	67.62mV
36	225.2V	147.9	67.06mV	225.1V	154.5	67.31mV
37	222.7V	153.3	67.46mV	224.1V	151.7	67.27mV
38	224.6V	148.4	67.05mV	225.5V	153.0	66.95mV
39	226.4V	156.0	66.96mV	222.5V	148.1	67.37mV
40	226.0V	150.2	67.83mV	228.2V	146.7	68.07mV
41	223.0V	153.1	67.41mV	223.2V	151.7	67.28mV
42	227.2V	148.7	67.70mV	227.8V	146.2	68.01mV
43	224.5V	149.1	67.10mV	227.7V	149.5	68.15mV
44	225.9V	152.7	67.24mV	222.7V	149.9	67.34mV
45	223.8V	149.9	68.15mV	228.3V	152.6	67.73mV
46	223.3V	150.8	67.44mV	227.9V	152.6	67.17mV
47	225.5V	148.7	67.72mV	226.8V	146.5	67.94mV
48	228.1V	153.3	67.14mV	224.9V	154.3	66.82mV
49	224.9V	154.5	67.30mV	228.0V	149.8	66.84mV
50	223.5V	148.1	67.96mV	226.6V	149.8	67.55mV
51	227.8V	154.4	67.24mV	223.0V	153.6	67.84mV
52	226.6V	156.1	66.97mV	223.1V	149.6	66.94mV
53	227.5V	155.0	68.14mV	227.2V	151.3	67.81mV
54	224.2V	155.6	67.03mV	226.2V	151.7	67.09mV
55	224.5V	150.3	67.05mV	227.0V	152.9	67.53mV
56	223.8V	155.6	67.03mV	223.8V	146.8	66.88mV
57	224.6V	148.9	66.96mV	224.4V	150.1	66.86mV
58	222.7V	152.2	67.28mV	225.8V	154.0	67.93mV



SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $150 \pm 5^\circ C$, 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

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	226.2V	152.9	67.14mV	222.5V	152.8	67.34mV
60	225.7V	149.2	67.57mV	223.3V	148.5	68.15mV
61	223.1V	147.3	67.01mV	224.7V	154.3	67.21mV
62	228.5V	155.9	68.03mV	227.8V	151.6	67.95mV
63	222.9V	155.5	66.89mV	223.3V	149.3	67.37mV
64	227.4V	153.2	67.88mV	223.1V	149.0	67.06mV
65	223.1V	153.7	67.66mV	222.7V	154.1	67.82mV
66	227.4V	150.2	67.34mV	228.0V	146.7	67.79mV
67	228.2V	153.7	67.19mV	227.5V	156.0	67.44mV
68	228.4V	148.2	66.89mV	225.8V	147.8	66.94mV
69	226.1V	152.9	67.59mV	226.6V	147.6	67.92mV
70	227.4V	152.3	67.29mV	224.8V	150.5	67.03mV
71	222.8V	153.6	67.74mV	222.6V	152.2	67.88mV
72	223.0V	146.8	67.38mV	224.0V	149.5	68.05mV
73	224.2V	150.9	68.04mV	228.4V	151.2	67.25mV
74	225.4V	153.5	67.47mV	222.6V	148.7	68.19mV
75	226.1V	153.6	67.25mV	225.1V	150.2	67.72mV
76	223.0V	147.1	67.41mV	227.6V	154.5	68.02mV
77	226.2V	151.5	67.05mV	225.1V	155.4	67.99mV

Made By: King Huang

Approval: Peter Yang



High Temperature Storage Life Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 150°C, 1000Hrs

Test Date: 2015.08.17 ~ 2015.09.29

Test Standard : JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	228.5V	146.4	67.41mV	227.7V	148.1	67.32mV
2	225.8V	149.2	67.88mV	225.7V	152.6	67.87mV
3	227.9V	154.9	67.37mV	226.7V	147.5	67.55mV
4	224.6V	146.5	67.11mV	228.5V	151.0	67.89mV
5	226.4V	153.4	67.88mV	222.8V	148.0	67.96mV
6	225.7V	155.3	67.06mV	222.5V	155.2	68.11mV
7	223.3V	149.8	67.73mV	226.9V	152.4	68.05mV
8	227.7V	155.6	67.58mV	223.0V	155.7	67.76mV
9	224.0V	155.0	66.99mV	225.1V	148.4	66.83mV
10	227.3V	154.7	68.19mV	225.6V	155.8	67.44mV
11	222.4V	155.3	67.66mV	224.4V	150.5	67.93mV
12	225.7V	151.1	66.99mV	225.3V	150.6	66.98mV
13	228.5V	147.7	67.62mV	225.2V	150.0	67.18mV
14	227.7V	146.2	66.85mV	225.1V	150.8	67.25mV
15	227.8V	150.4	67.87mV	227.7V	149.3	67.17mV
16	224.3V	152.8	67.95mV	225.9V	153.6	67.00mV
17	225.8V	150.7	66.83mV	228.0V	148.2	67.83mV
18	227.1V	147.8	67.88mV	225.1V	155.9	68.17mV
19	228.3V	146.6	67.93mV	223.0V	147.5	67.38mV
20	222.7V	151.7	67.15mV	226.5V	153.3	68.18mV
21	224.5V	153.1	67.82mV	223.0V	151.5	67.36mV
22	223.0V	153.4	67.87mV	226.6V	148.9	67.65mV
23	223.0V	148.3	67.27mV	225.1V	153.1	67.72mV
24	223.7V	148.0	67.86mV	227.7V	153.2	67.90mV
25	225.5V	148.8	67.47mV	226.2V	153.9	66.85mV
26	226.7V	148.0	67.10mV	225.3V	149.2	68.17mV
27	228.1V	150.0	67.92mV	225.9V	154.6	67.99mV
28	226.2V	147.4	68.07mV	225.1V	149.5	67.18mV
29	224.5V	151.0	67.16mV	223.1V	148.2	67.33mV



High Temperature Storage Life Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 150°C, 1000Hrs

Test Date: 2015.08.17 ~ 2015.09.29

Test Standard : JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	223.1V	146.3	67.69mV	223.4V	156.1	66.94mV
31	224.7V	152.2	68.08mV	225.0V	153.9	67.00mV
32	223.6V	150.5	67.51mV	224.8V	152.7	67.51mV
33	224.3V	156.1	67.74mV	226.7V	151.9	66.99mV
34	224.8V	147.0	67.98mV	225.4V	155.8	67.51mV
35	226.3V	150.1	68.08mV	227.0V	152.7	67.88mV
36	226.3V	146.7	67.07mV	228.2V	156.2	66.87mV
37	225.4V	146.2	67.21mV	223.4V	146.9	67.51mV
38	222.7V	153.7	67.54mV	227.1V	151.6	67.49mV
39	224.3V	154.8	67.55mV	225.1V	149.5	68.12mV
40	225.9V	155.6	66.82mV	225.2V	151.2	67.89mV
41	226.9V	150.1	68.06mV	227.0V	152.5	67.75mV
42	226.2V	155.7	67.80mV	227.8V	152.0	66.83mV
43	224.3V	150.8	67.39mV	227.9V	154.2	67.80mV
44	227.3V	151.7	68.04mV	225.9V	150.4	67.25mV
45	228.4V	147.6	67.74mV	226.9V	149.6	67.59mV
46	227.7V	152.9	67.23mV	227.1V	151.9	67.65mV
47	224.0V	147.4	67.02mV	223.4V	155.0	66.82mV
48	228.2V	151.6	67.64mV	227.3V	156.1	67.16mV
49	222.6V	154.5	67.61mV	224.2V	147.0	67.19mV
50	225.3V	155.5	67.03mV	228.0V	147.6	67.28mV
51	225.2V	149.8	67.73mV	228.0V	155.6	67.50mV
52	226.2V	146.7	67.48mV	225.1V	148.6	67.87mV
53	223.7V	155.1	67.14mV	222.8V	154.9	67.73mV
54	223.8V	151.9	68.13mV	225.6V	153.2	67.20mV
55	224.3V	148.4	67.79mV	225.8V	149.3	67.22mV
56	223.8V	147.9	68.15mV	227.9V	151.7	67.22mV
57	223.1V	149.9	67.26mV	225.1V	146.6	68.12mV
58	223.5V	152.0	67.79mV	223.4V	156.1	67.00mV



SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 150°C, 1000Hrs

Test Date: 2015.08.17 ~ 2015.09.29

Test Standard : JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	222.5V	147.7	67.58mV	226.6V	152.2	67.66mV
60	227.0V	148.9	67.71mV	222.6V	155.3	67.80mV
61	228.0V	146.5	67.48mV	224.3V	155.2	67.31mV
62	227.7V	146.4	67.40mV	225.0V	154.4	67.66mV
63	223.0V	149.0	67.00mV	228.3V	147.7	67.87mV
64	227.3V	151.4	67.58mV	225.1V	148.1	68.17mV
65	222.8V	153.2	66.89mV	228.4V	147.3	68.16mV
66	228.1V	153.6	68.06mV	227.3V	148.9	67.24mV
67	226.2V	151.3	67.23mV	226.6V	155.8	67.40mV
68	223.0V	154.3	67.09mV	223.9V	151.2	68.15mV
69	225.3V	150.7	67.39mV	225.4V	148.1	67.24mV
70	225.7V	152.4	66.86mV	227.1V	148.7	67.37mV
71	224.6V	151.2	67.92mV	226.5V	153.4	67.63mV
72	227.1V	150.9	67.48mV	225.3V	154.7	68.19mV
73	223.4V	149.0	68.11mV	223.2V	148.3	67.98mV
74	226.4V	150.4	68.19mV	224.9V	148.5	68.19mV
75	225.2V	153.1	67.11mV	223.1V	149.6	68.11mV
76	223.4V	147.7	68.02mV	224.2V	150.0	67.02mV
77	228.5V	146.7	67.40mV	223.2V	153.8	67.08mV

Made By: King Huang

Approval: Peter Yang



SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 121°C, 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

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	223.9V	147.1	67.79mV	223.7V	147.3	67.42mV
2	224.0V	153.2	67.84mV	227.7V	155.9	67.71mV
3	223.3V	151.6	67.86mV	226.7V	150.8	67.50mV
4	227.5V	146.5	67.29mV	228.4V	152.8	67.66mV
5	225.0V	154.5	67.47mV	222.4V	154.6	67.71mV
6	228.5V	150.1	67.91mV	223.9V	155.6	68.12mV
7	227.0V	155.8	66.88mV	227.6V	153.3	67.43mV
8	222.8V	154.5	67.45mV	227.4V	155.3	67.23mV
9	227.3V	151.6	66.82mV	226.3V	154.8	66.83mV
10	225.1V	152.8	67.14mV	226.3V	146.1	67.45mV
11	222.7V	150.8	67.03mV	227.4V	152.3	67.68mV
12	223.4V	148.5	67.64mV	225.3V	147.6	67.38mV
13	223.0V	149.3	67.21mV	226.7V	151.4	67.55mV
14	225.5V	150.4	67.83mV	222.4V	148.6	67.97mV
15	226.7V	153.5	67.66mV	223.7V	150.3	67.97mV
16	223.1V	150.4	67.61mV	224.3V	147.7	67.91mV
17	228.1V	151.9	67.32mV	224.4V	146.3	67.56mV
18	226.8V	155.4	68.17mV	224.7V	148.3	67.24mV
19	226.2V	146.7	67.90mV	226.0V	148.1	67.25mV
20	223.5V	152.9	66.80mV	224.2V	155.4	67.97mV
21	224.1V	155.3	68.18mV	224.5V	155.3	67.07mV
22	223.5V	149.1	67.47mV	224.4V	147.9	67.10mV
23	228.0V	149.9	67.30mV	223.1V	150.3	67.99mV
24	223.2V	153.2	67.16mV	222.5V	149.4	67.11mV
25	225.0V	151.6	67.88mV	228.4V	152.7	67.47mV
26	224.3V	153.5	67.18mV	224.1V	146.3	66.93mV
27	226.3V	155.2	67.88mV	225.6V	151.6	67.25mV
28	224.7V	148.4	67.58mV	227.9V	148.0	67.76mV
29	227.2V	147.8	67.60mV	228.0V	148.1	67.73mV



SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 121°C, 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

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	226.0V	150.6	66.99mV	224.3V	151.4	67.48mV
31	227.3V	146.4	68.19mV	228.3V	152.1	67.07mV
32	225.6V	151.8	68.00mV	224.0V	156.1	67.66mV
33	228.5V	153.7	66.83mV	224.1V	154.1	67.71mV
34	223.0V	150.2	67.19mV	226.1V	154.4	68.16mV
35	226.6V	152.0	67.89mV	224.4V	149.7	67.69mV
36	227.5V	148.6	68.18mV	225.8V	149.9	68.06mV
37	225.6V	151.8	67.34mV	227.6V	155.2	68.10mV
38	225.3V	153.5	67.58mV	228.4V	153.4	67.48mV
39	226.8V	150.2	67.77mV	224.6V	148.9	67.81mV
40	222.9V	153.7	66.96mV	223.7V	149.4	67.36mV
41	227.7V	147.7	67.58mV	223.8V	154.8	67.00mV
42	228.3V	149.3	67.31mV	226.7V	151.2	67.25mV
43	226.1V	152.8	66.93mV	225.0V	154.9	67.39mV
44	224.8V	152.2	68.05mV	225.3V	147.3	67.07mV
45	226.2V	147.5	67.00mV	228.3V	153.0	67.34mV
46	223.0V	146.6	67.20mV	222.5V	148.6	67.88mV
47	228.3V	152.2	67.01mV	222.5V	153.9	67.72mV
48	228.1V	153.0	67.21mV	225.3V	146.5	67.91mV
49	226.5V	148.0	66.95mV	225.6V	149.8	67.00mV
50	224.9V	155.3	67.30mV	222.9V	150.8	67.17mV
51	224.1V	153.9	67.64mV	226.6V	151.9	67.32mV
52	224.0V	154.5	67.20mV	225.6V	148.9	67.58mV
53	225.2V	148.6	68.03mV	223.5V	149.7	67.23mV
54	224.7V	152.9	67.46mV	225.3V	146.6	67.37mV
55	223.6V	148.2	68.02mV	226.8V	150.7	67.21mV
56	223.2V	146.4	67.22mV	224.0V	152.4	66.89mV
57	228.5V	153.1	67.07mV	226.9V	147.1	67.40mV
58	227.1V	153.6	68.01mV	225.8V	147.5	67.08mV



SeCoS Corporation

Pressure Cooker Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: 121°C, 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

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	223.9V	149.4	68.04mV	226.8V	153.2	67.55mV
60	228.0V	146.5	67.20mV	224.7V	154.5	66.88mV
61	227.6V	155.1	68.14mV	228.2V	146.3	67.76mV
62	222.5V	146.5	67.10mV	226.8V	147.9	67.41mV
63	223.3V	146.2	67.18mV	224.4V	151.5	68.08mV
64	224.6V	147.9	67.97mV	224.2V	146.6	67.26mV
65	226.1V	146.9	68.03mV	222.6V	146.5	67.84mV
66	228.4V	152.6	67.67mV	226.0V	152.2	67.26mV
67	225.3V	147.9	67.33mV	225.8V	153.0	68.00mV
68	223.0V	148.9	67.20mV	225.6V	154.9	67.76mV
69	226.7V	150.6	68.00mV	224.1V	155.0	67.62mV
70	223.1V	154.8	67.16mV	223.2V	154.7	68.02mV
71	224.2V	148.8	67.89mV	226.0V	146.5	67.65mV
72	223.8V	155.5	67.71mV	225.7V	148.5	68.16mV
73	227.2V	150.0	67.77mV	226.8V	150.3	68.08mV
74	222.7V	149.8	67.94mV	223.8V	154.2	67.30mV
75	222.7V	152.4	68.06mV	223.1V	148.2	67.55mV
76	227.6V	149.9	67.75mV	222.6V	151.7	67.82mV
77	224.5V	149.8	67.46mV	226.4V	147.9	67.03mV

Made By: King Huang

Approval: Peter Yang



SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $-55^{\circ}C/30min, 150^{\circ}C/30min$, for1000 Cycle

Test Date: 2015.08.17 ~ 2015.10.08

Test Standard : JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	222.7V	152.3	67.18mV	222.8V	149.6	67.75mV
2	225.5V	151.1	68.03mV	226.6V	148.7	67.83mV
3	224.5V	150.6	67.37mV	226.3V	148.7	67.76mV
4	226.1V	146.2	67.96mV	227.0V	148.3	68.17mV
5	223.7V	152.3	67.20mV	224.1V	146.2	67.12mV
6	223.6V	151.4	67.53mV	222.4V	152.9	66.98mV
7	228.3V	151.5	67.50mV	227.7V	148.2	68.20mV
8	227.4V	147.7	68.02mV	227.8V	151.7	67.15mV
9	225.8V	153.5	67.55mV	224.4V	146.5	67.08mV
10	226.4V	146.1	67.88mV	224.1V	148.6	67.88mV
11	226.8V	155.7	67.14mV	224.6V	146.2	67.28mV
12	228.4V	152.1	68.20mV	222.5V	148.6	67.71mV
13	228.2V	149.1	67.01mV	226.4V	152.3	67.09mV
14	224.6V	151.2	67.26mV	226.2V	151.2	68.06mV
15	226.4V	147.2	66.92mV	228.0V	150.8	67.76mV
16	228.3V	147.2	67.42mV	223.7V	148.1	67.10mV
17	228.2V	152.0	67.88mV	222.5V	149.7	67.41mV
18	226.1V	152.8	67.72mV	228.0V	152.6	68.18mV
19	225.7V	153.2	67.39mV	224.4V	148.1	67.17mV
20	225.0V	150.2	67.56mV	224.5V	149.5	67.61mV
21	225.4V	150.9	67.43mV	227.4V	150.3	68.01mV
22	228.4V	146.1	67.53mV	223.2V	146.9	67.05mV
23	223.0V	152.5	67.43mV	226.8V	151.7	68.19mV
24	227.2V	152.8	67.69mV	227.9V	152.7	68.01mV
25	223.6V	149.8	68.16mV	223.6V	152.2	67.72mV
26	222.6V	147.1	68.06mV	227.1V	156.1	67.54mV
27	226.0V	149.3	67.71mV	227.3V	155.1	67.32mV
28	225.3V	153.6	67.38mV	226.9V	155.0	67.25mV
29	222.7V	155.4	67.74mV	223.0V	149.0	67.55mV



SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: -55°C/30min, 150°C/30min, for1000 Cycle

Test Date: 2015.08.17 ~ 2015.10.08

Test Standard : JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	224.2V	147.1	67.15mV	223.7V	150.7	67.96mV
31	225.3V	146.4	66.81mV	224.5V	155.5	67.71mV
32	223.0V	155.5	67.04mV	226.8V	151.7	67.96mV
33	227.7V	152.1	67.11mV	223.3V	147.4	67.45mV
34	226.4V	148.4	67.28mV	226.5V	154.2	66.88mV
35	224.5V	150.4	67.50mV	224.9V	148.7	67.16mV
36	224.9V	152.0	67.46mV	225.0V	153.0	67.14mV
37	224.0V	150.2	67.42mV	226.4V	151.8	67.73mV
38	226.3V	148.7	67.14mV	222.6V	154.4	67.42mV
39	225.8V	153.6	67.24mV	227.0V	150.3	67.00mV
40	225.1V	148.1	67.27mV	228.5V	154.1	68.03mV
41	227.3V	154.0	67.34mV	226.6V	146.4	68.15mV
42	226.5V	147.7	68.09mV	227.2V	148.9	67.08mV
43	225.9V	155.8	67.75mV	225.1V	151.0	67.46mV
44	222.5V	146.5	68.00mV	227.0V	146.3	67.65mV
45	225.0V	151.7	67.61mV	228.5V	150.6	67.28mV
46	226.4V	153.3	67.75mV	226.0V	153.6	67.09mV
47	222.7V	146.4	67.38mV	227.1V	156.0	68.12mV
48	227.8V	151.4	67.27mV	228.0V	152.7	66.99mV
49	225.1V	150.1	67.07mV	224.0V	150.1	67.54mV
50	226.9V	146.9	66.99mV	228.5V	152.6	68.01mV
51	222.6V	151.3	67.33mV	222.7V	147.5	67.47mV
52	222.7V	153.2	67.81mV	226.8V	155.5	67.78mV
53	226.4V	155.8	66.82mV	227.1V	146.7	68.08mV
54	224.6V	153.9	67.41mV	225.2V	155.0	67.22mV
55	228.3V	155.7	68.20mV	225.9V	151.9	67.23mV
56	225.9V	147.1	67.33mV	223.3V	155.1	67.82mV
57	226.3V	149.9	67.18mV	225.2V	154.3	68.02mV
58	226.6V	149.3	67.50mV	222.5V	147.9	67.54mV



SeCoS Corporation

Temperature Cycle Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $-55^{\circ}C/30min, 150^{\circ}C/30min$, for 1000 Cycle

Test Date: 2015.08.17 ~ 2015.10.08

Test Standard : JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	226.1V	147.3	67.37mV	226.8V	151.9	68.13mV
60	223.9V	154.6	68.11mV	223.5V	148.7	67.92mV
61	225.7V	153.3	67.20mV	223.0V	151.5	66.81mV
62	223.0V	155.4	67.41mV	225.8V	155.2	67.24mV
63	223.6V	152.5	67.91mV	226.5V	153.6	67.39mV
64	225.8V	149.3	67.28mV	225.9V	153.1	67.44mV
65	228.0V	150.0	66.93mV	227.6V	153.2	67.49mV
66	226.6V	155.8	68.19mV	227.8V	148.8	67.46mV
67	227.2V	151.1	68.18mV	225.6V	155.5	67.10mV
68	227.4V	155.8	67.23mV	223.9V	146.5	67.94mV
69	228.3V	154.4	68.09mV	226.4V	152.4	66.93mV
70	226.5V	154.5	67.39mV	226.3V	148.5	66.83mV
71	226.3V	149.4	66.93mV	227.1V	150.8	67.82mV
72	226.4V	149.4	67.62mV	227.8V	149.2	67.89mV
73	224.1V	150.0	66.90mV	224.2V	151.3	67.41mV
74	228.1V	149.2	67.57mV	225.8V	155.8	66.80mV
75	227.5V	147.9	67.70mV	228.4V	153.8	66.86mV
76	225.7V	148.1	67.85mV	223.7V	147.9	67.83mV
77	224.7V	147.6	67.16mV	224.2V	149.0	67.16mV

Made By: King Huang

Approval: Peter Yang



High Temperature High Humidity Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $85 \pm 2^\circ C$, $85 \pm 5\% RH$, 1000Hrs

Test Date: 2015.08.25 ~ 2015.10.06

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	227.4V	150.6	68.17mV	226.0V	153.5	67.23mV
2	226.6V	150.8	66.83mV	227.7V	156.1	68.12mV
3	226.1V	147.6	67.91mV	223.7V	148.1	67.55mV
4	227.5V	149.0	67.83mV	224.7V	153.7	67.79mV
5	227.7V	151.1	66.81mV	227.4V	149.9	67.94mV
6	226.8V	151.2	67.45mV	224.7V	150.5	67.36mV
7	228.1V	154.7	67.74mV	226.9V	155.7	67.78mV
8	224.1V	151.5	67.07mV	227.4V	153.9	67.75mV
9	224.7V	152.4	68.14mV	222.9V	147.6	67.71mV
10	224.6V	150.5	67.14mV	227.5V	147.3	67.97mV
11	224.9V	148.9	66.94mV	226.7V	151.1	67.75mV
12	225.6V	153.9	67.87mV	225.7V	149.8	67.49mV
13	228.2V	150.3	67.15mV	227.4V	151.6	67.60mV
14	223.3V	152.2	66.82mV	223.8V	146.9	67.35mV
15	226.9V	152.6	67.57mV	226.6V	153.1	67.47mV
16	223.0V	151.9	67.18mV	225.0V	152.8	67.90mV
17	226.2V	151.6	66.85mV	222.7V	153.6	67.29mV
18	227.5V	154.7	67.16mV	225.8V	151.9	66.87mV
19	224.6V	149.9	67.01mV	222.7V	153.3	67.12mV
20	225.5V	149.1	67.90mV	227.5V	150.9	66.91mV
21	227.4V	150.3	67.26mV	224.9V	154.1	67.95mV
22	223.5V	155.6	67.87mV	223.1V	149.2	67.67mV
23	227.4V	154.4	67.59mV	225.5V	154.9	67.73mV
24	227.5V	149.7	68.14mV	222.6V	152.0	67.42mV
25	222.6V	148.1	67.06mV	225.5V	148.8	68.08mV
26	227.5V	154.1	67.00mV	223.7V	151.4	67.87mV
27	224.6V	147.6	67.59mV	228.3V	148.6	67.47mV
28	222.8V	147.1	67.41mV	223.0V	149.0	67.94mV
29	226.1V	150.3	67.38mV	224.3V	152.1	67.06mV



High Temperature High Humidity Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $85 \pm 2^\circ C$, $85 \pm 5\% RH$, 1000Hrs

Test Date: 2015.08.25 ~ 2015.10.06

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	226.6V	148.2	67.51mV	224.4V	152.1	67.41mV
31	224.7V	153.2	67.06mV	227.0V	148.8	68.15mV
32	223.0V	153.0	68.17mV	222.5V	146.8	67.70mV
33	224.5V	151.3	67.56mV	226.9V	149.8	68.14mV
34	223.3V	152.9	67.55mV	223.6V	155.4	67.00mV
35	228.2V	153.5	67.12mV	228.2V	152.3	67.49mV
36	228.2V	151.6	67.02mV	224.0V	151.7	66.84mV
37	228.5V	152.7	67.38mV	227.4V	150.2	67.01mV
38	222.8V	147.7	67.63mV	222.4V	146.3	67.89mV
39	226.8V	148.3	66.93mV	223.7V	151.6	67.74mV
40	227.8V	155.8	67.95mV	227.6V	155.7	67.46mV
41	227.3V	149.1	66.95mV	224.8V	155.1	67.24mV
42	227.6V	151.3	67.54mV	222.4V	150.7	68.11mV
43	224.1V	148.6	67.72mV	223.6V	148.8	67.87mV
44	223.9V	146.8	66.89mV	226.3V	155.0	67.33mV
45	223.0V	154.6	67.47mV	227.5V	156.0	68.14mV
46	223.3V	148.1	67.10mV	225.5V	154.8	67.59mV
47	223.3V	147.7	68.03mV	223.9V	150.0	67.44mV
48	227.2V	147.6	67.95mV	227.8V	147.2	66.81mV
49	226.4V	154.8	66.95mV	222.6V	147.0	67.66mV
50	225.8V	155.5	68.12mV	224.6V	150.7	68.13mV
51	227.8V	148.9	67.71mV	226.7V	153.3	68.07mV
52	228.2V	155.2	67.42mV	226.1V	155.9	66.93mV
53	224.6V	151.8	66.94mV	224.7V	156.2	67.27mV
54	223.9V	148.5	67.39mV	228.0V	154.9	67.69mV
55	227.1V	150.9	67.07mV	225.9V	151.9	67.38mV
56	224.2V	150.4	67.25mV	225.8V	153.0	68.14mV
57	225.4V	153.4	67.85mV	225.9V	148.8	67.06mV
58	226.8V	151.7	67.16mV	223.4V	148.5	67.28mV



SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $85 \pm 2^\circ C$, $85 \pm 5\% RH$, 1000Hrs

Test Date: 2015.08.25 ~ 2015.10.06

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	223.3V	155.6	67.76mV	223.5V	155.8	67.60mV
60	225.3V	146.9	68.14mV	222.5V	152.5	67.12mV
61	224.2V	153.2	67.80mV	226.8V	149.1	67.29mV
62	226.3V	146.7	68.02mV	223.6V	149.9	67.01mV
63	227.2V	151.2	67.80mV	225.5V	146.2	67.09mV
64	224.7V	149.5	67.60mV	222.8V	146.4	67.41mV
65	227.1V	156.0	68.18mV	224.7V	155.5	68.04mV
66	228.4V	152.2	67.34mV	222.8V	148.8	67.22mV
67	225.5V	152.6	68.02mV	226.7V	147.1	67.27mV
68	225.6V	155.2	67.65mV	222.9V	152.1	67.99mV
69	226.4V	154.4	66.88mV	225.8V	152.4	68.10mV
70	224.0V	146.6	67.65mV	224.6V	153.1	66.90mV
71	228.4V	152.3	67.20mV	227.9V	149.2	67.53mV
72	224.6V	149.8	66.91mV	227.9V	146.2	67.90mV
73	227.2V	147.4	67.35mV	224.5V	154.3	67.10mV
74	226.1V	155.8	67.85mV	224.4V	154.4	67.35mV
75	223.2V	151.7	67.60mV	228.2V	146.8	67.68mV
76	224.9V	147.4	66.81mV	227.3V	150.7	67.51mV
77	222.4V	147.5	67.70mV	224.4V	152.2	67.90mV

Made By: King Huang

Approval: Peter Yang



High Temper High Humidity Reverse Bies Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $85 \pm 2^\circ C$, $85 \pm 5\% RH$, 1000Hrs

Test Date: 2015.08.25 ~ 2015.10.06

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	222.5V	151.2	67.41mV	223.1V	149.0	67.82mV
2	225.5V	149.2	67.85mV	223.4V	153.6	68.00mV
3	227.1V	154.5	67.75mV	223.8V	154.9	68.06mV
4	228.2V	149.6	66.99mV	227.1V	154.3	67.15mV
5	225.3V	147.9	67.05mV	226.0V	147.9	67.74mV
6	228.3V	154.2	67.79mV	224.1V	147.3	68.12mV
7	222.9V	151.2	67.83mV	226.4V	151.5	67.78mV
8	227.4V	149.2	68.10mV	223.1V	146.7	68.01mV
9	228.4V	148.6	66.98mV	226.7V	150.1	66.96mV
10	228.1V	149.4	67.97mV	224.4V	153.8	67.52mV
11	228.2V	151.1	68.17mV	225.8V	150.3	68.04mV
12	222.6V	155.3	67.40mV	226.0V	152.0	68.07mV
13	223.9V	154.7	67.74mV	224.0V	152.4	67.64mV
14	226.3V	153.6	67.32mV	227.6V	156.0	68.15mV
15	222.5V	152.2	67.55mV	227.8V	156.0	67.81mV
16	228.4V	151.1	67.78mV	224.0V	147.0	67.81mV
17	224.5V	152.4	67.47mV	223.4V	153.2	66.99mV
18	223.6V	152.5	68.14mV	224.7V	155.2	66.89mV
19	224.5V	147.2	68.06mV	226.1V	152.1	67.24mV
20	226.6V	155.0	67.50mV	222.8V	152.9	67.95mV
21	223.2V	146.4	66.90mV	225.4V	153.8	66.95mV
22	225.6V	149.4	67.40mV	224.5V	150.0	68.07mV
23	226.8V	155.4	67.63mV	222.6V	155.1	67.40mV
24	226.3V	149.7	66.99mV	223.9V	152.2	67.44mV
25	222.7V	146.2	67.97mV	222.9V	150.5	67.86mV
26	223.8V	150.8	67.77mV	227.8V	153.9	67.02mV
27	226.3V	150.9	67.10mV	227.5V	149.6	66.81mV
28	227.1V	153.2	67.71mV	224.4V	151.2	67.21mV
29	228.4V	155.0	67.86mV	223.4V	149.6	67.18mV



High Temper High Humidity Reverse Bies Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $85 \pm 2^\circ C$, $85 \pm 5\% RH$, 1000Hrs

Test Date: 2015.08.25 ~ 2015.10.06

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
30	224.6V	152.1	67.35mV	223.3V	150.3	67.22mV
31	227.6V	148.5	67.56mV	226.1V	150.5	68.12mV
32	228.3V	155.0	67.29mV	227.8V	150.3	67.48mV
33	225.7V	155.9	67.33mV	224.4V	150.9	67.42mV
34	223.3V	154.4	67.19mV	225.5V	149.9	67.88mV
35	227.2V	147.8	68.09mV	224.7V	152.2	67.82mV
36	226.5V	155.8	67.66mV	224.4V	153.0	68.12mV
37	227.4V	148.9	67.51mV	222.5V	152.7	67.03mV
38	225.4V	148.1	66.86mV	223.8V	153.7	67.44mV
39	225.7V	146.6	66.92mV	227.2V	148.8	67.13mV
40	225.5V	147.3	68.14mV	225.5V	151.9	67.95mV
41	222.7V	152.9	67.20mV	223.0V	154.7	68.13mV
42	227.7V	148.1	67.59mV	224.9V	150.7	67.20mV
43	227.1V	153.8	68.16mV	228.2V	154.8	67.72mV
44	223.0V	148.4	67.33mV	223.7V	146.4	67.43mV
45	222.6V	152.8	66.98mV	224.8V	155.4	67.47mV
46	223.9V	149.9	66.90mV	223.0V	149.2	66.90mV
47	226.1V	146.5	67.56mV	227.1V	146.3	67.12mV
48	223.1V	150.6	67.04mV	223.7V	150.8	67.38mV
49	223.9V	151.6	67.35mV	224.8V	151.5	67.49mV
50	225.2V	152.5	67.68mV	226.0V	153.6	67.57mV
51	224.1V	152.1	68.13mV	222.4V	146.2	66.86mV
52	227.3V	146.6	67.70mV	223.6V	148.0	67.51mV
53	224.8V	146.9	67.45mV	226.8V	152.0	67.29mV
54	223.8V	155.3	66.81mV	224.6V	146.7	67.70mV
55	225.0V	148.2	67.58mV	223.4V	147.1	67.37mV
56	227.2V	146.6	68.19mV	225.1V	149.4	67.65mV
57	222.5V	146.3	67.08mV	224.2V	146.8	67.39mV
58	227.9V	148.3	66.91mV	227.4V	149.4	66.93mV



High Temper High Humidity Reverse Bies Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $85 \pm 2^\circ C$, $85 \pm 5\% RH$, 1000Hrs

Test Date: 2015.08.25 ~ 2015.10.06

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
59	226.4V	149.7	66.93mV	228.1V	147.4	66.91mV
60	226.9V	151.8	68.01mV	223.4V	147.4	67.50mV
61	224.5V	150.2	67.17mV	222.6V	150.3	67.62mV
62	225.7V	150.4	66.84mV	222.6V	149.8	67.85mV
63	222.8V	155.6	66.93mV	223.8V	148.9	68.16mV
64	227.7V	152.9	68.11mV	228.4V	151.8	68.06mV
65	222.6V	151.8	67.36mV	227.6V	155.5	67.82mV
66	227.0V	147.7	67.03mV	227.8V	155.3	66.99mV
67	224.4V	148.8	67.37mV	226.8V	146.1	68.11mV
68	224.5V	150.7	66.86mV	226.7V	153.2	67.80mV
69	224.1V	151.9	67.12mV	227.9V	147.1	67.36mV
70	225.4V	149.6	68.17mV	225.6V	146.8	67.25mV
71	223.6V	150.0	67.83mV	222.9V	148.7	67.77mV
72	223.2V	150.0	67.43mV	225.1V	150.5	67.64mV
73	228.0V	152.4	67.95mV	228.1V	155.1	67.83mV
74	225.4V	153.7	68.06mV	223.0V	154.2	67.02mV
75	225.6V	152.3	66.81mV	225.0V	151.2	67.34mV
76	224.2V	154.2	66.80mV	227.0V	148.2	68.07mV
77	226.8V	150.4	67.56mV	222.5V	154.9	67.81mV

Made By: King Huang

Approval: Peter Yang



SeCoS Corporation

Solderability Test Data

Report No : T151008-109

Part No : CZT5551

Test Equipment: JUNO Test System DTS-1000

Test Condition : $V_{(BR)CEO} > 160V @ I_C=1mA, I_B=0$; $80 < h_{FE} < 400 @ V_{CE}=5V, I_C=10mA$
 $V_{CE(sat)} < 200mV @ I_C=50mA, I_B=5mA$

Test Condition: $245^{\circ}C \pm 5^{\circ}C, 5Sec$

Test Date: 2015.10.08

Test Standard : JESD22 STANDER Method-B102

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)	$V_{(BR)CEO}$ (V)	h_{FE}	$V_{CE(sat)}$ (mV)
1	228.3V	148.7	66.99mV	228.0V	147.1	68.02mV
2	225.1V	146.2	67.77mV	225.8V	150.3	66.91mV
3	227.3V	151.6	67.25mV	225.7V	151.5	67.69mV
4	223.8V	150.8	67.01mV	226.8V	149.0	67.94mV
5	223.9V	149.5	68.15mV	224.1V	154.4	67.39mV
6	228.4V	150.0	68.14mV	223.8V	153.7	67.45mV
7	223.6V	148.2	66.96mV	223.3V	153.3	68.16mV
8	225.3V	150.5	68.14mV	227.7V	154.7	68.07mV
9	225.8V	153.2	68.13mV	226.5V	147.3	67.55mV
10	224.9V	154.7	67.50mV	223.1V	148.1	67.76mV

Made By: King Huang

Approval: Peter Yang