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Product/Process Change Notification

PCN#	Effective Date		Issue Date			
2018-05-04C-02	2018/8/4		2018/5/4			
PCN Classification		Product Category				
Major		Schottky				
	S	ubject				
Production process change from lead free to halogen free.						
	Affected	l Product(s)				
SOD-323 Package of Schottky,	Such as atta	chments.				
	Description	n of Change(s)				
To meet EU environment requir	ement, we im	olement halogen	free to our products.			
	Content	of Change(s)				
Adding "-C" to each part number	er.					
	lm	oact(s)				
N/A	N/A					
	Attac	hment(s)				
Reliability report. SGS report.						

Approval						
Issue by	Alice Lai	e-mail: alice@secosgmbh.com				
Development Engineer		Alice Lai				
QA Manager		Peter Yang				
General Manger		Mathew Liu				

For more information, please contact us directly or visit our website http://www.secosgmbh.com



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Affected Product(s)

SCS0520V	SCS130V
SCS0530V	SCS140V
SCS0540V	SCS160V
SCS0560V	SCS1100V
SCS05100V	SCS160WS
SCS120V	



Reliability Testing Summary Report

Date: 2018/04/30 Document No.: SL18 -04- 140V

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	SCS140V-C	$100 \pm 5^{\circ}$ C, 80%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	SCS140V-C	150°C, T = 1000 hrs	77		0	0	ACC
PCT Pressure Cooker Test	SCS140V-C	121°C , 29.7PSIG, 168 hrs	77 0		0	ACC	
TCT Temperature Cycle Test	SCS140V-C	-55°C/30min, 150°C/30min, For 1000 Cycle	77		0	0	ACC
THT High Temperature High Humidity Test	SCS140V-C	85 ± 2°C, RH=85±5%, 1000 hrs	77		0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	SCS140V-C	85 ± 2°C, RH=85±5%, 80% VR, 1000 hrs		77		0	ACC
Solderability	SCS140V-C	245 ± 5°C, 5Sec the inspected area of each lead must have 95% solder coverage minimum	spected area of each and must have 95%		0	0	ACC
Judgment: ■ qualif	ied □ unqua	lified					
<u> </u>		Testing End Date: 2018.0	4.30				
Tester: King Huai	ng Approval:	Peter Yang					



Electrical Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 25°C Test Date: 2018.03.05

Test Standard : Specifications

Operator: Leo Hsia

Toot Docult: DACC

No	VF	VB	IR
1	511.2mV	53.13V	19.03uA
2	511.5mV	53.46V	17.93uA
3	508.8mV	54.95V	18.90uA
4	512.6mV	55.50V	17.73uA
5	509.1mV	53.50V	16.39uA
6	509.0mV	53.81V	17.60uA
7	507.7mV	54.65V	18.82uA
8	509.0mV	54.30V	18.87uA
9	513.0mV	52.92V	17.39uA
10	511.6mV	53.51V	18.75uA
11	510.8mV	54.54V	17.88uA
12	511.7mV	55.61V	17.15uA
13	512.1mV	53.05V	17.56uA
14	508.3mV	53.20V	18.03uA
15	507.7mV	54.12V	18.35uA
16	509.1mV	54.24V	17.33uA
17	508.7mV	53.51V	18.66uA
18	510.7mV	53.77V	17.15uA
19	509.7mV	55.11V	17.52uA
20	512.3mV	55.13V	18.50uA
21	508.6mV	53.41V	17.50uA
22	507.4mV	55.58V	17.42uA
23	509.1mV	55.48V	16.87uA
24	509.8mV	52.91V	17.34uA
25	513.7mV	53.13V	18.16uA
26	508.9mV	53.55V	17.83uA
27	511.9mV	52.65V	16.68uA
28	507.4mV	54.91V	19.12uA
29	508.1mV	54.93V	16.76uA
30	507.0mV	54.00V	18.52uA
31	511.6mV	54.03V	16.54uA



Electrical Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 25°C Test Date: 2018.03.05

Test Standard : Specifications

Operator: Leo Hsia

Toot Docult: DACC

No	VF	VB	IR
32	507.8mV	54.77V	18.63uA
33	509.0mV	54.29V	17.37uA
34	512.2mV	54.21V	18.18uA
35	512.0mV	53.88V	17.20uA
36	510.1mV	54.46V	17.97uA
37	511.5mV	55.29V	16.98uA
38	511.6mV	54.26V	18.86uA
39	509.7mV	54.06V	18.91uA
40	510.1mV	55.47V	17.56uA
41	508.7mV	53.08V	18.41uA
42	507.6mV	55.15V	18.85uA
43	508.4mV	55.49V	16.56uA
44	507.9mV	55.37V	17.05uA
45	507.5mV	55.29V	16.65uA
46	507.6mV	54.09V	17.14uA
47	510.9mV	55.48V	17.28uA
48	513.8mV	53.89V	16.50uA
49	513.4mV	55.24V	16.92uA
50	513.1mV	54.99V	18.53uA
51	508.0mV	53.77V	16.82uA
52	510.9mV	52.81V	18.72uA
53	509.0mV	54.67V	19.13uA
54	507.7mV	54.23V	16.50uA
55	507.6mV	53.62V	18.23uA
56	512.3mV	52.67V	16.73uA
57	507.6mV	54.40V	19.28uA
58	512.0mV	55.26V	17.41uA
59	510.2mV	53.00V	18.63uA
60	509.0mV	55.51V	19.13uA
61	509.1mV	55.46V	16.97uA
62	509.0mV	54.61V	18.96uA



Electrical Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 25°C Test Date: 2018.03.05

Test Standard : Specifications

Operator: Leo Hsia

Test Result: PASS

Test Result. P	ASS		
No	VF	VB	IR
63	507.8mV	55.30V	17.15uA
64	510.6mV	54.70V	16.66uA
65	507.5mV	55.19V	17.00uA
66	511.3mV	55.11V	18.26uA
67	513.3mV	54.45V	17.89uA
68	511.5mV	55.24V	17.09uA
69	508.0mV	54.53V	16.46uA
70	507.2mV	53.60V	16.53uA
71	507.6mV	53.20V	16.85uA
72	511.9mV	53.51V	17.30uA
73	507.8mV	53.51V	19.10uA
74	507.2mV	52.80V	16.85uA
75	507.8mV	53.66V	18.48uA
76	509.9mV	54.67V	18.02uA
77	508.8mV	53.85V	16.90uA

Made By: King Huang Approval: Peter Yang



High Temperature Reverse Bias Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: $100 \pm 5^{\circ}$ C, 80%VR, T = 1000 hrs

Test Date: 2018.03.06 ~ 2018.04.18

Test Standard: JESD22 STANDARD Method-A108

Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF	VB	IR	VF	VB	IR
1	510.2mV	53.04V	18.85uA	509.1mV	53.69V	16.92uA
2	513.7mV	54.72V	16.73uA	508.2mV	54.10V	18.24uA
3	513.9mV	53.86V	19.09uA	513.8mV	53.16V	16.73uA
4	514.0mV	53.93V	18.39uA	513.5mV	55.38V	17.99uA
5	512.1mV	55.31V	17.77uA	509.5mV	53.95V	17.22uA
6	509.1mV	53.71V	17.02uA	510.2mV	55.54V	17.70uA
7	513.3mV	52.91V	17.11uA	512.2mV	54.89V	18.49uA
8	510.8mV	55.38V	17.87uA	509.4mV	54.34V	18.38uA
9	510.8mV	55.37V	17.08uA	509.5mV	54.60V	18.58uA
10	509.9mV	53.05V	17.82uA	510.6mV	55.23V	19.12uA
11	513.2mV	55.23V	18.99uA	511.0mV	52.91V	19.12uA
12	507.2mV	55.13V	18.78uA	512.4mV	53.98V	17.40uA
13	509.3mV	55.50V	16.90uA	511.8mV	54.23V	18.79uA
14	507.2mV	53.60V	17.25uA	513.8mV	54.41V	16.73uA
15	507.9mV	54.79V	17.82uA	512.0mV	55.40V	19.26uA
16	509.3mV	53.02V	18.54uA	509.1mV	53.53V	17.34uA
17	507.7mV	54.80V	17.17uA	507.7mV	52.90V	16.48uA
18	508.7mV	54.45V	17.43uA	510.3mV	54.43V	18.31uA
19	510.8mV	55.22V	16.54uA	511.1mV	53.57V	16.88uA
20	513.1mV	54.09V	19.15uA	510.9mV	52.62V	17.73uA
21	509.5mV	53.02V	17.36uA	511.4mV	52.88V	16.57uA
22	510.1mV	53.30V	16.92uA	507.5mV	53.26V	18.52uA
23	513.9mV	52.89V	18.70uA	510.8mV	52.96V	16.43uA
24	509.8mV	54.51V	16.61uA	512.0mV	55.21V	18.39uA
25	507.6mV	54.22V	16.57uA	509.5mV	53.39V	18.08uA
26	513.5mV	54.35V	17.01uA	507.5mV	54.18V	17.28uA
27	507.7mV	55.46V	18.26uA	513.3mV	55.51V	17.19uA
28	507.9mV	53.53V	19.18uA	513.0mV	54.85V	17.61uA
29	509.6mV	53.33V	18.40uA	511.9mV	53.24V	17.05uA
30	510.7mV	53.48V	17.80uA	508.1mV	53.76V	17.93uA



High Temperature Reverse Bias Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: $100 \pm 5^{\circ}$ C, 80%VR, T = 1000 hrs

Test Date: 2018.03.06 ~ 2018.04.18

Test Standard: JESD22 STANDARD Method-A108

Operator: Leo Hsia

Test Result: PASS

		Before		After		
No	VF	VB	IR	VF	VB	IR
31	513.7mV	53.78V	16.67uA	513.9mV	54.57V	19.25u
32	513.3mV	54.18V	18.92uA	510.3mV	54.17V	19.03u
33	510.2mV	52.71V	18.96uA	513.4mV	53.30V	16.84u
34	508.6mV	53.15V	18.86uA	508.5mV	54.51V	18.80u
35	511.9mV	55.00V	17.70uA	511.2mV	54.62V	16.85u
36	509.7mV	54.25V	18.55uA	513.0mV	54.52V	18.83u
37	510.5mV	53.81V	18.04uA	509.0mV	53.64V	17.61u
38	507.8mV	53.96V	17.46uA	510.3mV	55.13V	16.43u
39	513.6mV	54.48V	16.67uA	513.3mV	54.65V	17.49u
40	509.5mV	53.84V	17.71uA	508.8mV	55.05V	16.82u
41	507.6mV	52.91V	18.30uA	512.1mV	54.56V	19.14u
42	511.5mV	55.07V	17.12uA	513.6mV	54.36V	17.75u
43	511.1mV	54.00V	17.30uA	511.9mV	52.63V	16.79u
44	507.2mV	53.45V	17.44uA	507.2mV	54.90V	16.51u
45	508.7mV	53.40V	18.50uA	508.2mV	55.35V	18.44u
46	507.2mV	54.02V	18.23uA	508.5mV	54.25V	16.35u
47	509.6mV	52.63V	17.80uA	507.3mV	53.89V	18.29u
48	513.2mV	54.94V	19.09uA	510.6mV	54.02V	18.15u
49	510.8mV	55.56V	18.99uA	514.0mV	52.94V	17.86u
50	512.4mV	54.82V	17.76uA	507.3mV	55.51V	18.93u
51	510.8mV	54.21V	18.51uA	513.3mV	52.84V	19.16u
52	509.6mV	53.28V	19.05uA	511.8mV	53.37V	19.27u
53	512.8mV	54.88V	16.37uA	510.4mV	54.76V	18.22u
54	512.6mV	55.03V	17.47uA	510.3mV	54.85V	16.46u
55	509.6mV	54.24V	17.45uA	510.4mV	54.74V	16.89u
56	507.3mV	54.12V	16.60uA	512.4mV	55.56V	19.01u
57	509.0mV	52.73V	18.39uA	512.2mV	53.11V	18.31u
58	511.2mV	54.32V	17.23uA	513.5mV	53.45V	16.67u
59	510.1mV	54.59V	16.46uA	510.7mV	54.61V	18.36u
60	511.3mV	54.11V	18.67uA	509.9mV	53.17V	17.62u



High Temperature Reverse Bias Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: $100 \pm 5^{\circ}$ C, 80%VR, T = 1000 hrs

Test Date: 2018.03.06 ~ 2018.04.18

Test Standard: JESD22 STANDARD Method-A108

Operator: Leo Hsia

Test Result: PASS

Test Result.	17100					
	Before			After		
No	VF	VB	IR	VF	VB	IR
61	509.3mV	54.58V	17.28uA	508.9mV	53.48V	17.68uA
62	511.2mV	53.42V	17.23uA	509.8mV	52.94V	18.35uA
63	508.0mV	53.39V	17.05uA	508.6mV	54.19V	19.15uA
64	511.3mV	53.00V	17.61uA	508.3mV	53.36V	18.65uA
65	511.6mV	54.08V	19.04uA	511.9mV	53.61V	19.04uA
66	512.8mV	53.21V	16.82uA	512.7mV	55.40V	17.38uA
67	507.7mV	55.51V	16.47uA	512.0mV	54.22V	18.50uA
68	509.2mV	52.90V	18.98uA	511.1mV	54.08V	16.94uA
69	507.6mV	53.76V	19.23uA	507.9mV	54.24V	17.95uA
70	513.5mV	55.34V	17.19uA	513.1mV	54.83V	17.62uA
71	507.9mV	53.82V	17.65uA	509.9mV	53.58V	19.12uA
72	512.0mV	53.84V	17.77uA	513.0mV	53.90V	17.05uA
73	511.8mV	53.34V	18.08uA	513.8mV	54.72V	16.42uA
74	509.2mV	54.88V	19.08uA	513.6mV	55.21V	16.67uA
75	509.0mV	54.04V	16.90uA	512.8mV	53.89V	17.15uA
76	507.9mV	52.96V	17.50uA	511.7mV	54.47V	16.34uA
77	507.0mV	53.81V	18.57uA	510.5mV	54.36V	18.95uA

Made By: King Huang Approval: Peter Yang



High Temperature Storage Life Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 150°C, 1000Hrs Test Date: 2018.03.06 ~ 2018.04.18

Test Standard: JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

	Before				After	
No	VF	VB	IR	VF	VB	IR
1	509.8mV	54.16V	17.22uA	513.6mV	52.86V	17.99uA
2	510.4mV	54.28V	18.49uA	507.8mV	53.46V	17.36uA
3	510.9mV	52.62V	17.76uA	509.2mV	53.12V	18.98uA
4	510.7mV	55.22V	18.76uA	508.2mV	52.65V	18.66uA
5	509.6mV	55.07V	18.12uA	512.0mV	54.95V	18.80uA
6	507.6mV	53.42V	18.01uA	507.9mV	53.93V	16.46uA
7	513.0mV	54.59V	17.06uA	513.2mV	53.03V	18.17uA
8	513.6mV	53.94V	17.59uA	511.6mV	53.45V	18.61uA
9	511.5mV	54.92V	17.87uA	508.7mV	52.97V	18.43uA
10	508.6mV	54.74V	17.54uA	507.3mV	54.86V	18.76uA
11	511.2mV	54.18V	18.17uA	510.1mV	53.09V	16.46uA
12	513.0mV	53.17V	18.13uA	512.0mV	53.36V	17.94uA
13	510.5mV	55.40V	18.08uA	510.7mV	54.45V	18.46uA
14	507.5mV	54.41V	16.98uA	507.2mV	54.74V	17.17uA
15	510.5mV	54.38V	17.81uA	512.1mV	53.40V	18.39uA
16	512.9mV	53.39V	18.32uA	511.5mV	54.06V	17.74uA
17	508.9mV	54.88V	18.48uA	512.7mV	54.17V	17.52uA
18	513.5mV	54.88V	17.66uA	513.0mV	53.38V	18.38uA
19	508.1mV	54.53V	16.89uA	508.5mV	53.36V	17.92uA
20	513.2mV	53.19V	17.48uA	512.7mV	53.62V	17.98uA
21	513.3mV	53.25V	16.90uA	512.1mV	52.82V	18.34uA
22	507.9mV	54.63V	17.30uA	507.2mV	54.95V	17.11uA
23	510.1mV	54.57V	18.61uA	509.5mV	52.69V	18.39uA
24	509.2mV	53.52V	16.64uA	512.0mV	54.63V	16.98uA
25	513.8mV	54.19V	16.84uA	508.4mV	52.63V	16.38uA
26	511.9mV	53.90V	17.43uA	508.8mV	53.58V	18.78uA
27	510.2mV	53.86V	17.16uA	510.8mV	55.49V	19.27uA
28	507.4mV	54.48V	18.52uA	512.0mV	55.56V	16.85uA
29	512.0mV	52.80V	17.97uA	508.1mV	54.34V	19.22uA
30	513.1mV	53.24V	19.26uA	512.6mV	53.18V	18.71uA



High Temperature Storage Life Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 150°C, 1000Hrs Test Date: 2018.03.06 ~ 2018.04.18

Test Standard: JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

	Before			After		
No	VF	VB	IR	VF	VB	IR
31	513.9mV	52.83V	18.47uA	511.6mV	52.77V	19.05uA
32	507.7mV	53.25V	18.60uA	507.1mV	55.08V	18.62uA
33	508.8mV	54.96V	17.46uA	510.6mV	53.77V	17.70uA
34	507.3mV	52.79V	18.51uA	507.1mV	53.40V	18.92uA
35	512.5mV	54.61V	17.04uA	508.4mV	53.98V	18.88uA
36	508.3mV	55.54V	17.78uA	512.0mV	52.92V	18.26uA
37	512.9mV	55.41V	16.45uA	511.3mV	54.42V	16.80uA
38	511.3mV	53.14V	18.95uA	511.6mV	53.27V	18.40uA
39	509.2mV	53.71V	16.58uA	513.1mV	54.02V	17.37uA
40	507.6mV	54.99V	17.28uA	508.3mV	54.61V	17.76uA
41	507.9mV	55.35V	16.92uA	510.5mV	53.87V	17.08uA
42	510.3mV	53.10V	18.76uA	511.6mV	53.48V	17.38uA
43	512.6mV	54.40V	17.33uA	511.8mV	55.10V	18.03uA
44	508.3mV	54.35V	17.87uA	508.4mV	53.41V	19.16uA
45	513.6mV	52.72V	16.98uA	508.5mV	55.48V	16.85uA
46	511.7mV	53.51V	18.75uA	511.3mV	55.29V	17.67uA
47	510.0mV	53.64V	17.08uA	508.8mV	52.69V	17.51uA
48	508.0mV	54.82V	17.51uA	508.1mV	55.30V	16.65uA
49	508.9mV	53.41V	18.77uA	509.3mV	54.82V	19.08uA
50	511.6mV	54.91V	17.28uA	512.9mV	52.97V	17.12uA
51	512.6mV	54.12V	18.72uA	510.9mV	55.18V	17.92uA
52	507.3mV	53.71V	18.86uA	507.3mV	54.34V	16.97uA
53	512.0mV	53.09V	17.30uA	507.8mV	54.25V	19.23uA
54	508.7mV	54.56V	19.25uA	508.2mV	53.64V	18.75uA
55	509.6mV	54.42V	18.78uA	512.3mV	55.10V	18.64uA
56	507.6mV	53.08V	17.56uA	511.9mV	55.59V	17.40uA
57	513.5mV	53.67V	18.16uA	507.2mV	54.18V	16.70uA
58	508.5mV	55.29V	17.74uA	513.2mV	52.79V	18.27uA
59	508.7mV	53.66V	16.54uA	511.2mV	53.18V	16.64uA
60	509.7mV	52.99V	18.59uA	512.5mV	54.15V	17.74uA



High Temperature Storage Life Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 150°C, 1000Hrs Test Date: 2018.03.06 ~ 2018.04.18

Test Standard: JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

Test Result.		Before		After			
No	VF	VB	IR	VF	VB	IR	
61	510.2mV	55.59V	18.12uA	508.4mV	53.92V	17.23uA	
62	513.9mV	53.59V	18.55uA	510.7mV	54.32V	16.69uA	
63	508.7mV	54.50V	17.66uA	511.8mV	53.37V	17.77uA	
64	508.9mV	53.66V	16.44uA	512.0mV	54.35V	17.24uA	
65	507.3mV	53.43V	18.63uA	507.3mV	54.70V	18.85uA	
66	510.5mV	53.48V	17.04uA	510.1mV	55.24V	16.62uA	
67	509.2mV	55.59V	18.28uA	511.9mV	55.24V	18.21uA	
68	512.1mV	53.63V	18.80uA	508.6mV	53.42V	16.39uA	
69	507.1mV	53.42V	19.27uA	513.9mV	55.34V	18.12uA	
70	512.4mV	54.49V	17.03uA	511.2mV	54.20V	18.66uA	
71	511.8mV	53.12V	18.87uA	510.4mV	52.96V	19.26uA	
72	507.5mV	53.65V	18.90uA	508.7mV	52.94V	16.50uA	
73	512.7mV	52.79V	17.95uA	512.3mV	54.53V	17.54uA	
74	511.5mV	53.89V	17.48uA	509.3mV	55.28V	18.15uA	
75	511.6mV	54.45V	18.63uA	511.8mV	54.12V	19.04uA	
76	514.0mV	54.44V	17.11uA	511.9mV	53.00V	18.23uA	
77	511.8mV	54.05V	16.69uA	510.0mV	54.81V	17.74uA	

Made By: King Huang Approval: Peter Yang



Pressure Cooker Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 121°C, 100%RH, 29.7PSIG, 168Hrs

Test Date: 2018.03.05 ~ 2018.03.13

Test Standard: JESD22 STANDARD Method-A102

Operator: Leo Hsia

Test Result: PASS

		Before			After			
No	VF	VB	IR	VF	VB	IR		
1	509.6mV	54.67V	17.00uA	513.5mV	53.82V	17.30uA		
2	509.0mV	53.89V	16.73uA	510.2mV	54.77V	18.47uA		
3	508.6mV	53.34V	17.52uA	509.6mV	55.02V	16.77uA		
4	507.7mV	54.25V	18.72uA	507.6mV	53.99V	18.91uA		
5	507.8mV	53.36V	17.83uA	508.3mV	54.59V	17.90uA		
6	507.4mV	53.78V	17.58uA	508.5mV	54.99V	16.61uA		
7	512.7mV	53.75V	18.33uA	507.6mV	52.70V	19.18uA		
8	512.6mV	53.43V	16.94uA	509.2mV	55.50V	17.82uA		
9	510.8mV	53.61V	17.49uA	512.1mV	52.82V	16.72uA		
10	509.8mV	54.40V	18.45uA	512.6mV	53.29V	16.45uA		
11	510.0mV	53.18V	18.71uA	512.3mV	55.28V	18.82uA		
12	510.0mV	55.10V	17.44uA	511.2mV	55.39V	16.89uA		
13	511.2mV	53.31V	19.02uA	513.2mV	53.10V	16.97uA		
14	512.8mV	53.01V	17.54uA	508.8mV	52.74V	18.81uA		
15	508.9mV	53.55V	17.66uA	511.1mV	54.90V	19.19uA		
16	511.5mV	53.41V	17.09uA	513.8mV	52.78V	18.37uA		
17	513.2mV	53.59V	17.46uA	513.8mV	54.87V	18.78uA		
18	509.4mV	53.32V	16.84uA	509.0mV	52.87V	18.79uA		
19	510.7mV	54.07V	16.87uA	510.8mV	53.23V	17.92uA		
20	511.0mV	52.78V	18.99uA	509.6mV	53.20V	17.06uA		
21	508.3mV	52.74V	17.65uA	507.1mV	55.10V	17.67uA		
22	507.0mV	53.96V	18.24uA	511.8mV	54.08V	18.09uA		
23	512.7mV	54.94V	17.80uA	507.0mV	53.56V	18.41uA		
24	512.8mV	55.01V	18.12uA	507.5mV	54.14V	17.15uA		
25	511.3mV	54.99V	17.17uA	507.2mV	55.51V	17.57uA		
26	513.7mV	53.98V	17.46uA	509.2mV	53.53V	17.48uA		
27	508.7mV	54.70V	16.77uA	509.1mV	54.98V	18.86uA		
28	512.6mV	54.58V	18.19uA	511.0mV	53.60V	18.50uA		
29	508.3mV	52.89V	18.58uA	508.0mV	54.51V	18.72uA		
30	507.4mV	53.84V	17.72uA	513.5mV	52.71V	18.44uA		



Pressure Cooker Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 121°C, 100%RH, 29.7PSIG, 168Hrs

Test Date: 2018.03.05 ~ 2018.03.13

Test Standard: JESD22 STANDARD Method-A102

Operator: Leo Hsia

Tost Posult: DASS

		Before		After			
No	VF	VB	IR	VF	VB	IR	
31	512.7mV	55.58V	18.85uA	508.8mV	52.92V	17.35uA	
32	513.0mV	53.45V	18.25uA	507.5mV	53.86V	17.90uA	
33	510.5mV	52.89V	18.00uA	509.9mV	53.66V	18.38uA	
34	509.4mV	53.04V	19.21uA	513.0mV	53.91V	19.06uA	
35	509.4mV	54.92V	17.21uA	510.4mV	53.98V	18.81uA	
36	510.2mV	55.40V	16.36uA	507.2mV	54.27V	17.62uA	
37	511.6mV	53.26V	19.12uA	507.5mV	53.16V	17.71uA	
38	512.4mV	54.94V	18.52uA	511.5mV	53.18V	17.25uA	
39	508.6mV	53.05V	16.95uA	507.5mV	54.43V	17.90uA	
40	513.4mV	54.26V	19.01uA	511.8mV	55.52V	18.31uA	
41	513.0mV	54.87V	16.92uA	513.3mV	55.40V	18.73uA	
42	510.8mV	54.78V	17.27uA	511.7mV	54.40V	19.08uA	
43	511.8mV	55.18V	17.04uA	513.8mV	55.02V	16.54uA	
44	508.7mV	55.58V	17.12uA	510.4mV	53.35V	18.86u <i>A</i>	
45	511.6mV	53.60V	16.64uA	508.2mV	53.84V	17.02uA	
46	513.0mV	54.60V	17.35uA	510.9mV	53.40V	17.25uA	
47	507.8mV	54.82V	16.61uA	507.5mV	54.23V	18.69u <i>A</i>	
48	508.2mV	54.50V	17.57uA	513.8mV	53.85V	17.94u <i>A</i>	
49	512.6mV	54.66V	18.83uA	513.1mV	52.65V	17.21u <i>A</i>	
50	511.4mV	53.71V	17.53uA	509.9mV	55.21V	16.63u <i>A</i>	
51	513.5mV	52.80V	18.21uA	511.7mV	53.55V	17.71u <i>A</i>	
52	510.7mV	53.33V	18.39uA	508.9mV	54.74V	16.63uA	
53	513.2mV	55.34V	19.22uA	507.6mV	55.36V	17.22uA	
54	507.9mV	53.19V	18.19uA	507.7mV	55.37V	17.80u <i>A</i>	
55	508.0mV	55.58V	18.11uA	508.9mV	55.00V	18.82u <i>A</i>	
56	512.2mV	53.18V	17.51uA	509.7mV	53.93V	18.18u <i>A</i>	
57	507.8mV	54.73V	19.03uA	513.1mV	54.29V	17.62u <i>A</i>	
58	513.8mV	54.50V	17.35uA	513.4mV	53.60V	17.89u <i>A</i>	
59	510.1mV	54.38V	16.78uA	508.0mV	54.41V	19.21u <i>A</i>	
60	512.0mV	55.40V	16.76uA	513.6mV	55.52V	16.53uA	



Pressure Cooker Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 121°C, 100%RH, 29.7PSIG, 168Hrs

Test Date: 2018.03.05 ~ 2018.03.13

Test Standard: JESD22 STANDARD Method-A102

Operator: Leo Hsia

Test Result: PASS

Test Result.	17100						
		Before		After			
No	VF	VB	IR	VF	VB	IR	
61	509.4mV	53.96V	17.13uA	508.8mV	54.84V	17.21uA	
62	510.0mV	52.76V	17.29uA	509.4mV	54.58V	19.04uA	
63	512.2mV	52.94V	16.48uA	511.1mV	53.50V	18.25uA	
64	507.0mV	54.93V	17.65uA	512.0mV	54.74V	18.66uA	
65	510.6mV	55.50V	17.83uA	507.6mV	55.36V	17.31uA	
66	510.7mV	54.33V	18.02uA	512.2mV	53.91V	16.37uA	
67	512.8mV	53.69V	17.83uA	512.2mV	52.83V	18.72uA	
68	511.4mV	53.97V	18.63uA	510.1mV	54.98V	18.69uA	
69	508.1mV	55.16V	18.57uA	512.7mV	52.84V	18.18uA	
70	507.3mV	52.99V	17.02uA	507.6mV	52.71V	18.36uA	
71	509.4mV	54.02V	18.24uA	508.9mV	54.71V	17.92uA	
72	511.7mV	53.82V	18.02uA	512.4mV	54.63V	17.89uA	
73	511.6mV	54.32V	19.11uA	512.7mV	52.95V	17.87uA	
74	507.4mV	54.54V	16.51uA	509.3mV	54.65V	18.99uA	
75	509.4mV	54.12V	16.78uA	511.6mV	54.36V	17.71uA	
76	510.1mV	54.99V	17.32uA	510.4mV	53.80V	16.68uA	
77	512.3mV	53.86V	19.16uA	512.7mV	54.04V	16.55uA	

Made By: King Huang Approval: Peter Yang



Temperature Cycle Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

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

Test Date: 2018.03.06 ~ 2018.04.27

Test Standard: JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

		Before		After			
No	VF	VB	IR	VF	VB	IR	
1	512.3mV	52.62V	18.83uA	511.1mV	53.33V	16.47uA	
2	511.2mV	54.43V	18.56uA	511.9mV	53.29V	16.57uA	
3	512.0mV	54.57V	17.46uA	508.3mV	53.73V	18.63uA	
4	507.7mV	53.50V	18.66uA	508.2mV	55.03V	19.10uA	
5	512.3mV	54.50V	17.60uA	512.5mV	54.34V	18.32uA	
6	513.5mV	53.38V	17.19uA	509.5mV	54.35V	17.67uA	
7	507.0mV	54.06V	16.77uA	512.4mV	53.81V	17.85uA	
8	509.0mV	55.26V	17.44uA	511.1mV	53.47V	17.73uA	
9	513.0mV	54.63V	18.75uA	511.7mV	54.56V	18.53uA	
10	510.0mV	54.21V	16.52uA	512.8mV	53.04V	16.77uA	
11	507.7mV	54.68V	17.87uA	511.6mV	54.52V	18.34uA	
12	512.3mV	53.76V	17.93uA	510.5mV	53.67V	17.87uA	
13	510.1mV	53.85V	18.55uA	512.9mV	53.09V	17.89uA	
14	510.0mV	54.51V	16.34uA	510.2mV	55.58V	16.60uA	
15	512.8mV	53.58V	17.50uA	513.4mV	54.34V	17.54uA	
16	512.6mV	54.76V	17.98uA	509.8mV	54.77V	18.90uA	
17	513.3mV	54.34V	19.16uA	512.1mV	55.40V	17.66uA	
18	509.8mV	54.66V	16.99uA	508.0mV	54.73V	16.66uA	
19	512.6mV	55.25V	17.93uA	511.4mV	54.96V	18.95uA	
20	510.2mV	53.72V	18.03uA	507.3mV	55.07V	16.56uA	
21	513.3mV	54.24V	19.03uA	513.8mV	53.66V	17.41uA	
22	512.2mV	53.37V	17.21uA	511.0mV	54.34V	18.70uA	
23	513.1mV	54.30V	17.19uA	509.6mV	52.75V	17.56uA	
24	512.3mV	53.71V	17.07uA	509.6mV	53.28V	18.01uA	
25	511.2mV	53.23V	17.24uA	512.5mV	53.36V	16.42uA	
26	507.9mV	54.35V	16.82uA	513.9mV	54.45V	17.66uA	
27	509.2mV	55.49V	17.17uA	513.8mV	53.95V	16.54uA	
28	510.4mV	53.90V	16.61uA	510.7mV	54.49V	18.22uA	
29	513.8mV	53.22V	16.59uA	507.2mV	53.98V	16.48uA	
30	511.7mV	54.31V	17.07uA	513.9mV	55.45V	16.46uA	



Temperature Cycle Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

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

Test Date: 2018.03.06 ~ 2018.04.27

Test Standard: JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

		Before		After		
No	VF	VB	IR	VF	VB	IR
31	508.1mV	53.52V	17.69uA	510.4mV	53.16V	18.70u
32	511.1mV	54.27V	19.21uA	511.3mV	52.83V	16.36u.
33	509.4mV	55.52V	18.87uA	508.4mV	54.95V	16.72u.
34	509.5mV	53.77V	17.21uA	509.6mV	55.55V	18.02u
35	508.1mV	55.05V	16.82uA	510.1mV	55.55V	16.64u.
36	511.2mV	53.83V	17.99uA	509.5mV	54.88V	16.41u.
37	511.8mV	53.51V	18.16uA	507.6mV	53.14V	16.39u.
38	508.3mV	54.87V	18.37uA	508.0mV	54.74V	16.66u.
39	511.4mV	52.78V	18.31uA	510.8mV	55.02V	18.52u.
40	509.0mV	55.59V	18.72uA	507.7mV	55.60V	16.91u
41	512.7mV	54.16V	18.01uA	511.1mV	55.46V	19.07u
42	513.2mV	54.96V	17.57uA	510.2mV	52.75V	17.11u
43	510.4mV	53.19V	18.52uA	510.6mV	54.48V	18.75u
44	512.9mV	52.92V	18.49uA	507.5mV	55.20V	18.30u
45	513.7mV	53.86V	19.10uA	507.1mV	53.39V	16.69u
46	510.4mV	54.11V	16.89uA	510.7mV	54.91V	17.60u
47	510.8mV	53.69V	17.45uA	512.6mV	52.83V	19.22u
48	507.9mV	55.36V	19.26uA	509.5mV	52.83V	17.52u
49	507.5mV	53.59V	18.01uA	510.9mV	52.81V	17.00u
50	512.7mV	54.24V	18.75uA	514.0mV	53.68V	16.84u
51	512.8mV	53.27V	17.67uA	508.1mV	53.19V	18.73u
52	508.8mV	52.69V	17.58uA	509.5mV	53.76V	16.63u
53	509.2mV	54.15V	17.29uA	510.6mV	55.46V	18.21u
54	510.1mV	54.99V	19.26uA	513.4mV	54.15V	17.41u
55	512.9mV	55.32V	18.70uA	510.6mV	53.39V	18.44u
56	508.1mV	53.58V	17.24uA	511.2mV	53.69V	17.90u
57	507.0mV	54.96V	16.40uA	507.3mV	54.77V	19.07u
58	513.9mV	55.34V	18.69uA	512.2mV	53.25V	18.25u
59	511.0mV	53.22V	19.24uA	510.3mV	54.43V	16.94u
60	507.2mV	53.07V	16.91uA	510.9mV	55.32V	18.00u



SeCos Corporation

Temperature Cycle Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

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

Test Date: 2018.03.06 ~ 2018.04.27

Test Standard: JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

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		Before			After	
No	VF	VB	IR	VF	VB	IR
61	509.5mV	55.49V	19.02uA	511.9mV	55.52V	17.26uA
62	509.6mV	55.14V	18.34uA	513.7mV	54.72V	18.41uA
63	509.6mV	53.08V	17.01uA	512.6mV	55.51V	16.39uA
64	509.3mV	53.54V	18.95uA	510.7mV	54.50V	18.11uA
65	512.9mV	53.61V	17.83uA	513.3mV	53.54V	19.12uA
66	507.0mV	55.60V	17.97uA	510.9mV	53.72V	18.15uA
67	507.7mV	53.74V	19.29uA	509.1mV	53.43V	16.97uA
68	510.4mV	54.48V	19.30uA	507.2mV	54.12V	17.17uA
69	512.1mV	53.55V	18.50uA	512.0mV	53.46V	17.81uA
70	509.2mV	55.19V	17.06uA	511.6mV	54.01V	17.19uA
71	512.0mV	53.24V	17.12uA	507.4mV	53.99V	18.23uA
72	513.4mV	55.33V	16.56uA	513.8mV	53.73V	18.53uA
73	508.5mV	54.55V	17.11uA	507.4mV	54.50V	16.67uA
74	512.2mV	53.95V	16.86uA	507.8mV	55.27V	18.71uA
75	508.5mV	54.26V	17.25uA	513.3mV	54.71V	17.70uA
76	507.5mV	53.15V	16.57uA	511.6mV	55.19V	17.57uA
77	509.0mV	54.23V	19.30uA	509.1mV	52.90V	16.82uA

Made By: King Huang Approval: Peter Yang



High Temperature High Humidity Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 85±2°C, 85±5%RH, 1000Hrs

Test Date: 2018.03.13 ~ 2018.04.25

Test Standard: JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

		Before			After	
No	VF	VB	IR	VF	VB	IR
1	511.0mV	55.51V	18.31uA	512.0mV	54.57V	17.39uA
2	513.7mV	54.39V	16.75uA	512.3mV	53.45V	17.17uA
3	509.3mV	55.32V	17.05uA	514.0mV	55.10V	19.19uA
4	507.1mV	55.21V	17.24uA	507.7mV	54.73V	17.73uA
5	512.9mV	55.28V	17.77uA	512.0mV	53.87V	16.50uA
6	511.3mV	54.01V	17.91uA	509.3mV	53.50V	17.88uA
7	512.3mV	54.03V	17.61uA	512.3mV	52.65V	18.42uA
8	509.1mV	52.68V	17.90uA	508.6mV	54.07V	16.86uA
9	509.3mV	53.52V	18.51uA	507.9mV	54.79V	18.95uA
10	509.4mV	53.99V	18.36uA	509.2mV	54.88V	16.93uA
11	513.2mV	55.13V	17.87uA	512.6mV	53.91V	17.44uA
12	513.0mV	53.02V	16.57uA	510.1mV	53.89V	18.89uA
13	513.9mV	53.84V	19.17uA	508.8mV	52.83V	19.10uA
14	513.8mV	53.89V	19.24uA	511.0mV	54.33V	17.66uA
15	508.0mV	55.03V	18.56uA	508.8mV	55.39V	18.75uA
16	507.2mV	53.22V	16.91uA	513.4mV	55.28V	17.78uA
17	512.2mV	52.77V	18.06uA	507.3mV	55.55V	18.19uA
18	511.6mV	55.07V	18.45uA	509.9mV	53.84V	18.63uA
19	507.6mV	52.79V	18.63uA	513.1mV	54.91V	17.20uA
20	510.4mV	55.30V	19.21uA	511.3mV	52.92V	18.28uA
21	508.6mV	54.97V	18.46uA	509.8mV	53.60V	16.53uA
22	507.7mV	52.84V	17.30uA	512.2mV	53.71V	18.77uA
23	511.0mV	55.09V	16.91uA	511.5mV	54.50V	19.08uA
24	513.4mV	52.72V	19.18uA	513.6mV	53.22V	16.39uA
25	508.4mV	54.38V	16.51uA	509.8mV	54.67V	19.05uA
26	508.3mV	54.29V	18.18uA	510.2mV	53.38V	17.62uA
27	510.7mV	55.28V	18.13uA	510.3mV	54.24V	18.00uA
28	507.3mV	53.07V	17.45uA	510.0mV	52.91V	19.14uA
29	512.0mV	54.58V	19.28uA	511.8mV	53.98V	17.88uA
30	507.1mV	54.49V	18.05uA	512.1mV	52.67V	18.00uA



High Temperature High Humidity Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 85±2°C, 85±5%RH, 1000Hrs

Test Date: 2018.03.13 ~ 2018.04.25

Test Standard: JESD22 STANDARD Method-A101

Operator: Leo Hsia

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		Before		After		
No	VF	VB	IR	VF	VB	IR
31	512.0mV	53.79V	18.21uA	511.9mV	55.55V	17.26uA
32	507.7mV	55.22V	16.48uA	507.3mV	53.62V	19.05uA
33	507.9mV	54.02V	17.11uA	510.8mV	55.56V	19.02uA
34	510.1mV	52.95V	19.17uA	508.2mV	53.90V	17.58uA
35	513.2mV	53.54V	16.74uA	510.4mV	54.99V	18.42uA
36	512.4mV	54.72V	18.55uA	509.3mV	52.73V	17.34uA
37	509.7mV	53.04V	17.03uA	508.6mV	55.52V	16.85uA
38	507.3mV	54.97V	17.24uA	509.5mV	54.74V	16.75uA
39	509.6mV	53.36V	17.69uA	510.4mV	54.03V	18.41uA
40	510.8mV	55.35V	16.57uA	513.4mV	55.58V	16.72u <i>A</i>
41	512.2mV	54.82V	17.48uA	510.8mV	54.43V	18.34u <i>A</i>
42	507.4mV	54.24V	18.51uA	508.7mV	55.26V	16.39u <i>A</i>
43	509.8mV	55.13V	17.65uA	512.5mV	55.20V	19.19u <i>A</i>
44	509.5mV	52.85V	17.44uA	507.7mV	53.29V	17.73u <i>A</i>
45	508.6mV	55.59V	18.94uA	512.1mV	54.28V	19.19u <i>A</i>
46	508.8mV	52.81V	17.21uA	513.0mV	53.67V	19.10u <i>A</i>
47	512.8mV	52.90V	18.38uA	511.0mV	54.02V	19.15u <i>A</i>
48	511.0mV	53.20V	18.93uA	512.0mV	55.51V	17.80u <i>A</i>
49	510.8mV	54.81V	17.01uA	508.9mV	54.92V	17.62u <i>A</i>
50	513.6mV	54.03V	18.49uA	508.3mV	55.37V	18.15u <i>A</i>
51	509.9mV	55.10V	16.77uA	507.3mV	55.08V	18.81u <i>A</i>
52	511.1mV	53.19V	17.07uA	512.5mV	55.09V	16.61u <i>A</i>
53	510.9mV	55.47V	17.20uA	509.9mV	54.29V	18.02u <i>A</i>
54	508.8mV	54.18V	17.19uA	507.7mV	53.87V	17.19u <i>A</i>
55	507.8mV	52.68V	18.01uA	510.6mV	54.77V	18.50u <i>A</i>
56	510.9mV	54.77V	17.06uA	508.5mV	53.76V	17.25u <i>A</i>
57	509.5mV	55.21V	18.07uA	512.7mV	53.05V	18.28u <i>A</i>
58	508.5mV	53.63V	17.55uA	513.0mV	54.45V	18.00u <i>A</i>
59	508.8mV	55.51V	17.76uA	509.6mV	55.04V	16.91u <i>A</i>
60	509.8mV	53.41V	18.84uA	509.8mV	55.00V	18.38u <i>A</i>



High Temperature High Humidity Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 85±2°C, 85±5%RH, 1000Hrs

Test Date: 2018.03.13 ~ 2018.04.25

Test Standard: JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

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		Before		After		
No	VF	VB	IR	VF	VB	IR
61	513.7mV	54.99V	18.38uA	512.2mV	55.37V	19.06uA
62	510.9mV	54.35V	17.50uA	508.2mV	54.09V	17.20uA
63	508.2mV	53.35V	16.63uA	511.9mV	54.91V	19.21uA
64	512.0mV	53.69V	16.76uA	509.8mV	54.56V	17.31uA
65	513.5mV	53.94V	18.09uA	511.4mV	55.02V	18.02uA
66	513.7mV	53.27V	17.59uA	508.3mV	53.81V	19.23uA
67	507.7mV	55.39V	18.31uA	508.3mV	53.41V	16.63uA
68	510.6mV	53.53V	16.54uA	511.5mV	54.93V	18.58uA
69	512.4mV	52.83V	17.51uA	512.1mV	53.99V	17.34uA
70	511.4mV	53.50V	18.51uA	514.0mV	54.87V	18.14uA
71	508.7mV	54.45V	18.90uA	513.8mV	55.09V	17.70uA
72	507.8mV	52.89V	18.67uA	510.0mV	54.76V	18.68uA
73	508.2mV	54.80V	18.88uA	507.0mV	55.05V	17.77uA
74	507.8mV	55.26V	17.09uA	509.3mV	54.16V	16.39uA
75	508.4mV	54.39V	16.75uA	509.2mV	54.21V	19.19uA
76	510.2mV	53.01V	18.83uA	512.2mV	54.31V	16.74uA
77	507.6mV	54.95V	17.05uA	511.3mV	52.86V	17.06uA

Made By: King Huang Approval: Peter Yang



High Temper High Humidity Reverse Bies Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 85±2°C, 85±5%RH, 80%VR, 1000Hrs

Test Date: 2018.03.13 ~ 2018.04.25

Test Standard: JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

		Before		After			
No	VF	VB	IR	VF	VB	IR	
1	511.4mV	53.18V	16.43uA	509.9mV	53.25V	16.81uA	
2	510.1mV	54.65V	17.88uA	507.5mV	54.08V	17.86uA	
3	512.9mV	53.63V	17.60uA	513.7mV	54.47V	17.06uA	
4	511.8mV	55.25V	18.21uA	507.1mV	55.58V	17.05uA	
5	513.2mV	54.87V	19.01uA	508.8mV	53.56V	17.84uA	
6	509.3mV	55.46V	18.30uA	509.8mV	52.84V	17.34uA	
7	512.6mV	54.43V	18.77uA	508.8mV	53.20V	19.29uA	
8	513.8mV	54.70V	17.82uA	509.4mV	55.19V	17.37uA	
9	510.2mV	54.44V	18.54uA	508.5mV	54.07V	18.42uA	
10	513.6mV	54.65V	18.08uA	508.5mV	55.17V	17.85uA	
11	509.7mV	55.45V	17.15uA	511.3mV	52.90V	18.05uA	
12	513.7mV	55.02V	18.36uA	511.7mV	54.17V	16.87uA	
13	510.2mV	55.09V	18.51uA	507.3mV	52.67V	17.46uA	
14	511.4mV	54.74V	18.17uA	512.9mV	54.88V	18.26uA	
15	507.3mV	55.18V	19.10uA	511.2mV	54.61V	16.74uA	
16	509.8mV	54.10V	16.74uA	514.0mV	53.83V	18.60uA	
17	509.5mV	53.34V	17.04uA	511.1mV	55.04V	19.06uA	
18	512.5mV	54.11V	19.01uA	507.5mV	53.27V	19.15uA	
19	511.7mV	53.92V	16.64uA	508.5mV	53.80V	18.22uA	
20	511.9mV	53.92V	19.11uA	512.1mV	52.65V	17.80uA	
21	511.2mV	55.46V	18.32uA	508.8mV	52.76V	17.91uA	
22	507.4mV	53.70V	18.88uA	513.9mV	53.23V	16.68uA	
23	510.2mV	52.70V	17.54uA	512.7mV	55.17V	19.11uA	
24	509.4mV	54.47V	19.19uA	509.6mV	53.12V	19.17uA	
25	511.3mV	54.98V	19.00uA	513.7mV	53.24V	18.34uA	
26	513.8mV	54.39V	16.94uA	508.2mV	53.08V	17.47uA	
27	510.9mV	54.93V	18.94uA	507.9mV	54.32V	18.89uA	
28	510.5mV	55.45V	18.24uA	513.4mV	54.09V	17.87uA	
29	507.0mV	53.26V	16.43uA	513.0mV	54.06V	17.63uA	
30	511.5mV	54.15V	16.58uA	511.4mV	53.89V	19.27uA	



High Temper High Humidity Reverse Bies Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 85±2°C, 85±5%RH, 80%VR, 1000Hrs

Test Date: 2018.03.13 ~ 2018.04.25

Test Standard: JESD22 STANDARD Method-A101

Operator: Leo Hsia

Tost Dosult: DACC

Before				After			
No	VF	VB	IR	VF	VB	IR	
31	510.0mV	55.21V	17.34uA	512.9mV	54.98V	18.69uA	
32	508.0mV	52.73V	18.11uA	508.8mV	54.46V	16.77uA	
33	509.0mV	54.28V	18.62uA	512.5mV	52.91V	18.79uA	
34	508.5mV	54.95V	18.50uA	507.3mV	53.66V	17.58uA	
35	510.0mV	55.39V	18.74uA	512.1mV	54.00V	16.65uA	
36	508.0mV	52.77V	17.57uA	511.6mV	54.02V	17.51uA	
37	510.4mV	55.44V	16.47uA	512.0mV	55.42V	16.37uA	
38	513.8mV	54.19V	17.07uA	512.4mV	53.40V	17.35uA	
39	513.0mV	54.60V	18.56uA	513.9mV	54.16V	17.71uA	
40	509.8mV	52.97V	17.56uA	507.6mV	53.81V	17.52uA	
41	508.1mV	54.06V	18.80uA	507.2mV	52.67V	18.93uA	
42	510.5mV	53.72V	16.35uA	510.9mV	55.30V	17.22uA	
43	507.0mV	54.22V	18.53uA	510.2mV	53.63V	19.06uA	
44	508.4mV	54.65V	18.65uA	513.3mV	53.89V	18.45uA	
45	509.0mV	53.87V	17.46uA	510.1mV	52.87V	16.79uA	
46	513.6mV	55.61V	18.05uA	508.5mV	53.69V	18.27uA	
47	508.7mV	53.90V	18.21uA	513.4mV	53.55V	18.68uA	
48	511.0mV	53.00V	18.67uA	508.5mV	53.91V	17.80uA	
49	514.0mV	53.49V	16.87uA	513.0mV	54.50V	18.39uA	
50	508.6mV	54.09V	16.92uA	509.6mV	52.62V	17.66uA	
51	508.6mV	55.57V	18.02uA	508.9mV	52.87V	18.12uA	
52	507.8mV	53.86V	18.97uA	509.3mV	55.57V	17.44uA	
53	513.1mV	52.80V	17.48uA	512.7mV	55.10V	16.36uA	
54	509.6mV	52.95V	18.20uA	507.7mV	53.18V	17.44uA	
55	510.1mV	54.19V	17.94uA	509.4mV	52.71V	17.74uA	
56	511.8mV	54.96V	18.37uA	512.7mV	54.95V	19.29uA	
57	513.1mV	52.83V	17.56uA	513.0mV	55.42V	18.29uA	
58	508.9mV	54.75V	16.59uA	508.6mV	55.38V	16.98uA	
59	510.4mV	54.08V	17.61uA	511.2mV	52.99V	17.41uA	
60	507.5mV	54.85V	17.18uA	508.4mV	55.18V	18.20uA	



High Temper High Humidity Reverse Bies Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

Test Condition: 85±2°C, 85±5%RH, 80%VR, 1000Hrs

Test Date: 2018.03.13 ~ 2018.04.25

Test Standard: JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

Test Result:		Before			After	
No	VF	VB	IR	VF	VB	IR
61	512.8mV	53.25V	16.86uA	512.0mV	54.94V	17.11uA
62	512.8mV	53.54V	16.86uA	514.0mV	53.10V	18.58uA
63	513.3mV	53.62V	18.97uA	510.3mV	52.76V	16.43uA
64	509.9mV	52.97V	17.98uA	510.5mV	54.99V	18.93uA
65	511.9mV	55.51V	19.01uA	513.7mV	54.59V	17.04uA
66	509.8mV	52.72V	19.06uA	511.8mV	52.79V	17.78uA
67	511.9mV	52.80V	19.08uA	510.4mV	53.27V	18.71uA
68	513.8mV	53.65V	17.79uA	510.8mV	55.51V	19.21uA
69	507.1mV	53.33V	18.43uA	509.3mV	54.96V	17.79uA
70	509.3mV	53.91V	16.74uA	510.1mV	54.11V	17.71uA
71	511.6mV	55.57V	18.44uA	509.2mV	55.47V	19.28uA
72	510.3mV	53.22V	18.15uA	513.1mV	52.63V	16.36uA
73	514.0mV	55.10V	18.31uA	507.4mV	53.93V	18.74uA
74	507.8mV	54.32V	16.42uA	507.2mV	53.36V	18.04uA
75	513.2mV	53.31V	17.59uA	508.8mV	54.15V	18.25uA
76	510.1mV	53.47V	17.32uA	510.5mV	53.88V	18.49uA
77	508.6mV	53.89V	18.32uA	510.1mV	55.22V	16.78uA

Made By: King Huang Approval: Peter Yang



Solderability Test Data

Report No: T180430-140V

Part No: SCS140V-C

Test Equipment: JUNO Test System DTS-1000

Test Condition: VF<520mV@IF=1A, VB>40V@IR=1mA, IR<100uA@VR=40V

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

Test Date: 2018.04.28

Test Standard: JESD22 STANDER Method-B102

Operator: Leo Hsia

Test Result: PASS

	Before			After			
No	VF	VB	IR	VF	VB	IR	
1	507.4mV	53.09V	18.39uA	511.2mV	53.25V	17.16uA	
2	513.6mV	53.51V	18.78uA	511.7mV	54.00V	18.34uA	
3	513.6mV	54.36V	17.31uA	508.5mV	53.70V	18.39uA	
4	513.2mV	52.74V	18.68uA	509.7mV	55.56V	18.91uA	
5	511.4mV	52.65V	18.43uA	510.3mV	54.75V	16.54uA	
6	508.5mV	54.44V	17.77uA	510.2mV	53.03V	17.26uA	
7	507.9mV	52.98V	17.77uA	507.6mV	53.07V	16.77uA	
8	509.5mV	52.66V	17.06uA	511.5mV	54.59V	18.87uA	
9	509.6mV	54.98V	16.79uA	511.1mV	53.98V	19.18uA	
10	507.5mV	53.84V	16.77uA	510.0mV	52.68V	17.66uA	

Made By: King Huang Approval: Peter Yang



試驗報告

號碼(No.): KA/2017/61160 日期(Date): 2017/06/15

頁數 (Page): 1 of 21

Test Report

義典科技股份有限公司

E'DALE TECHNOLOGY CO., LTD.

72242 台南市佳里區六安里六安130號/江蘇省無錫市錫山區東港鎮錫港東路35號

NO. 130, LIOUAN, LIOUAN LI, JIALI DIST., TAINAN CITY, TAIWAN

NO. 35, XIGANG EAST ROAD, DONGGANG TOWN, XISHAN DIST., WUXI CITY, JIANG SU, CHINA

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as):

樣品名稱(Sample Description) : EPOXY MOLDING COMPOUND

樣品型號(Style/Item No.) ELER-8-SERIES 收件日期(Sample Receiving Date) : 2017/06/13

測試期間(Testing Period) 2017/06/13 TO 2017/06/15

送樣廠商(Sample Submitted By) : 義典科技股份有限公司 (E'DALE TECHNOLOGY CO., LTD.)

測試需求(Test Requested)

- (1) 依據客户指定,參考RoHS2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP. (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted
- (2) 其他測試項目請見下一頁 . (Please refer to next pages for the other item(s).)

測試結果(Test Results)

: 請見下一頁 (Please refer to next pages).

絟 論(Conclusion)

(1) 根據客户所提供的樣品,其鎬、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS指令暨(EU) 2015/863之限值要求. (Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS and amending Directive (EU) 2015/863.)

報告簽署人/Ray Chan Signed for and on behalf of

SGS Taiwan Limited

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試驗報告

號碼(No.): KA/2017/61160 日期(Date): 2017/06/15

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Test Report

義典科技股份有限公司

E'DALE TECHNOLOGY CO., LTD.

72242 台南市佳里區六安里六安130號/江蘇省無錫市錫山區東港鎮錫港東路35號 NO. 130, LIOUAN, LIOUAN LI, JIALI DIST., TAINAN CITY, TAIWAN

NO. 35, XIGANG EAST ROAD, DONGGANG TOWN, XISHAN DIST., WUXI CITY, JIANG SU, CHINA

測試結果(Test Results)

測試部位(PART NAME)No.1

: 黑色 EPOXY MOLDING COMPOUND (BLACK EPOXY MOLDING COMPOUND)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1	限値 (Limit)
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321-5:2013方法, 以感應耦合 電漿原子發射光譜儀檢測. / With reference to IEC 62321-5:2013 and performed by ICP-AES.	2	n.d.	100
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5:2013方法,以感應耦合 電漿原子發射光譜儀檢測. / With reference to IEC 62321-5:2013 and performed by ICP-AES.	2	n.d.	1000
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4:2013方法, 以感應耦合 電漿原子發射光譜儀檢測. / With reference to IEC 62321-4:2013 and performed by ICP-AES.	2	n.d.	1000
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321-7-2:2017,以UV-VIS檢測. / With reference to IEC 62321-7-2:2017 and performed by UV-VIS.	8	n.d.	1000

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)	限値 (Limit)
(lest liems)	(Unit)	(Method)	(MDL)	No.1	(Limit)
多溴聯苯總和 / Sum of PBBs	mg/kg		-	n.d.	1000
一溴聯苯 / Monobromobiphenyl	mg/kg		5	n.d.	-
二溴聯苯 / Dibromobiphenyl	mg/kg		5	n.d.	-
三溴聯苯 / Tribromobiphenyl	mg/kg		5	n.d.	-
四溴聯苯 / Tetrabromobiphenyl	mg/kg	參考IEC 62321-6: 2015方法,以氣相層	5	n.d.	-
五溴聯苯 / Pentabromobiphenyl	mg/kg	析/質譜儀檢測. / With reference to	5	n.d.	-
六溴聯苯 / Hexabromobiphenyl	mg/kg	IEC 62321-6: 2015 and performed by GC/MS.	5	n.d.	-
七溴聯苯 / Heptabromobiphenyl	mg/kg	967 Mg.	5	n.d.	-
八溴聯苯 / Octabromobiphenyl	mg/kg		5	n.d.	-
九溴聯苯 / Nonabromobiphenyl	mg/kg		5	n.d.	-
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n.d.	-
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n.d.	1000
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg		5	n.d.	-
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n.d.	-
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg		5	n.d.	-
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg	參考IEC 62321-6: 2015方法,以氣相層	5	n.d.	-
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	析/質譜儀檢測. / With reference to	5	n.d.	-
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg	IEC 62321-6: 2015 and performed by GC/MS.	5	n.d.	-
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.	-
八溴聯苯醚 / Octabromodiphenyl ether	mg/kg		5	n.d.	-
九溴聯苯醚 / Nonabromodiphenyl ether	mg/kg		5	n.d.	-
十溴聯苯醚 / Decabromodiphenyl ether	mg/kg		5	n.d.	-

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result)	限值 (Limit)
	/1		, ,	No.1	1000
州本一下改一共 1 晌 / DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg		50	n.d.	1000
鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg		50	n.d.	1000
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg		50	n.d.	1000
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg		50	n.d.	1000
鄰苯二甲酸二異癸酯 / DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0, 68515-49-1)	mg/kg	参考IEC 62321-8:2017, 以氣相層析儀/ 質譜儀檢測. / With reference to IEC	50	n.d.	-
鄰苯二甲酸二異壬酯 / DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0, 68515-48-0)	mg/kg	62321-8:2017. Analysis was performed by GC/MS.	50	n.d.	-
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	mg/kg		50	n.d.	-
鄰苯二甲酸二(2-甲氧基乙基)酯 / DMEP (Bis (2-methoxyethyl) phthalate) (CAS No.: 117-82-8)	mg/kg		50	n.d.	-
鄰苯二甲酸二正戊酯/ DNPP(Di-n-pentyl phthalate) (CAS No.: 131-18-0)	mg/kg		50	n.d.	-
鄰苯二甲酸二己酯 / DNHP (Di-n-hexyl phthalate) (CAS No.: 84-75-3)	mg/kg		50	n.d.	-

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)	限値 (Limit)
(lest Items)	(Unit)	(Method)	(MDL)	No.1	, (Limit)
绨 / Antimony (Sb)	mg/kg	参考US EPA 3052方法,用感應藕合電漿原子發射光譜儀檢測錦含量. / With reference to US EPA Method 3052 for Antimony Content. Analysis was performed by ICP-AES.	2	n.d.	-
皱 / Beryllium (Be)	mg/kg	参考US EPA 3052方法,用感應藕合電漿原子發射光譜儀檢測鈹含量. / With reference to US EPA Method 3052 for Beryllium Content. Analysis was performed by ICP-AES.	2	n.d.	-
あ中 / Arsenic (As)	mg/kg	参考US EPA 3052方法,用感應藕合電漿原子發射光譜儀檢測砷含量. / With reference to US EPA Method 3052 for Arsenic Content. Analysis was performed by ICP-AES.	2	n.d.	-
磷 / Phosphorus (P)	mg/kg	参考US EPA 3052方法,用感應藕合電漿原子發射光譜儀檢測磷含量. / With reference to US EPA Method 3052 for Phosphorus Content. Analysis was performed by ICP-AES.	10	115	-
六溴環十二烷及所有主要被蔣列出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	参考IEC 62321: 2008方法,以氣相層析/質譜儀檢測. / With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.	-
四溴雙酚-A / Tetrabromobisphenol A (TBBP-A) (CAS No.: 79-94-7)	mg/kg	参考RSTS-E&E-121方法,以液相層析/質 譜儀分析. / With reference to RSTS- E&E-121. Analysis was performed by LC/MS.	10	n.d.	-

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(1000 100mb)	(6.1.1.7)	((MDL)	No.1	
紅磷 / Red phosphorus	**	本測試以熱裂解-氣相層析/質譜儀分析. / Analysis was performed by Pyrolyzer-GC/MS.	-	Negative	-
聚氣乙烯 / PVC	**	以紅外光譜分析及焰色法檢測. / Analysis was performed by FTIR and FLAME Test.	-	Negative	=
全氟辛酸(銨) / PFOA (CAS No.: 335-67-1)	mg/kg	参考US EPA 3550C: 2007方法,以液相層析/質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.	-
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS)	mg/kg	参考US EPA 3550C: 2007方法,以液相層析/質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.	-
鹵素 / Halogen					
鹵素(氟)/ Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg		50	n.d.	-
鹵素 (氣) / Halogen-Chlorine (C1) (CAS No.: 022537-15-1)	mg/kg	参考BS EN 14582:2016,以離子層析儀分析./ With reference to BS EN	50	104	-
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 010097-32-2)	mg/kg	14582:2016. Analysis was performed by IC.	50	n.d.	-
鹵素(碘)/ Halogen-Iodine (I) (CAS No.: 014362-44-8)	mg/kg		50	n.d.	-

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,	, ,	,	(MDL)	No.1	
多環芳香烴 / Polynuclear Aromatic Hydrocarbons (PAHs)					
苊 / Acenaphthene (CAS No.: 83-32-9)	mg/kg		0.2	n.d.	-
苊烯 / Acenaphthylene (CAS No.: 208-96-8)	mg/kg		0.2	n.d.	-
蒽 / Anthracene (CAS No.: 120-12-7)	mg/kg		0.2	n.d.	-
苯駢蒽 / Benzo(a)anthracene (CAS No.: 56-55-3)	mg/kg		0.2	n.d.	-
苯駢(a)芘 / Benzo[a]pyrene (CAS No.: 50-32-8)	mg/kg		0.2	n.d.	-
苯(b)苯駢芴 / Benzo[b]fluoranthene (CAS No.: 205-99-2)	mg/kg		0.2	n.d.	-
苯駢菲 / Benzo[g,h,i]perylene (CAS No.: 191-24-2)	mg/kg		0.2	n.d.	=
苯(k)苯駢芴 / Benzo[k]fluoranthene (CAS No.: 207-08-9)	mg/kg	 参考AfPS GS 2014:01 PAK方法,以氣相	0.2	n.d.	=
Chrysene (CAS No.: 218-01-9)	mg/kg	層析/質譜儀檢測. / With reference to	0.2	n.d.	-
二苯騈蒽 / Dibenzo[a,h]anthracene (CAS No.: 53-70-3)	mg/kg	AfPS GS 2014:01 PAK method. Analysis was performed by GC/MS.	0.2	n.d.	-
苯駢芴 / Fluoranthene (CAS No.: 206-44-0)	mg/kg	and politorimou by obj.mbv	0.2	n.d.	-
芴 / Fluorene (CAS No.: 86-73-7)	mg/kg		0.2	n.d.	-
茚酮芘 / Indeno[1,2,3-c,d] pyrene (CAS No.: 193-39-5)	mg/kg		0.2	n.d.	-
禁 / Naphthalene (CAS No.: 91-20-3)	mg/kg		0.2	n.d.	-
菲 / Phenanthrene (CAS No.: 85-01-8)	mg/kg		0.2	n.d.	-
芘 / Pyrene (CAS No.: 129-00-0)	mg/kg		0.2	n.d.	-
苯(j)苯駢芴 / Benzo[j]fluoranthene (CAS No.: 205-82-3)	mg/kg		0.2	n.d.	-
苯駢(e)芘 / Benzo[e]pyrene (CAS No.: 192- 97-2)	mg/kg		0.2	n.d.	-
多環芳香烴18項總和 / Sum of 18 PAHs	mg/kg		-	n.d.	-

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試驗報告

號碼(No.): KA/2017/61160 日期(Date): 2017/06/15

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Test Report

義典科技股份有限公司

E'DALE TECHNOLOGY CO., LTD.

72242 台南市佳里區六安里六安130號/江蘇省無錫市錫山區東港鎮錫港東路35號

NO. 130, LIOUAN, LIOUAN LI, JIALI DIST., TAINAN CITY, TAIWAN

NO. 35, XIGANG EAST ROAD, DONGGANG TOWN, XISHAN DIST., WUXI CITY, JIANG SU, CHINA

備註(Note):

- 1. mg/kg = ppm ; 0.1wt% = 1000ppm
- 2. n.d. = Not Detected (未檢出)
- 3. MDL = Method Detection Limit (方法偵測極限值)
- 4. "-" = Not Regulated (無規格值)
- 5. **= Qualitative analysis (No Unit) 定性分析(無單位)
- 6. Negative = Undetectable 陰性(未偵測到); Positive = Detectable 陽性(已偵測到)
- 7. 聚氯乙烯測試由SGS其他實驗室執行 (The PVC test was subcontracted to other SGS Laboratory.)
- 8. 紅磷定性分析測試由SGS其他實驗室執行

(The Red Phosphorus test was subcontracted to other SGS Laboratory.)

PFOS参考資訊(Reference Information): 持久性有機污染物 POPs - (EU) 757/2010

PFOS濃度在物質或製備中不得超過0.001%(10ppm),在半成品、成品或零部件中不得超過0.1%(1000ppm),在紡織品或塗層材料中不得 超過1µg/m²。(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000 ppm), in textiles or other coated materials above $1 \mu g/m^2$.)

全氟辛烷磺酸指全氟辛烷磺酸和它的衍生物包括全氟辛烷磺酸,全氟辛基磺醯胺,N-甲基全氟辛烷磺酰胺,N-乙基全氟辛烷磺酰胺, N-甲基全氟辛基磺酰基氨基乙醇, N-乙基全氟辛基磺酰基氨基乙醇。(PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N- $Ethyl perfluoroctane \ sulfonamide, \ N-Methyl perfluoroctane \ sulfonamidoethanol \ and \ N-Ethyl perfluoroctane \ sulfonamidoethanol \ sulfonamidoethan$ sulfonamidoethanol.)

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NO. 35, XIGANG EAST ROAD, DONGGANG TOWN, XISHAN DIST., WUXI CITY, JIANG SU, CHINA

德國產品安全委員會(AfPS) GS PAHs 要求 /

AfPS (German commission for Product Safety): GS PAHs requirements

項目 (Parameter)	第1類 (Category 1)	第2類 (C	第2類 (Category 2)		第3類 (Category 3)		
	意圖放入嘴内的材料 或玩具會與皮膚有所 接觸(超過30秒). (Material indented to be put in the mouth or toys with intended skin	觸逾30秒(長期或經常與皮膚接觸). (Materials not falling under category 1 with foreseeable contact to skin for longer than 30 seconds (long-term skin or		可預見與皮膚接觸短於30秒(短期與皮膚接觸),以及不屬於第1類或第2類的材料. (Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 seconds (short-term skin contact).)			
	contact (longer than 30 s).)		列於德國產品安全 法之其他產品 (Other products under ProdSG)	列於2009/48/EC之 玩具 (Toy under 2009/48/EC)	列於德國產品安全 法之其他產品 (Other products under ProdSG)		
Naphthalene	< 1	<	2	<	10		
Acenaphthylene							
Acenaphthene							
Fluorene							
Phenanthrene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum		
Anthracene							
Fluoranthene							
Pyrene							
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[j]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Dibenzo[a,h]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
18項PAH總濃度 (Sum of 18 PAH)	< 1	< 5	< 10	< 20	< 50		

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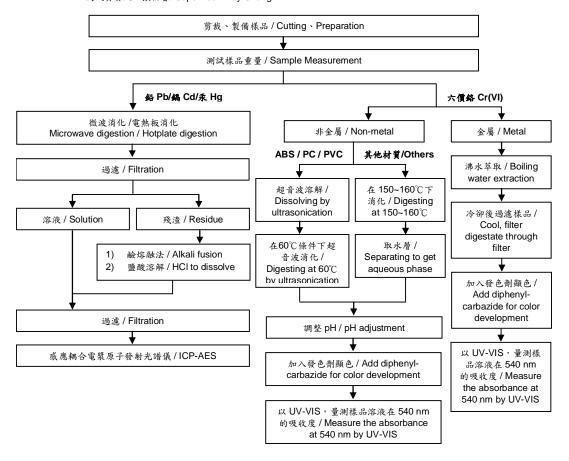
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重金屬流程圖 / Analytical flow chart of Heavy Metal

根據以下的流程圖之條件,樣品已完全溶解。(六價鉻測試方法除外)

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ test method excluded)

- 測試人員:劉俊宏/Technician: Jony Liu
- 測試負責人:張伯睿/ Supervisor: Ray Chang



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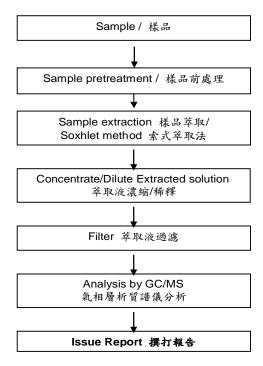
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多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART

1)測試人員:陳威錚 / Name of the person who made measurement: Dorothy Chen 2)測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang



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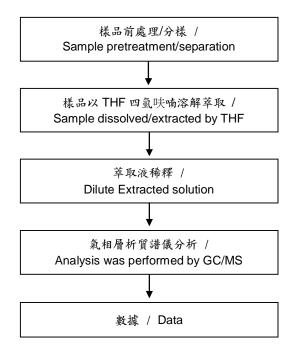
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可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 測試人員:陳威錚 / Name of the person who made measurement: Dorothy Chen
- 測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang

【測試方法/Test method: IEC 62321-8】



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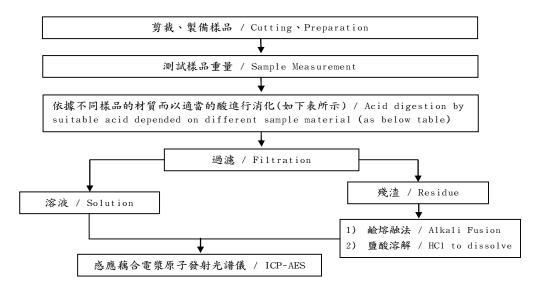
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- 1) 根據以下的流程圖之條件,樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) 測試人員:劉俊宏 / Name of the person who made measurement: Jony Liu
- 3) 測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang

元素以 ICP-AES 分析的消化流程圖

(Flow Chart of digestion for the elements analysis performed by ICP-AES)



鋼,銅,鋁,焊錫 / Steel, copper, aluminum, solder	王水,硝酸,鹽酸,氫氟酸,雙氧水 /
	Aqua regia, HNO3, HCl, HF, H2O2
玻璃 / Glass	硝酸,氫氟酸 / HNO3/HF
金,鉑,鈀,陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO3
塑膠 / Plastic	硫酸,雙氧水,硝酸,鹽酸 / H2SO4, H2O2, HNO3, HC1
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

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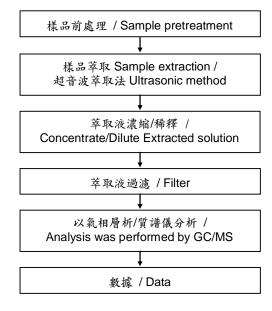
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六溴環十二烷分析流程圖 / HBCDD analytical flow chart

- 1) 測試人員:陳威錚/ Name of the person who made measurement: Dorothy Chen
- 2) 測試負責人:張伯睿/ Name of the person in charge of measurement: Ray Chang



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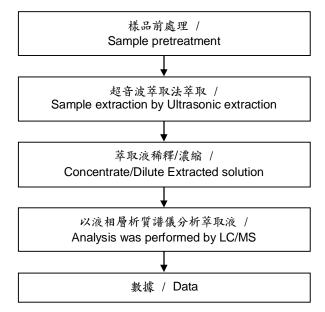
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四溴雙酚-A分析流程圖 / TBBP-A analytical flow chart

- 測試人員: 黄璟瓔/ Name of the person who made measurement: Ginny Huang
- 測試負責人:張伯睿/ Name of the person in charge of measurement: Ray Chang



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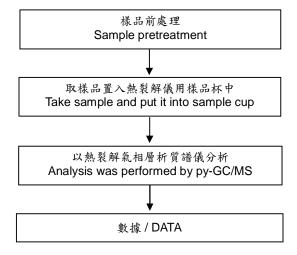
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紅磷分析流程 / Analytical flow chart of Red phosphorus

- 測試人員: 林建宇 / Name of the person who made measurement: Roy Lin
- 測試負責人:張啟興 / Name of the person in charge of measurement: Troy Chang



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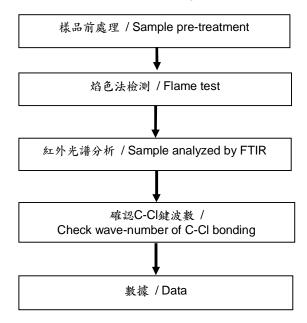
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聚氯乙烯物質判定分析流程圖 /

Analysis flow chart for determination of PVC in material

1)測試人員: 戴秀純 / Name of the person who made measurement: Hannah Tai 2)测試負責人: 林立翔 / Name of the person in charge of measurement: Roger Lin



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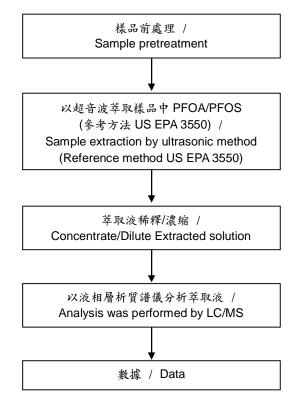
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全氟辛酸(銨)/ 全氟辛烷磺酸分析流程圖 / Analytical flow chart of PFOA/PFOS content

1)测試人員: 黄璟瓔 / Name of the person who made measurement: Ginny Huang

2)測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang



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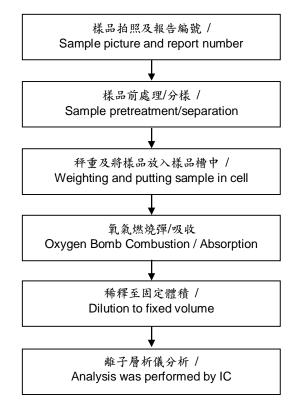
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鹵素分析流程圖 / Analytical flow chart of halogen content

- 1) 測試人員: 洪秀眞/ Name of the person who made measurement: Jean Hung
- 2) 測試負責人:張伯睿/ Name of the person in charge of measurement: Ray Chang



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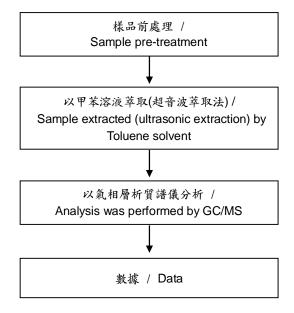
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多苯環芳香族化合物分析流程圖 / PAHs (Poly Aromatic Hydrocarbons) analytical flow chart

1)測試人員: 陳威錚 / Name of the person who made measurement: Dorothy Chen

2)测試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang



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(The tested sample / part is marked by an arrow if it's shown on the photo.)

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