www.SeCosGmbH.com

Headquarter Address:
8F.No.33, Lane 155, Sec.3, Bei-Shen Rd.,
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Product/Process Change Notification

PCN#	Effective Date	Issue Date
2014-08-22C-01	2015/02/22	2014/8/22

PCN Classification	Product Category
Major	HER307G

Subject

Change assembly factory for HER307G

Affected Product(s)

HER307G

Description of Change(s)

Original assembly factory EOL, thus we change assembly factory; The new assembly factory Good-ARK electronics CO., LTD, located in the No.31 Tongxi Road, TongAn Economic Development Zone, 215153, Suzhou, Jiangsu, P.R.China.

Content of Change(s)

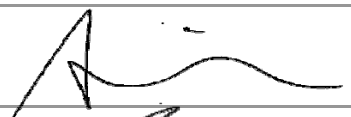
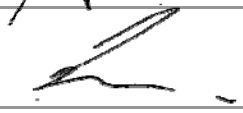
Assembly house.

Impact(s)

None

Attachment(s)

Reliability test report. SGS Report. Packge information. Specification

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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Exterior comparison Chart	
Original	New
	
Top View	Top View
	
Lateral View	Lateral View
	
Reel	Reel

Elektronische Bauelemente

HER301G ~ HER307G

Voltage 50 ~ 1000 V

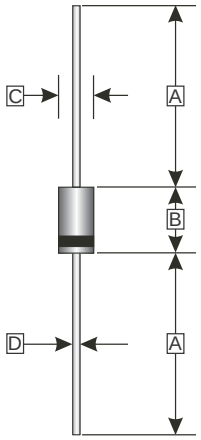
3 A, Glass Passivated High Efficiency Rectifiers

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- High speed switching

DO-27



REF.	Millimeter	
	Min.	Max.
A	25.4 (TYP)	
B	7.20	9.53
C	4.80	5.60
D	1.10	1.32

PACKAGING INFORMATION

- Glass Passivated
- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 1.195 grams (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, de-rate current by 20%.

Parameter		Symbol	Part Number							Unit
			HER 301G	HER 302G	HER 303G	HER 304G	HER 305G	HER 306G	HER 307G	
Recurrent Reverse Voltage (Max.)		V_{RRM}	50	100	200	400	600	800	1000	V
RMS Voltage (Max.)		V_{RMS}	35	70	140	280	420	560	700	V
DC Blocking Voltage (Max.)		V_{DC}	50	100	200	400	600	800	1000	V
Instantaneous Forward Voltage (Max.)@ I_F = 3A		V_F	1			1.3	1.7			V
Average Forward Rectified Current (Max.)		I_O	3.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC method)		I_{FSM}	125							A
DC Reverse Current (Max.)	T_A=25°C	I_R	10.0							μA
	T_A=100°C		200							
Reverse Recovery Time (Max.)		T_{RR}	50				75			nS
Junction Capacitance (Typ.)		C_J	80				50			pF
Typical thermal resistance		$R_{\theta JA}$	20							°C /W
Typical Thermal Resistance		$R_{\theta JL}$	5.6							°C /W
Storage Temperature Range		T_{STG}	-55 ~ 150							°C

Note:
1. I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. f=1MHz and applied 4V DC reverse voltage
3. Thermal Resistance Junction to Ambient and from Junction to Lead at 0.375"(9.5mm) Lead Length P.C.B. Mounted.

Elektronische Bauelemente

HER301G ~ HER307G

Voltage 50 ~ 1000 V

3 A, Glass Passivated High Efficiency Rectifiers

RATINGS AND CHARACTERISTIC CURVES

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

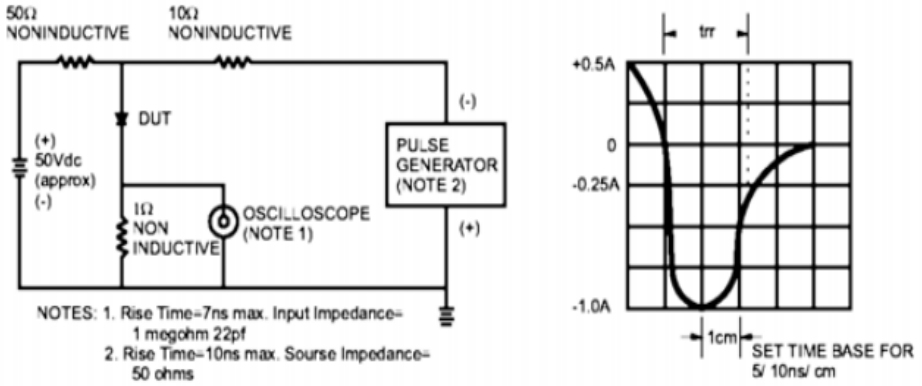


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

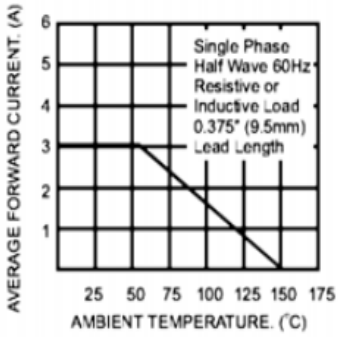


FIG.3- TYPICAL REVERSE CHARACTERISTICS

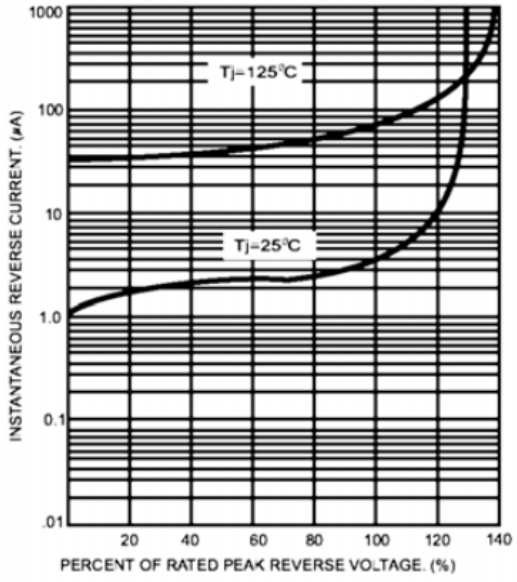


FIG.4- TYPICAL FORWARD CHARACTERISTICS

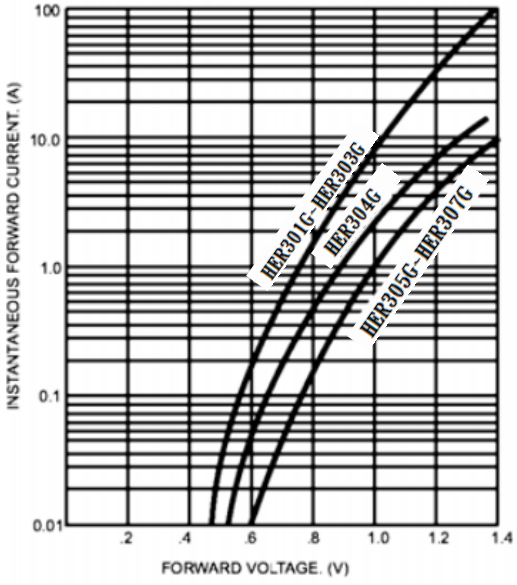


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

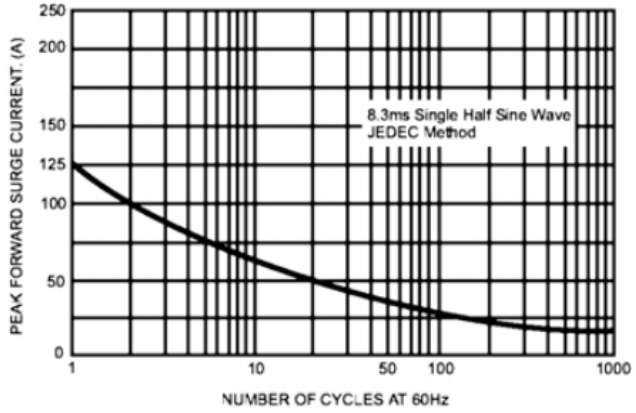
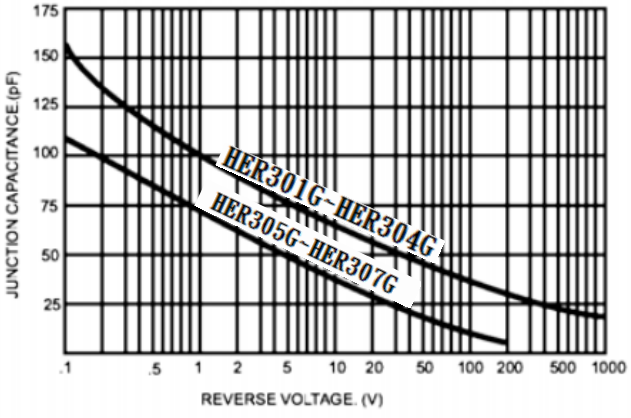


FIG.6- TYPICAL JUNCTION CAPACITANCE



SeCoS Corporation

Reliability Testing Summary Report

Date: 2014/06/30 Document No.: SH14 -06- 22

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fall Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	HER307G	100 ± 5℃, 80%VR, T = 1000hrs		77	0	0	ACC
HTSL High Temperature Storage Life	HER307G	150℃, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	HER307G	121℃, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	HER307G	-55℃/30min, 150℃/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	HER307G	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	HER307G	85 ± 2℃, RH=85±5%, 1000 hrs		77	0	0	ACC
Solder Resistance DITY	HER307G	270±5℃, 7Sec ＋2/－0 Sec		10	0	0	ACC

Judgment:

■ **qualified** □ **unqualified**

Testing Start Date: 2014.05.05 Testing End Date: 2014.06.30

Tester: Leo Hsia Approval: Peter Yang

SeCoS Corporation

Electrical Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 25℃
Test Date: 2014.05.05 ~ 2014.05.05
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	IR (uA)
1	1420.4mV	0.065uA
2	1406.2mV	0.070uA
3	1358.4mV	0.265uA
4	1463.7mV	0.047uA
5	1353.8mV	0.181uA
6	1306.1mV	0.063uA
7	1283.9mV	0.154uA
8	1399.9mV	0.160uA
9	1357.6mV	0.141uA
10	1403.9mV	0.141uA
11	1276.9mV	0.277uA
12	1264.2mV	0.126uA
13	1460.8mV	0.170uA
14	1363.5mV	0.159uA
15	1264.4mV	0.096uA
16	1261.5mV	0.182uA
17	1388.4mV	0.147uA
18	1346.8mV	0.168uA
19	1397.5mV	0.253uA
20	1443.1mV	0.095uA
21	1332.5mV	0.301uA
22	1403.2mV	0.286uA
23	1371.6mV	0.176uA
24	1259.9mV	0.172uA
25	1442.2mV	0.159uA
26	1430.6mV	0.166uA
27	1295.4mV	0.165uA
28	1384.7mV	0.046uA
29	1401.8mV	0.275uA
30	1286.8mV	0.049uA
31	1266.4mV	0.197uA

SeCoS Corporation

Electrical Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 25℃
Test Date: 2014.05.05 ~ 2014.05.05
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	IR (uA)
32	1359.4mV	0.165uA
33	1376.7mV	0.059uA
34	1411.6mV	0.295uA
35	1270.6mV	0.118uA
36	1304.6mV	0.222uA
37	1447.3mV	0.178uA
38	1447.9mV	0.309uA
39	1387.8mV	0.135uA
40	1398.8mV	0.293uA
41	1262.6mV	0.149uA
42	1441.0mV	0.184uA
43	1383.3mV	0.067uA
44	1352.1mV	0.308uA
45	1373.1mV	0.173uA
46	1256.2mV	0.126uA
47	1361.7mV	0.148uA
48	1379.3mV	0.288uA
49	1270.5mV	0.170uA
50	1266.4mV	0.094uA
51	1430.2mV	0.112uA
52	1399.3mV	0.101uA
53	1316.0mV	0.206uA
54	1288.5mV	0.053uA
55	1315.9mV	0.239uA
56	1461.0mV	0.067uA
57	1354.1mV	0.088uA
58	1346.9mV	0.275uA
59	1453.7mV	0.137uA
60	1399.8mV	0.307uA
61	1277.6mV	0.239uA
62	1262.6mV	0.153uA

SeCoS Corporation

Electrical Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 25℃
Test Date: 2014.05.05 ~ 2014.05.05
Test Standard : Specifications
Operator: Leo Hsia

Test Result: PASS

No	VF (mV)	IR (uA)
63	1431.2mV	0.148uA
64	1334.7mV	0.223uA
65	1313.6mV	0.306uA
66	1391.7mV	0.139uA
67	1422.6mV	0.065uA
68	1278.9mV	0.084uA
69	1287.4mV	0.131uA
70	1416.7mV	0.185uA
71	1454.9mV	0.259uA
72	1323.5mV	0.185uA
73	1364.8mV	0.060uA
74	1390.9mV	0.228uA
75	1454.7mV	0.297uA
76	1338.1mV	0.199uA
77	1281.2mV	0.253uA

Made By: Leo Hsia Approval: Peter Yang

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 100 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1369.9mV	0.270uA	1418.4mV	0.197uA
2	1420.1mV	0.282uA	1374.4mV	0.088uA
3	1426.0mV	0.272uA	1374.1mV	0.086uA
4	1421.0mV	0.275uA	1270.8mV	0.123uA
5	1322.1mV	0.132uA	1442.4mV	0.194uA
6	1274.6mV	0.284uA	1261.1mV	0.094uA
7	1339.3mV	0.070uA	1256.8mV	0.231uA
8	1375.4mV	0.285uA	1335.7mV	0.136uA
9	1369.0mV	0.251uA	1323.4mV	0.268uA
10	1336.1mV	0.130uA	1379.6mV	0.200uA
11	1415.6mV	0.170uA	1378.2mV	0.109uA
12	1273.3mV	0.290uA	1277.5mV	0.285uA
13	1397.6mV	0.172uA	1438.8mV	0.157uA
14	1269.1mV	0.078uA	1267.9mV	0.268uA
15	1359.2mV	0.140uA	1261.6mV	0.209uA
16	1327.4mV	0.167uA	1309.1mV	0.297uA
17	1452.8mV	0.119uA	1462.0mV	0.222uA
18	1266.0mV	0.306uA	1433.9mV	0.125uA
19	1376.6mV	0.194uA	1300.6mV	0.239uA
20	1264.3mV	0.181uA	1404.0mV	0.103uA
21	1429.8mV	0.081uA	1318.8mV	0.269uA
22	1284.1mV	0.303uA	1306.3mV	0.232uA
23	1405.7mV	0.189uA	1273.6mV	0.192uA
24	1297.0mV	0.062uA	1289.2mV	0.211uA
25	1330.9mV	0.115uA	1369.7mV	0.062uA
26	1387.1mV	0.249uA	1281.7mV	0.120uA
27	1295.7mV	0.099uA	1417.5mV	0.279uA
28	1281.3mV	0.224uA	1461.6mV	0.302uA
29	1314.1mV	0.051uA	1424.9mV	0.310uA
30	1453.6mV	0.293uA	1306.9mV	0.167uA

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 100 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	1384.3mV	0.165uA	1288.0mV	0.200uA
32	1320.8mV	0.296uA	1304.4mV	0.255uA
33	1370.9mV	0.240uA	1449.1mV	0.145uA
34	1399.5mV	0.188uA	1358.7mV	0.215uA
35	1409.7mV	0.141uA	1277.6mV	0.284uA
36	1256.5mV	0.140uA	1291.0mV	0.193uA
37	1412.9mV	0.133uA	1295.6mV	0.175uA
38	1288.6mV	0.077uA	1329.1mV	0.288uA
39	1416.8mV	0.078uA	1323.5mV	0.257uA
40	1454.1mV	0.169uA	1331.5mV	0.141uA
41	1424.1mV	0.168uA	1315.7mV	0.250uA
42	1353.3mV	0.107uA	1374.6mV	0.254uA
43	1429.4mV	0.136uA	1316.1mV	0.250uA
44	1381.9mV	0.267uA	1465.0mV	0.250uA
45	1398.9mV	0.142uA	1258.3mV	0.164uA
46	1330.6mV	0.129uA	1372.8mV	0.238uA
47	1380.1mV	0.219uA	1312.2mV	0.083uA
48	1406.4mV	0.244uA	1358.7mV	0.167uA
49	1403.7mV	0.211uA	1280.4mV	0.162uA
50	1347.4mV	0.163uA	1354.7mV	0.111uA
51	1360.6mV	0.223uA	1324.1mV	0.221uA
52	1413.3mV	0.194uA	1437.7mV	0.210uA
53	1342.1mV	0.099uA	1346.5mV	0.290uA
54	1310.4mV	0.297uA	1320.4mV	0.160uA
55	1345.4mV	0.291uA	1282.5mV	0.171uA
56	1365.0mV	0.072uA	1272.2mV	0.163uA
57	1442.2mV	0.272uA	1456.5mV	0.214uA
58	1263.6mV	0.120uA	1268.0mV	0.163uA
59	1394.6mV	0.184uA	1296.1mV	0.118uA
60	1336.7mV	0.083uA	1267.5mV	0.125uA

SeCoS Corporation

High Temperature Reverse Bias Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 100 ± 5℃, 80%VR, T = 1000 hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A108
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	1258.0mV	0.308uA	1296.0mV	0.164uA
62	1267.6mV	0.203uA	1430.3mV	0.248uA
63	1261.8mV	0.206uA	1282.4mV	0.140uA
64	1325.7mV	0.245uA	1410.0mV	0.110uA
65	1421.2mV	0.184uA	1334.4mV	0.217uA
66	1459.9mV	0.210uA	1269.5mV	0.254uA
67	1299.4mV	0.067uA	1333.8mV	0.174uA
68	1303.5mV	0.147uA	1461.9mV	0.206uA
69	1332.8mV	0.144uA	1336.4mV	0.303uA
70	1413.0mV	0.228uA	1381.5mV	0.299uA
71	1277.7mV	0.224uA	1444.2mV	0.102uA
72	1352.8mV	0.296uA	1324.6mV	0.303uA
73	1463.8mV	0.290uA	1280.9mV	0.266uA
74	1327.9mV	0.238uA	1324.7mV	0.220uA
75	1409.0mV	0.215uA	1296.4mV	0.235uA
76	1290.5mV	0.067uA	1404.1mV	0.103uA
77	1311.7mV	0.096uA	1356.6mV	0.084uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 150℃, 1000Hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A105
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1270.7mV	0.154uA	1422.5mV	0.249uA
2	1445.0mV	0.178uA	1329.6mV	0.147uA
3	1290.5mV	0.244uA	1380.5mV	0.047uA
4	1462.8mV	0.136uA	1272.0mV	0.066uA
5	1267.9mV	0.246uA	1379.7mV	0.108uA
6	1329.3mV	0.094uA	1347.4mV	0.185uA
7	1277.7mV	0.208uA	1408.3mV	0.110uA
8	1259.6mV	0.203uA	1281.9mV	0.240uA
9	1258.9mV	0.065uA	1443.6mV	0.246uA
10	1332.7mV	0.264uA	1354.8mV	0.110uA
11	1457.5mV	0.080uA	1291.4mV	0.198uA
12	1415.4mV	0.075uA	1273.5mV	0.127uA
13	1447.7mV	0.290uA	1301.6mV	0.290uA
14	1317.5mV	0.145uA	1461.6mV	0.255uA
15	1316.8mV	0.192uA	1285.9mV	0.158uA
16	1415.4mV	0.280uA	1449.2mV	0.164uA
17	1434.5mV	0.126uA	1344.4mV	0.284uA
18	1360.1mV	0.056uA	1292.3mV	0.103uA
19	1445.0mV	0.173uA	1273.4mV	0.278uA
20	1311.8mV	0.160uA	1270.4mV	0.073uA
21	1322.0mV	0.072uA	1260.7mV	0.152uA
22	1437.7mV	0.271uA	1461.3mV	0.166uA
23	1379.3mV	0.292uA	1458.6mV	0.212uA
24	1394.2mV	0.230uA	1308.1mV	0.294uA
25	1294.9mV	0.081uA	1289.1mV	0.211uA
26	1270.8mV	0.070uA	1413.4mV	0.077uA
27	1330.9mV	0.281uA	1290.7mV	0.144uA
28	1428.2mV	0.089uA	1365.3mV	0.150uA
29	1327.8mV	0.178uA	1268.4mV	0.046uA
30	1389.7mV	0.114uA	1394.9mV	0.047uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 150℃, 1000Hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A105
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	1363.4mV	0.097uA	1308.1mV	0.257uA
32	1343.9mV	0.118uA	1376.6mV	0.187uA
33	1463.2mV	0.215uA	1274.1mV	0.067uA
34	1399.3mV	0.188uA	1400.0mV	0.082uA
35	1434.5mV	0.111uA	1281.6mV	0.156uA
36	1274.4mV	0.067uA	1306.2mV	0.229uA
37	1436.9mV	0.136uA	1457.6mV	0.150uA
38	1354.0mV	0.182uA	1345.4mV	0.054uA
39	1269.9mV	0.266uA	1285.6mV	0.075uA
40	1407.1mV	0.288uA	1402.4mV	0.156uA
41	1423.7mV	0.133uA	1396.9mV	0.203uA
42	1384.7mV	0.084uA	1435.2mV	0.279uA
43	1394.4mV	0.263uA	1296.4mV	0.243uA
44	1323.1mV	0.144uA	1431.1mV	0.250uA
45	1415.5mV	0.079uA	1293.4mV	0.094uA
46	1259.4mV	0.080uA	1337.5mV	0.272uA
47	1299.4mV	0.186uA	1300.9mV	0.219uA
48	1426.0mV	0.180uA	1256.9mV	0.307uA
49	1278.6mV	0.144uA	1388.6mV	0.277uA
50	1401.0mV	0.090uA	1296.2mV	0.148uA
51	1336.5mV	0.277uA	1378.7mV	0.170uA
52	1311.3mV	0.116uA	1451.7mV	0.080uA
53	1325.7mV	0.264uA	1314.2mV	0.131uA
54	1388.4mV	0.221uA	1435.7mV	0.107uA
55	1341.4mV	0.293uA	1408.2mV	0.224uA
56	1376.7mV	0.296uA	1434.7mV	0.159uA
57	1390.8mV	0.270uA	1453.9mV	0.109uA
58	1274.9mV	0.148uA	1318.5mV	0.269uA
59	1422.4mV	0.144uA	1440.0mV	0.221uA
60	1311.0mV	0.050uA	1437.1mV	0.272uA

SeCoS Corporation

High Temperature Storage Life Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 150℃, 1000Hrs
Test Date: 2014.05.05 ~ 2014.06.15
Test Standard : JESD22 STANDARD Method-A105
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	1449.3mV	0.095uA	1265.2mV	0.191uA
62	1407.2mV	0.219uA	1307.6mV	0.179uA
63	1413.3mV	0.157uA	1311.5mV	0.307uA
64	1323.7mV	0.116uA	1364.1mV	0.253uA
65	1371.7mV	0.050uA	1353.0mV	0.275uA
66	1280.2mV	0.094uA	1364.3mV	0.306uA
67	1347.8mV	0.187uA	1265.8mV	0.294uA
68	1452.0mV	0.193uA	1461.8mV	0.240uA
69	1454.8mV	0.217uA	1266.2mV	0.270uA
70	1316.6mV	0.156uA	1412.3mV	0.302uA
71	1353.0mV	0.080uA	1396.2mV	0.202uA
72	1438.6mV	0.224uA	1381.8mV	0.156uA
73	1367.5mV	0.235uA	1283.9mV	0.189uA
74	1386.0mV	0.158uA	1319.0mV	0.181uA
75	1451.0mV	0.274uA	1321.5mV	0.285uA
76	1463.6mV	0.148uA	1457.8mV	0.081uA
77	1386.1mV	0.086uA	1389.4mV	0.146uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Pressure Cooker Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2014.05.05 ~ 2014.05.11
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1372.4mV	0.162uA	1440.7mV	0.068uA
2	1452.5mV	0.252uA	1391.5mV	0.306uA
3	1407.2mV	0.186uA	1382.6mV	0.163uA
4	1273.2mV	0.139uA	1340.5mV	0.197uA
5	1380.9mV	0.296uA	1349.9mV	0.247uA
6	1403.7mV	0.175uA	1426.2mV	0.086uA
7	1424.8mV	0.155uA	1464.4mV	0.092uA
8	1443.6mV	0.156uA	1259.5mV	0.246uA
9	1428.5mV	0.222uA	1317.3mV	0.262uA
10	1383.4mV	0.072uA	1336.3mV	0.213uA
11	1376.5mV	0.081uA	1263.2mV	0.096uA
12	1389.4mV	0.250uA	1311.4mV	0.217uA
13	1356.9mV	0.269uA	1421.9mV	0.119uA
14	1369.7mV	0.203uA	1382.9mV	0.129uA
15	1428.6mV	0.305uA	1461.6mV	0.211uA
16	1311.5mV	0.089uA	1393.6mV	0.305uA
17	1284.8mV	0.076uA	1359.9mV	0.234uA
18	1448.0mV	0.052uA	1437.5mV	0.203uA
19	1288.6mV	0.118uA	1347.9mV	0.106uA
20	1304.5mV	0.164uA	1417.2mV	0.045uA
21	1449.8mV	0.097uA	1434.4mV	0.188uA
22	1257.4mV	0.194uA	1435.1mV	0.092uA
23	1339.5mV	0.149uA	1423.5mV	0.087uA
24	1261.5mV	0.199uA	1454.1mV	0.148uA
25	1323.4mV	0.298uA	1327.5mV	0.305uA
26	1317.6mV	0.060uA	1336.5mV	0.083uA
27	1264.3mV	0.053uA	1318.8mV	0.193uA
28	1326.2mV	0.186uA	1316.1mV	0.256uA
29	1300.7mV	0.082uA	1390.6mV	0.109uA
30	1454.1mV	0.113uA	1269.3mV	0.288uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2014.05.05 ~ 2014.05.11
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	1460.6mV	0.141uA	1452.8mV	0.114uA
32	1370.9mV	0.058uA	1355.5mV	0.101uA
33	1378.8mV	0.103uA	1437.4mV	0.085uA
34	1427.0mV	0.151uA	1404.4mV	0.197uA
35	1423.7mV	0.262uA	1432.9mV	0.304uA
36	1463.2mV	0.055uA	1396.5mV	0.255uA
37	1408.7mV	0.145uA	1325.8mV	0.089uA
38	1384.1mV	0.145uA	1427.1mV	0.145uA
39	1447.8mV	0.097uA	1435.1mV	0.211uA
40	1336.5mV	0.175uA	1276.2mV	0.089uA
41	1328.2mV	0.273uA	1350.6mV	0.053uA
42	1443.4mV	0.194uA	1423.2mV	0.224uA
43	1287.4mV	0.199uA	1256.4mV	0.149uA
44	1332.0mV	0.154uA	1276.6mV	0.309uA
45	1255.8mV	0.196uA	1366.8mV	0.305uA
46	1420.3mV	0.114uA	1393.1mV	0.265uA
47	1365.9mV	0.058uA	1370.9mV	0.226uA
48	1301.2mV	0.166uA	1360.6mV	0.229uA
49	1267.1mV	0.158uA	1291.4mV	0.259uA
50	1380.0mV	0.096uA	1298.9mV	0.093uA
51	1360.0mV	0.181uA	1326.2mV	0.217uA
52	1334.8mV	0.240uA	1344.6mV	0.250uA
53	1452.7mV	0.273uA	1427.7mV	0.054uA
54	1361.7mV	0.206uA	1299.6mV	0.055uA
55	1357.6mV	0.202uA	1301.6mV	0.280uA
56	1313.9mV	0.193uA	1380.2mV	0.145uA
57	1355.4mV	0.201uA	1318.7mV	0.274uA
58	1395.7mV	0.234uA	1361.5mV	0.238uA
59	1440.2mV	0.199uA	1369.7mV	0.106uA
60	1457.7mV	0.095uA	1323.0mV	0.193uA

SeCoS Corporation

Pressure Cooker Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 121℃, 100%RH, 29.7PSIG, 168Hrs
Test Date: 2014.05.05 ~ 2014.05.11
Test Standard : JESD22 STANDARD Method-A102
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	1268.3mV	0.299uA	1406.4mV	0.221uA
62	1413.2mV	0.132uA	1404.1mV	0.305uA
63	1450.9mV	0.254uA	1431.0mV	0.227uA
64	1427.7mV	0.296uA	1412.3mV	0.184uA
65	1309.5mV	0.226uA	1387.7mV	0.047uA
66	1409.5mV	0.127uA	1307.9mV	0.109uA
67	1286.0mV	0.121uA	1372.2mV	0.059uA
68	1342.3mV	0.116uA	1308.0mV	0.238uA
69	1441.2mV	0.093uA	1376.0mV	0.307uA
70	1463.1mV	0.058uA	1270.8mV	0.123uA
71	1399.9mV	0.274uA	1428.5mV	0.236uA
72	1426.3mV	0.251uA	1308.8mV	0.103uA
73	1341.6mV	0.101uA	1283.8mV	0.274uA
74	1461.7mV	0.136uA	1269.9mV	0.230uA
75	1453.2mV	0.180uA	1306.5mV	0.293uA
76	1428.9mV	0.197uA	1427.4mV	0.078uA
77	1401.8mV	0.091uA	1373.6mV	0.066uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Temperature Cycle Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2014.05.05 ~ 2014.06.25
Test Standard : JESD22 STANDARD Method-A106
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1282.5mV	0.092uA	1455.9mV	0.124uA
2	1272.8mV	0.220uA	1276.2mV	0.065uA
3	1321.6mV	0.093uA	1258.3mV	0.064uA
4	1317.1mV	0.151uA	1436.1mV	0.153uA
5	1381.1mV	0.264uA	1345.8mV	0.203uA
6	1374.6mV	0.309uA	1453.8mV	0.056uA
7	1413.2mV	0.046uA	1315.3mV	0.078uA
8	1403.3mV	0.110uA	1404.1mV	0.226uA
9	1442.3mV	0.220uA	1415.1mV	0.087uA
10	1385.6mV	0.239uA	1255.3mV	0.287uA
11	1320.1mV	0.106uA	1379.4mV	0.204uA
12	1294.9mV	0.061uA	1373.2mV	0.227uA
13	1410.7mV	0.141uA	1392.4mV	0.061uA
14	1413.8mV	0.160uA	1308.5mV	0.121uA
15	1321.3mV	0.086uA	1355.4mV	0.149uA
16	1427.9mV	0.070uA	1430.4mV	0.275uA
17	1285.9mV	0.118uA	1275.5mV	0.233uA
18	1401.7mV	0.279uA	1379.7mV	0.291uA
19	1374.3mV	0.111uA	1380.7mV	0.206uA
20	1276.9mV	0.106uA	1365.9mV	0.278uA
21	1424.5mV	0.289uA	1459.5mV	0.105uA
22	1433.0mV	0.112uA	1409.1mV	0.271uA
23	1439.9mV	0.165uA	1374.2mV	0.082uA
24	1419.2mV	0.097uA	1279.6mV	0.179uA
25	1273.2mV	0.234uA	1267.4mV	0.249uA
26	1383.3mV	0.104uA	1264.5mV	0.219uA
27	1360.9mV	0.073uA	1463.4mV	0.059uA
28	1384.3mV	0.073uA	1339.8mV	0.143uA
29	1280.4mV	0.149uA	1258.3mV	0.223uA
30	1370.2mV	0.214uA	1350.3mV	0.208uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2014.05.05 ~ 2014.06.25
Test Standard : JESD22 STANDARD Method-A106
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	1383.9mV	0.157uA	1329.1mV	0.058uA
32	1316.1mV	0.185uA	1433.4mV	0.109uA
33	1301.8mV	0.245uA	1255.6mV	0.200uA
34	1443.3mV	0.149uA	1266.2mV	0.272uA
35	1431.8mV	0.128uA	1307.4mV	0.120uA
36	1382.9mV	0.169uA	1360.0mV	0.266uA
37	1262.0mV	0.169uA	1348.7mV	0.181uA
38	1318.2mV	0.046uA	1413.6mV	0.102uA
39	1297.1mV	0.308uA	1338.3mV	0.162uA
40	1461.4mV	0.054uA	1256.3mV	0.251uA
41	1385.5mV	0.055uA	1305.6mV	0.187uA
42	1333.3mV	0.295uA	1367.1mV	0.103uA
43	1317.3mV	0.238uA	1442.7mV	0.049uA
44	1416.5mV	0.151uA	1336.7mV	0.175uA
45	1397.0mV	0.191uA	1432.8mV	0.119uA
46	1364.3mV	0.250uA	1366.7mV	0.174uA
47	1358.7mV	0.153uA	1259.4mV	0.177uA
48	1346.5mV	0.238uA	1259.9mV	0.165uA
49	1410.1mV	0.104uA	1378.8mV	0.257uA
50	1266.4mV	0.290uA	1346.4mV	0.089uA
51	1387.3mV	0.169uA	1407.4mV	0.188uA
52	1448.9mV	0.187uA	1270.0mV	0.270uA
53	1423.2mV	0.128uA	1403.4mV	0.222uA
54	1373.2mV	0.069uA	1261.6mV	0.130uA
55	1330.9mV	0.109uA	1265.0mV	0.178uA
56	1343.5mV	0.071uA	1274.5mV	0.261uA
57	1360.6mV	0.078uA	1377.0mV	0.251uA
58	1359.4mV	0.272uA	1324.9mV	0.057uA
59	1420.5mV	0.136uA	1375.3mV	0.145uA
60	1347.6mV	0.098uA	1281.4mV	0.148uA

SeCoS Corporation

Temperature Cycle Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: -55℃/30min, 150℃/30min, for1000 Cycle
Test Date: 2014.05.05 ~ 2014.06.25
Test Standard : JESD22 STANDARD Method-A106
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	1444.3mV	0.146uA	1310.6mV	0.221uA
62	1299.4mV	0.227uA	1406.3mV	0.049uA
63	1284.3mV	0.098uA	1305.1mV	0.228uA
64	1423.7mV	0.280uA	1380.3mV	0.207uA
65	1456.6mV	0.072uA	1413.7mV	0.225uA
66	1264.8mV	0.282uA	1287.0mV	0.254uA
67	1264.0mV	0.114uA	1286.9mV	0.073uA
68	1416.7mV	0.199uA	1402.3mV	0.216uA
69	1453.8mV	0.050uA	1360.6mV	0.184uA
70	1336.3mV	0.261uA	1432.7mV	0.297uA
71	1295.0mV	0.272uA	1303.7mV	0.076uA
72	1417.1mV	0.156uA	1346.3mV	0.246uA
73	1413.8mV	0.148uA	1450.3mV	0.052uA
74	1418.2mV	0.263uA	1441.1mV	0.124uA
75	1426.7mV	0.143uA	1464.9mV	0.150uA
76	1264.3mV	0.098uA	1262.5mV	0.200uA
77	1362.8mV	0.149uA	1282.2mV	0.072uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1415.7mV	0.047uA	1291.7mV	0.246uA
2	1303.0mV	0.157uA	1330.7mV	0.174uA
3	1315.7mV	0.244uA	1436.5mV	0.127uA
4	1265.5mV	0.280uA	1324.4mV	0.091uA
5	1433.2mV	0.307uA	1314.7mV	0.144uA
6	1423.4mV	0.119uA	1449.6mV	0.111uA
7	1423.9mV	0.160uA	1434.3mV	0.271uA
8	1446.2mV	0.080uA	1282.1mV	0.246uA
9	1315.0mV	0.219uA	1422.7mV	0.226uA
10	1416.6mV	0.161uA	1255.2mV	0.069uA
11	1419.5mV	0.105uA	1286.0mV	0.203uA
12	1270.8mV	0.301uA	1444.1mV	0.137uA
13	1262.1mV	0.272uA	1444.8mV	0.224uA
14	1372.3mV	0.282uA	1334.6mV	0.284uA
15	1318.0mV	0.070uA	1388.7mV	0.082uA
16	1361.9mV	0.131uA	1395.3mV	0.224uA
17	1329.3mV	0.164uA	1407.1mV	0.107uA
18	1386.1mV	0.149uA	1384.1mV	0.272uA
19	1331.4mV	0.197uA	1266.3mV	0.142uA
20	1454.4mV	0.182uA	1357.1mV	0.180uA
21	1428.0mV	0.260uA	1453.9mV	0.241uA
22	1323.9mV	0.055uA	1406.9mV	0.114uA
23	1311.8mV	0.057uA	1379.4mV	0.050uA
24	1294.1mV	0.279uA	1330.6mV	0.050uA
25	1390.9mV	0.148uA	1267.3mV	0.195uA
26	1286.2mV	0.064uA	1280.2mV	0.079uA
27	1464.2mV	0.225uA	1364.4mV	0.198uA
28	1426.5mV	0.236uA	1371.0mV	0.197uA
29	1422.7mV	0.303uA	1284.3mV	0.240uA
30	1340.1mV	0.280uA	1368.0mV	0.175uA

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	1406.1mV	0.235uA	1307.9mV	0.309uA
32	1268.6mV	0.158uA	1363.5mV	0.253uA
33	1307.7mV	0.241uA	1424.0mV	0.070uA
34	1407.8mV	0.237uA	1277.3mV	0.088uA
35	1296.1mV	0.120uA	1289.5mV	0.163uA
36	1266.7mV	0.124uA	1341.3mV	0.191uA
37	1391.2mV	0.089uA	1405.1mV	0.256uA
38	1346.2mV	0.136uA	1377.4mV	0.218uA
39	1369.5mV	0.309uA	1407.5mV	0.155uA
40	1266.9mV	0.146uA	1353.0mV	0.226uA
41	1298.0mV	0.295uA	1423.0mV	0.292uA
42	1444.4mV	0.268uA	1457.8mV	0.109uA
43	1335.4mV	0.192uA	1367.8mV	0.250uA
44	1284.7mV	0.191uA	1365.7mV	0.301uA
45	1449.7mV	0.264uA	1278.8mV	0.072uA
46	1442.8mV	0.070uA	1367.8mV	0.162uA
47	1370.0mV	0.222uA	1350.4mV	0.199uA
48	1444.3mV	0.177uA	1426.1mV	0.204uA
49	1265.3mV	0.091uA	1368.2mV	0.153uA
50	1357.7mV	0.107uA	1330.0mV	0.281uA
51	1339.7mV	0.303uA	1429.5mV	0.209uA
52	1290.5mV	0.156uA	1313.0mV	0.182uA
53	1358.8mV	0.300uA	1386.9mV	0.160uA
54	1347.9mV	0.136uA	1399.5mV	0.124uA
55	1345.5mV	0.234uA	1449.6mV	0.267uA
56	1259.3mV	0.236uA	1288.1mV	0.280uA
57	1329.6mV	0.239uA	1438.8mV	0.305uA
58	1327.9mV	0.109uA	1344.8mV	0.067uA
59	1301.3mV	0.080uA	1282.3mV	0.125uA
60	1416.8mV	0.246uA	1309.7mV	0.176uA

SeCoS Corporation

High Temperature High Humidity Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	1317.2mV	0.215uA	1394.3mV	0.095uA
62	1463.0mV	0.289uA	1448.5mV	0.287uA
63	1302.6mV	0.242uA	1383.9mV	0.165uA
64	1408.2mV	0.101uA	1314.6mV	0.146uA
65	1422.7mV	0.310uA	1324.7mV	0.274uA
66	1400.6mV	0.077uA	1395.1mV	0.172uA
67	1438.6mV	0.126uA	1395.7mV	0.247uA
68	1440.5mV	0.217uA	1305.7mV	0.197uA
69	1282.4mV	0.109uA	1288.6mV	0.140uA
70	1392.6mV	0.052uA	1336.1mV	0.204uA
71	1429.0mV	0.055uA	1326.3mV	0.091uA
72	1327.5mV	0.246uA	1260.4mV	0.100uA
73	1295.3mV	0.237uA	1421.8mV	0.260uA
74	1331.4mV	0.193uA	1263.4mV	0.272uA
75	1434.8mV	0.275uA	1454.7mV	0.232uA
76	1335.5mV	0.288uA	1277.5mV	0.220uA
77	1383.6mV	0.168uA	1382.4mV	0.292uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1448.5mV	0.070uA	1440.9mV	0.137uA
2	1276.2mV	0.302uA	1394.6mV	0.142uA
3	1422.2mV	0.289uA	1309.8mV	0.055uA
4	1270.8mV	0.131uA	1279.5mV	0.154uA
5	1449.1mV	0.298uA	1336.0mV	0.073uA
6	1373.7mV	0.154uA	1433.7mV	0.257uA
7	1302.9mV	0.280uA	1322.2mV	0.281uA
8	1294.6mV	0.228uA	1314.9mV	0.183uA
9	1454.0mV	0.205uA	1385.0mV	0.153uA
10	1427.3mV	0.213uA	1361.7mV	0.135uA
11	1285.2mV	0.235uA	1396.8mV	0.191uA
12	1281.6mV	0.144uA	1446.7mV	0.056uA
13	1462.4mV	0.097uA	1397.3mV	0.265uA
14	1347.8mV	0.275uA	1261.9mV	0.258uA
15	1457.8mV	0.223uA	1447.3mV	0.176uA
16	1424.5mV	0.101uA	1269.3mV	0.234uA
17	1321.8mV	0.222uA	1309.6mV	0.149uA
18	1331.3mV	0.081uA	1443.7mV	0.201uA
19	1395.6mV	0.074uA	1283.2mV	0.171uA
20	1364.8mV	0.269uA	1303.4mV	0.246uA
21	1366.0mV	0.153uA	1280.2mV	0.087uA
22	1452.4mV	0.083uA	1266.2mV	0.176uA
23	1421.6mV	0.164uA	1308.6mV	0.092uA
24	1274.9mV	0.079uA	1446.9mV	0.258uA
25	1314.8mV	0.157uA	1361.4mV	0.175uA
26	1407.5mV	0.118uA	1279.9mV	0.293uA
27	1268.2mV	0.299uA	1364.0mV	0.174uA
28	1311.7mV	0.171uA	1455.2mV	0.143uA
29	1396.0mV	0.258uA	1388.9mV	0.142uA
30	1304.3mV	0.267uA	1270.4mV	0.195uA

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
31	1400.9mV	0.214uA	1408.8mV	0.113uA
32	1338.0mV	0.147uA	1436.4mV	0.076uA
33	1311.2mV	0.135uA	1300.4mV	0.151uA
34	1295.2mV	0.247uA	1316.6mV	0.304uA
35	1445.9mV	0.088uA	1360.5mV	0.185uA
36	1425.9mV	0.207uA	1260.9mV	0.262uA
37	1459.4mV	0.190uA	1332.9mV	0.293uA
38	1420.5mV	0.133uA	1345.4mV	0.124uA
39	1451.5mV	0.180uA	1408.6mV	0.280uA
40	1332.2mV	0.100uA	1413.5mV	0.106uA
41	1444.7mV	0.284uA	1349.9mV	0.161uA
42	1385.7mV	0.067uA	1427.5mV	0.307uA
43	1435.8mV	0.152uA	1376.8mV	0.149uA
44	1412.1mV	0.091uA	1372.1mV	0.105uA
45	1378.2mV	0.076uA	1402.7mV	0.293uA
46	1321.0mV	0.069uA	1284.4mV	0.248uA
47	1333.9mV	0.248uA	1443.4mV	0.155uA
48	1309.7mV	0.305uA	1310.1mV	0.198uA
49	1462.6mV	0.253uA	1374.8mV	0.066uA
50	1394.8mV	0.246uA	1282.9mV	0.205uA
51	1407.9mV	0.282uA	1432.8mV	0.049uA
52	1447.1mV	0.240uA	1457.0mV	0.289uA
53	1386.3mV	0.167uA	1306.2mV	0.193uA
54	1367.6mV	0.191uA	1454.5mV	0.112uA
55	1397.7mV	0.240uA	1290.8mV	0.077uA
56	1406.6mV	0.308uA	1312.7mV	0.243uA
57	1346.1mV	0.223uA	1391.8mV	0.062uA
58	1397.1mV	0.129uA	1286.5mV	0.192uA
59	1260.3mV	0.184uA	1357.4mV	0.218uA
60	1430.7mV	0.296uA	1344.1mV	0.118uA

SeCoS Corporation

High Temper High Humidity Reverse Bies Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 85±2℃, 85±5%RH, 1000Hrs
Test Date: 2014.05.11 ~ 2014.06.23
Test Standard : JESD22 STANDARD Method-A101
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
61	1441.5mV	0.301uA	1349.5mV	0.053uA
62	1341.9mV	0.246uA	1452.0mV	0.298uA
63	1266.4mV	0.287uA	1269.7mV	0.241uA
64	1422.5mV	0.305uA	1344.7mV	0.235uA
65	1283.1mV	0.209uA	1331.2mV	0.126uA
66	1399.1mV	0.119uA	1294.2mV	0.067uA
67	1287.6mV	0.230uA	1291.7mV	0.147uA
68	1433.2mV	0.271uA	1326.2mV	0.231uA
69	1369.8mV	0.191uA	1390.1mV	0.148uA
70	1379.2mV	0.259uA	1270.3mV	0.230uA
71	1325.6mV	0.159uA	1385.1mV	0.237uA
72	1333.9mV	0.064uA	1356.2mV	0.301uA
73	1272.7mV	0.185uA	1353.0mV	0.093uA
74	1265.8mV	0.157uA	1391.9mV	0.081uA
75	1326.8mV	0.154uA	1449.6mV	0.046uA
76	1449.3mV	0.257uA	1357.3mV	0.101uA
77	1270.2mV	0.239uA	1255.4mV	0.121uA

Made By: Leo Hsia

Approval: Peter Yang

SeCoS Corporation

Solderability Test Data

Report No : T140630-022
Part No : HER307G
Test Equipment: JUNO Test System DTS-1000
Test Condition : VF<1700mV@IF=3A, IR<10uA@VR=1000V
Test Condition: 270℃ ± 5℃, 7 Sec ± 2Sec
Test Date: 2014.06.28 ~ 2014.06.28
Test Standard : JESD22 STANDER Method-A106
Operator: Leo Hsia

Test Result: PASS

	Before		After	
No	VF (mV)	IR (uA)	VF (mV)	IR (uA)
1	1441.3mV	0.152uA	1360.1mV	0.153uA
2	1418.9mV	0.091uA	1419.9mV	0.248uA
3	1402.3mV	0.146uA	1271.0mV	0.173uA
4	1344.7mV	0.254uA	1450.6mV	0.196uA
5	1268.1mV	0.126uA	1381.4mV	0.083uA
6	1394.2mV	0.149uA	1298.8mV	0.156uA
7	1307.3mV	0.263uA	1429.2mV	0.214uA
8	1388.2mV	0.269uA	1266.4mV	0.244uA
9	1396.7mV	0.098uA	1279.1mV	0.229uA
10	1297.3mV	0.185uA	1405.4mV	0.142uA

Made By: Leo Hsia

Approval: Peter Yang

簽名有效

For Question,
Please Contact with SGS
www.tw.sgs.com

Test Report

No. : CE/2014/42772A Date : 2014/04/18 Page : 1 of 14

SECOS CORPORATION

CE/2014/42772A

8F, NO. 33, LANE 155, SEC. 3, BEI-SHEN RD., SHEN KENG DIST., NEW TAIPEI CITY, TAIWAN

The following sample(s) was/were submitted and identified by/on behalf of the applicant as :

Sample Description	:	RECTIFIER(NON GREEN COMPOUND)
Style/Item No.	:	DO-15, DO-27, DO-35, DO-41, DO-201, R-1, R-6, R7 SERIES
Sample Receiving Date	:	2014/04/14
Testing Period	:	2014/04/14 TO 2014/04/18

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Test Result(s) : Please refer to next page(s).

Troy Ch
Signed
SGS TA
Chemical Laboratory – Taipei

SECOS CORPORATION *CE/2014/42772A*
8F, NO. 33, LANE 155, SEC. 3, BEI-SHEN RD., SHEN KENG DIST., NEW TAIPEI CITY, TAIWAN

Test Result(s)

PART NAME No.1 : BLACK BODY
PART NAME No.2 : PLATING LAYER OF SILVER COLORED METAL PIN
PART NAME No.3 : BASE MATERIAL OF SILVER COLORED METAL PIN
PART NAME No.4 : SILVER COLORED METAL PIN (INCLUDING THE PLATING LAYER)

Test Item(s)	Unit	Method	MDL	Result			
				No.1	No.2	No.3	No.4
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	---	n.d.	---
	mg/kg	IEC 62321-5: 2013 application of modified digestion by surface etching and performed by ICP-AES.	2	---	n.d.	---	---
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	4130	---	n.d.	---
	mg/kg	IEC 62321-5: 2013 application of modified digestion by surface etching and performed by ICP-AES.	2	---	20	---	---
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.	---	n.d.	---
	mg/kg	IEC 62321-4: 2013 application of modified digestion by surface etching and performed by ICP-AES.	2	---	n.d.	---	---
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	---	---	---
	**	With reference to IEC 62321: 2008 and performed by Boiling water extraction Method.#	#	---	Negative	Negative	---
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	With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.	---	---	n.d.

SECOS CORPORATION
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CE/2014/42772A

Test Item(s)	Unit	Method	MDL	Result			
				No.1	No.2	No.3	No.4
BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	---	---	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	---	---	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	---	---	n.d.
Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.	---	n.d.	---
	µg/m²	With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	1	---	n.d.	---	---
PFOA (CAS No.: 335-67-1)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.	---	n.d.	---
	µg/m²	With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	1	---	n.d.	---	---
Halogen							
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	---	---	n.d.
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	108	---	---	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	5720	---	---	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	---	---	n.d.

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Test Item(s)	Unit	Method	MDL	Result			
				No.1	No.2	No.3	No.4
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.	n.d.	n.d.	---
Monobromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Dibromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Tribromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Tetrabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Pentabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Hexabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Heptabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Octabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Nonabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Decabromobiphenyl	mg/kg		5	n.d.	n.d.	n.d.	---
Sum of PBDEs	mg/kg		-	n.d.	n.d.	n.d.	---
Monobromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Dibromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Tribromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Tetrabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Pentabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Hexabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Heptabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Octabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Nonabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---
Decabromodiphenyl ether	mg/kg		5	n.d.	n.d.	n.d.	---

Note：

1. mg/kg = ppm；0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated
5. "---" = Not Conducted
6. ** = Qualitative analysis (No Unit)
7. # = a. Positive means the presence of CrVI on the tested areas
   b. Negative means the absence of CrVI on the tested areas
   The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas.

SECOS CORPORATION *CE/2014/42772A*
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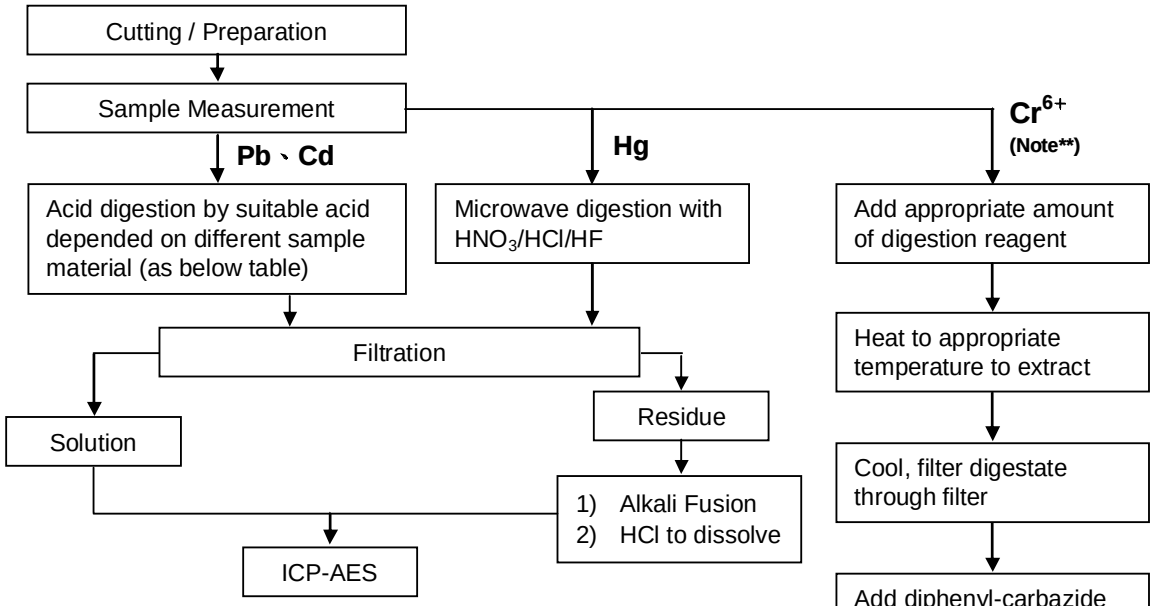
TAIWAN

PFOS Reference Information : POPs - (EU) 757/2010

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%(1000ppm), in textiles or other coated materials above 1μg/m².

SECOS CORPORATION *CE/2014/42772A*
8F, NO. 33, LANE 155, SEC. 3, BEI-SHEN RD., SHEN KENG DIST., NEW TAIPEI CITY, TAIWAN
No.1, 3

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)
2) Name of the person who made measurement: Climbgreat Yang
3) Name of the person in charge of measurement: Troy Chang



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO_3, HCl, HF, H_2O_2
Glass	HNO_3/HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO_3
Plastic	H_2SO_4, H_2O_2, HNO_3, HCl
Others	Added appropriate reagent to total digestion

Note (For IEC 62321)**
(1) For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.
(2) For metallic material, add pure water and heat to boiling.

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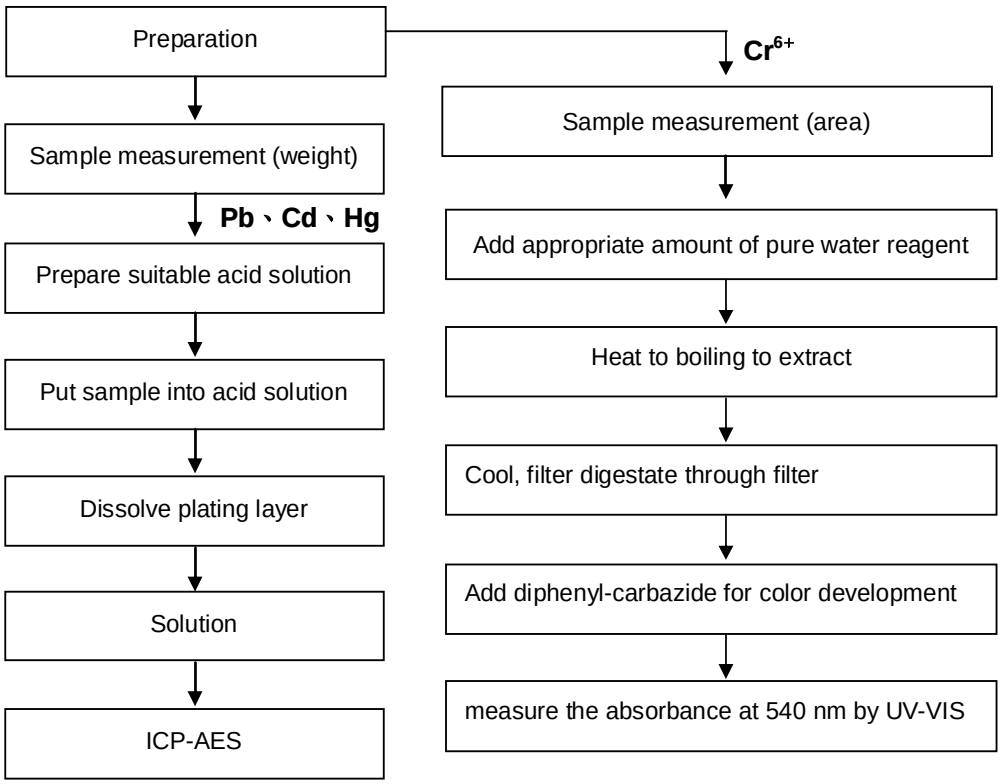
No.2

The plating layer of samples were dissolved totally by pre-conditioning method according to below flow chart. （Cr^{6+} test method excluded）

- Name of the person who made measurement: Climbgreat Yang
- Name of the person in charge of measurement: Troy Chang

Flow Chart of Stripping method for metal analysis



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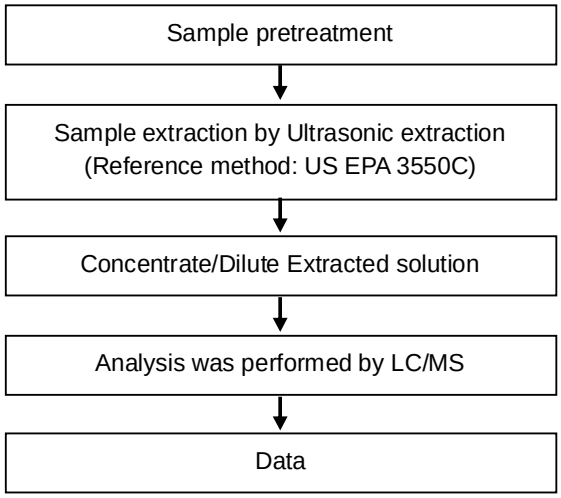
TAIWAN

PFOA/PFOS analytical flow chart of Ultrasonic extraction (LC/MS) procedure

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



SECOS CORPORATION *CE/2014/42772A*
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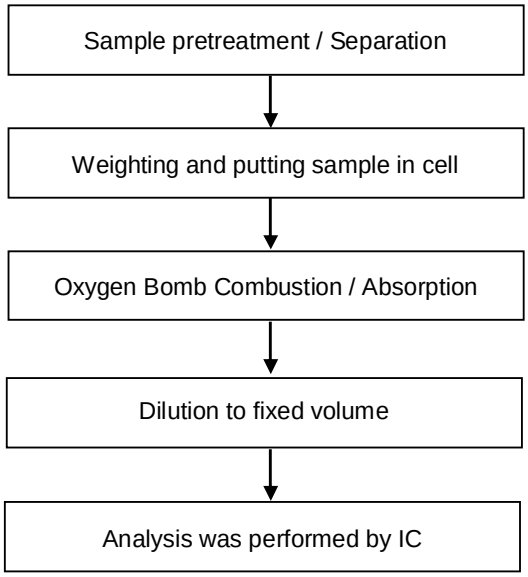
Analytical flow chart of halogen content

- Name of the person who made measurement: Rita Chen
- Name of the person in charge of measurement: Troy Chang



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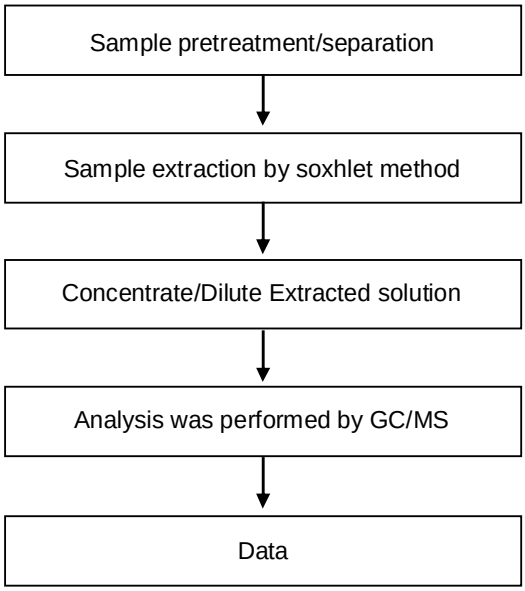
Analytical flow chart of phthalate content

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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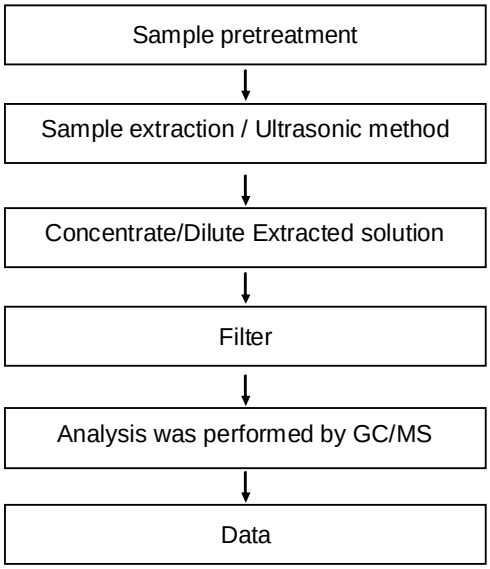
HBCDD analytical flow chart

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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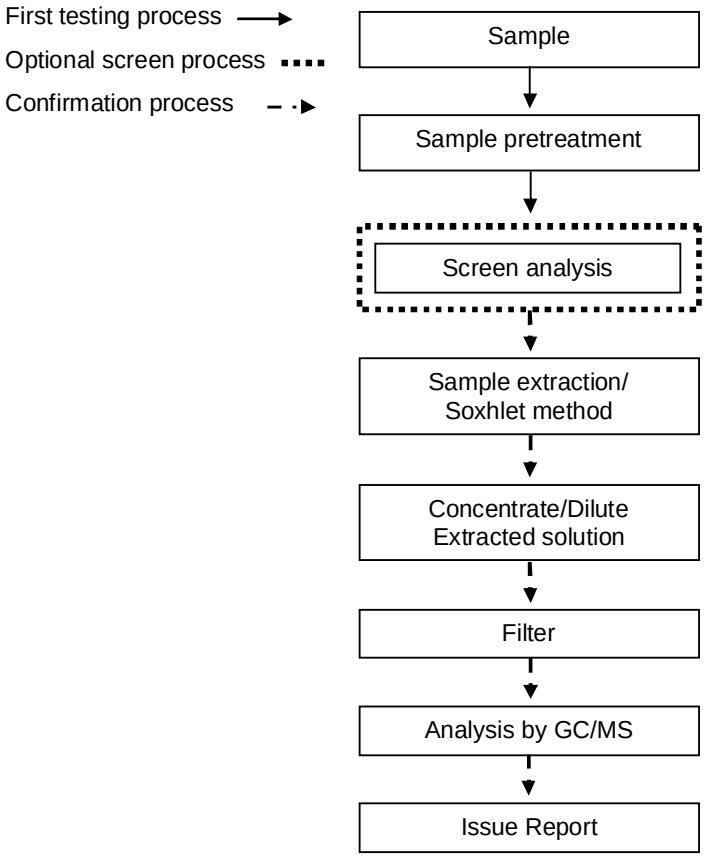
PBB/PBDE analytical FLOW CHART

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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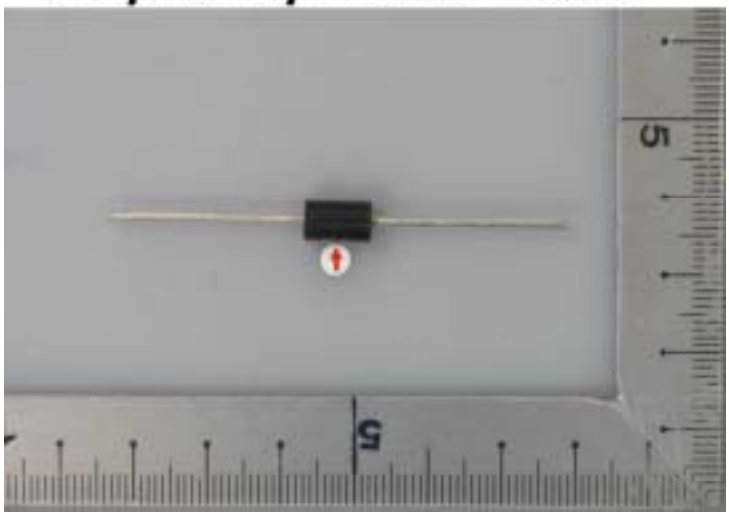
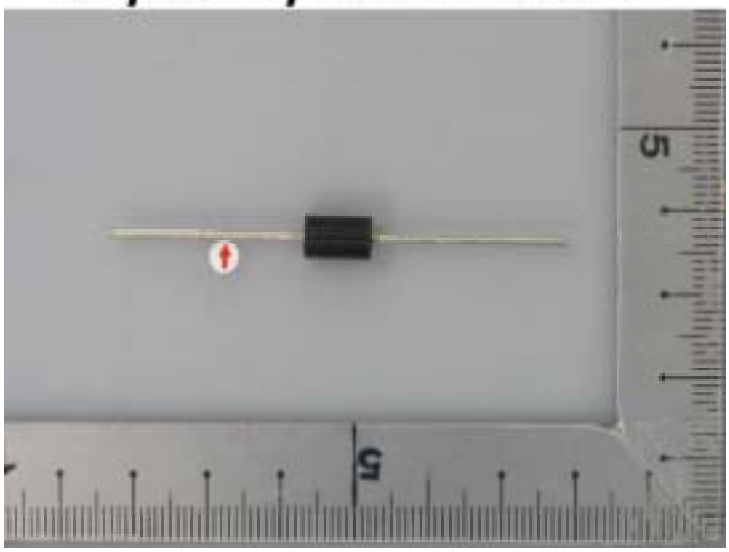
*** The tested sample / part is marked by an arrow if it's shown on the photo. ***

CE/2014/42772 NO.1



CE/2014/42772 NO.2



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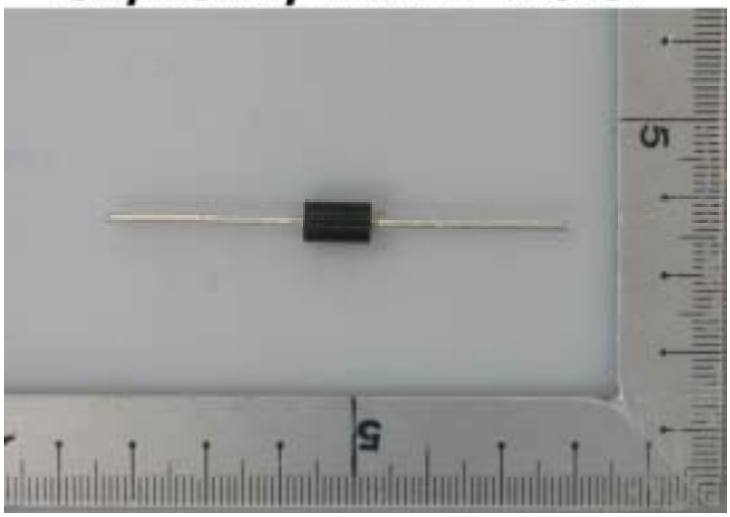
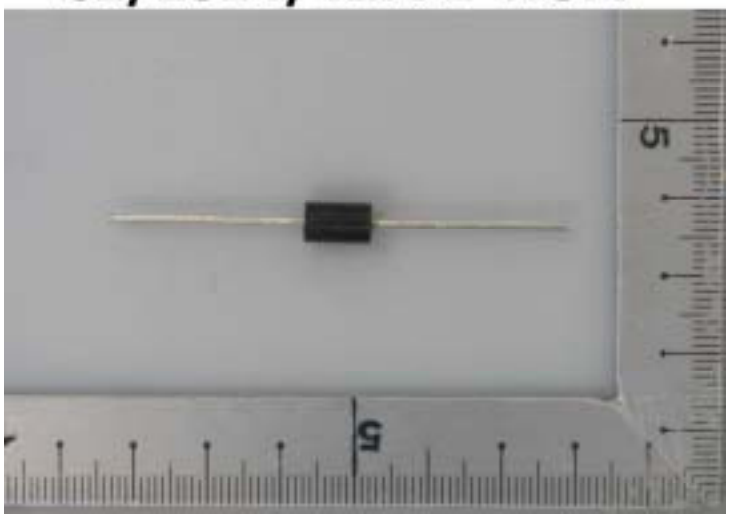
CE/2014/42772 NO.3



CE/2014/42772 NO.4



** End of Report **