

# Test Report

Report No.:SHR09071831671001

Page 1 of 7

**Applicant** SHANGHAI SEEFULL ELECTRONIC CO.,LTD.  
LITEON SEMICONDUCTOR CORP.  
**Address** 6 ZHENYE RD.,DONGJING,SONGJIANG DISTRICT,SHANGHAI,CHINA  
28-1,WU SHIN STREET,TA WU LUNG,KEELUNG 204, TAIWAN,R.O.C

**Report on the submitted sample(s) said to be:**

**Sample Name** AXIAL DIODE:LEAD FREE PLATING  
1. MIXED ALL PARTS OF BODY  
2. SILVER COLORED METAL PIN  
3. BLACK PLASTIC BODY WITHOUT SOLDER WAFER & DIE

**Sample Description** 1. Black body 2. Silvery plating  
3. Black plastic

**Part No.** :T1 (SD09AXXXD, SDXG, UDXG, DXG, ETC)

**Sample Received Date** :Jul.18, 2009

**Testing Period** :Jul.18, 2009 to Jul.21, 2009

**Test Requested** :As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonates(PFOS), Polycyclic Aromatic Hydrocarbons(PAHs) content in the submitted sample.

**Test Result(s): Please refer to following page(s).**



**Tested by** Chen Ziguang  
Chen Dian  
Technical Manager

**Inspected by** Zhang Yijun  
**Date** Jul.21, 2009

# Test Report

Report No.:SHR09071831671001

Page 2 of 7

**Test Method:**

Tested Items(s)	Pretreatment Method	Measured Equipment(s)	Report Limit
Lead (Pb)/ Cadmium (Cd)	Refer to IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2mg/kg
	Refer to IEC 62321:2008 Ed.1 Sec.9 Plating layer test method(In-house method)		
	Refer to IEC 62321:2008 Ed.1 Sec.10		
Mercury (Hg)	Refer to IEC 62321:2008 Ed.1 Sec.7 Plating layer test method(In-house method)	ICP-OES	2mg/kg
	参考 IEC 62321:2008 Ed.1 Sec.7		
Hexavalent Chromium (Cr(VI))	Refer to IEC 62321:2008 Ed.1 Annex B	UV-Vis	/
	Refer to IEC 62321:2008 Ed.1 Annex C		2mg/kg
Polybrominated Biphenyls (PBBs)	Refer to IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	Refer to IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg
Perfluorooctanoic Acid (PFOA)/ Perfluorooctane Sulfonates(PFOS)	Refer to US EPA 3550C	LC-MS-MS	5 mg/kg
Perfluorooctanoic Acid (PFOA)/ Perfluorooctane Sulfonates(PFOS)	Refer to US EPA 3550C	LC-MS-MS	0.5ug/m <sup>2</sup>
Polycyclic Aromatic Hydrocarbons (PAHs)	Refer to US EPA 8270 D	GC-MS	0.2mg/kg

# Test Report

Report No.:SHR09071831671001

Page 3 of 7

**Test Result(s):**

Tested Item(s)	Content		
	1	2	3
Lead (Pb)	58020 mg/kg	72 mg/kg	N.D.
Cadmium (Cd)	N.D.	N.D.	/
Mercury (Hg)	N.D.	N.D.	/
Hexavalent Chromium (Cr(VI))	N.D.	Negative	/

Tested Item(s)	Content		
	1	2	3
<b>Polybrominated Biphenyls(PBBs)</b>			
Monobromobiphenyl	N.D.	/	/
Dibromobiphenyl	N.D.	/	/
Tribromobiphenyl	N.D.	/	/
Tetrabromobiphenyl	N.D.	/	/
Pentabromobiphenyl	N.D.	/	/
Hexabromobiphenyl	N.D.	/	/
Heptabromobiphenyl	N.D.	/	/
Octabromobiphenyl	N.D.	/	/
Nonabromobiphenyl	N.D.	/	/
Decabromobiphenyl	N.D.	/	/
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>			
Monobromodiphenyl ether	N.D.	/	/
Dibromodiphenyl ether	N.D.	/	/
Tribromodiphenyl ether	N.D.	/	/
Tetrabromodiphenyl ether	N.D.	/	/
Pentabromodiphenyl ether	N.D.	/	/
Hexabromodiphenyl ether	N.D.	/	/
Heptabromodiphenyl ether	N.D.	/	/
Octabromodiphenyl ether	N.D.	/	/
Nonabromodiphenyl ether	N.D.	/	/
Decabromodiphenyl ether	N.D.	/	/

# Test Report

Report No.:SHR09071831671001

Page 4 of 7

Tested Items	Contents		
	1	2	3
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	/
Perfluorooctane Sulfonates(PFOS)	N.D.	N.D.	/

Testing Items	Contents		
	1	2	3
<b>Polycyclic Aromatic Hydrocarbons(PAHs)</b>			
Naphthalene	N.D.	/	/
Acenaphthylene	N.D.	/	/
Acenaphthene	N.D.	/	/
Fluorene	N.D.	/	/
Phenanthrene	N.D.	/	/
Anthracene	N.D.	/	/
Fluoranthene	N.D.	/	/
Pyrene	N.D.	/	/
Benzo[a]anthracene	N.D.	/	/
Chrysene	N.D.	/	/
Benzo[b]fluoranthene	N.D.	/	/
Benzo[[k]fluoranthene	N.D.	/	/
Benzo[a]pyrene	N.D.	/	/
Indenol[1,2,3-cd]pyrene	N.D.	/	/
Dibenz[a,h]anthracene	N.D.	/	/
Benzo[g,h,i]perylene	N.D.	/	/

**Note :** The sample had been dissolved totally tested for Lead, Mercury, Cadmium.

- -N.D. = Not Detected (<report limit).      -mg/kg=ppm =parts per million.
- Negative = Absence of Cr(VI)

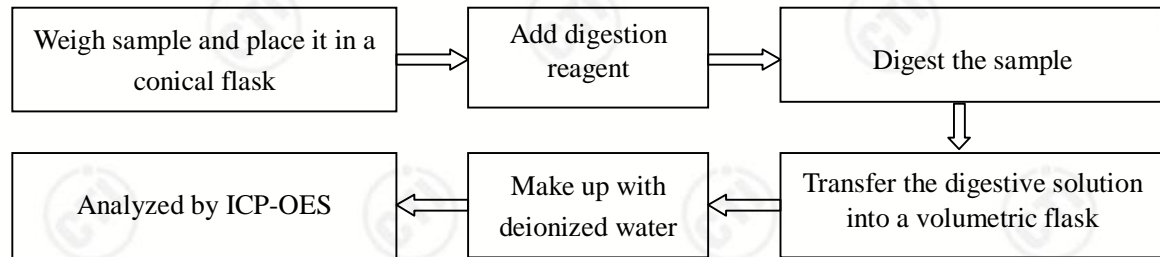
# Test Report

Report No.:SHR09071831671001

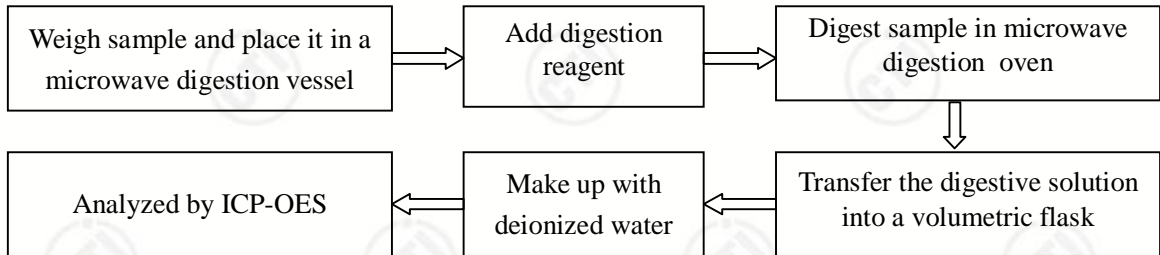
Page 5 of 7

## Test Process :

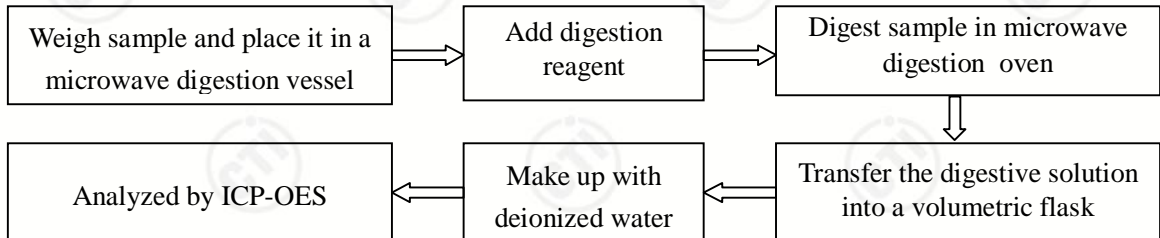
### 1.1 Lead(Pb), Cadmium(Cd)



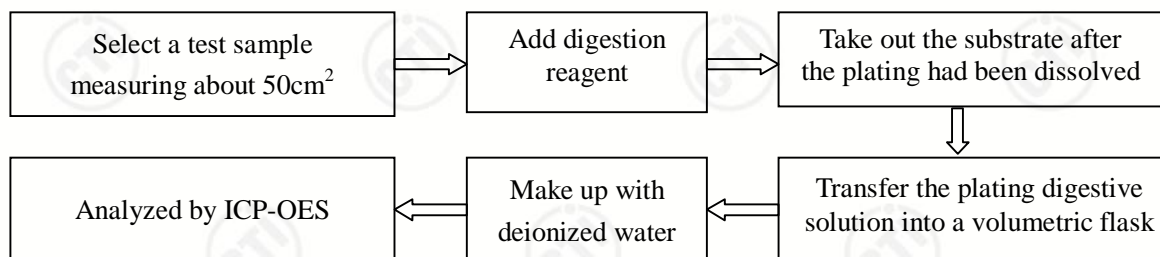
### 1.2 Lead(Pb), Cadmium(Cd)



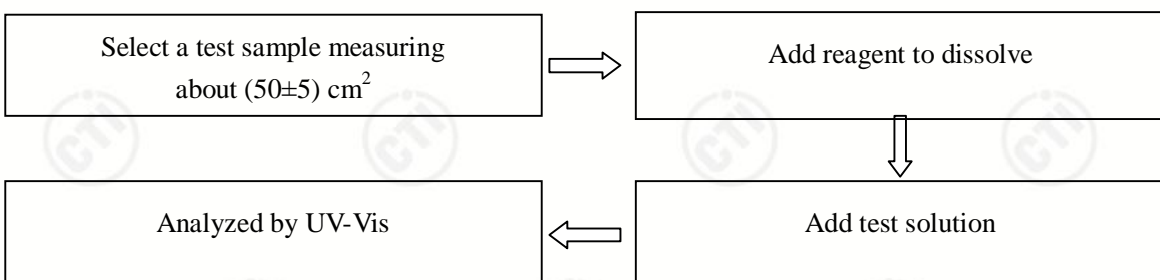
### 2. Mercury(Hg)



### 3 Lead(Pb), Cadmium(Cd), Mercury(Hg)



### 4.1 Hexavalent Chromium (Cr(VI))

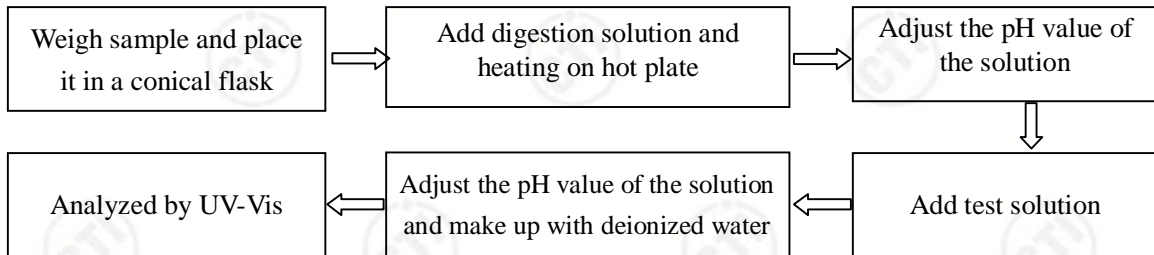


# Test Report

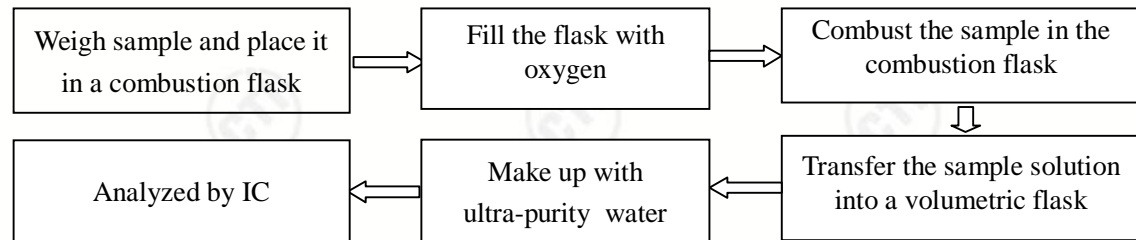
Report No.:SHR09071831671001

Page 6 of 7

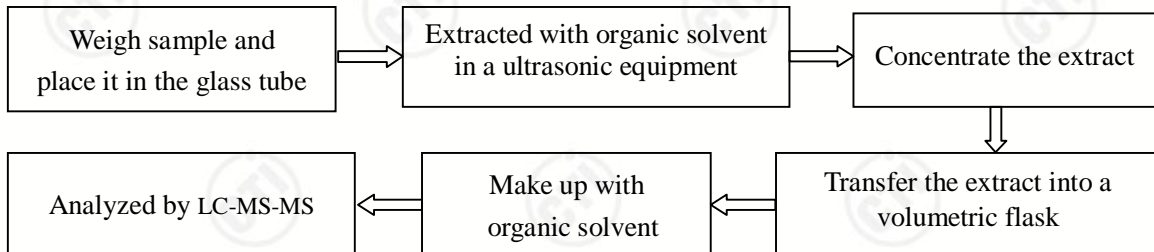
## 4.2 Hexavalent Chromium (Cr(VI))



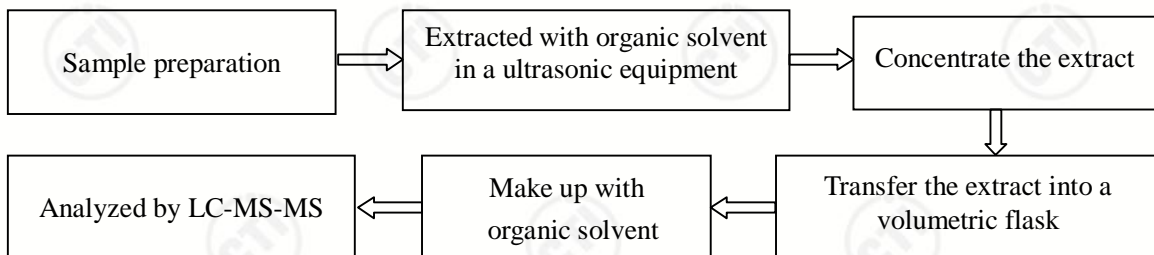
## 5. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



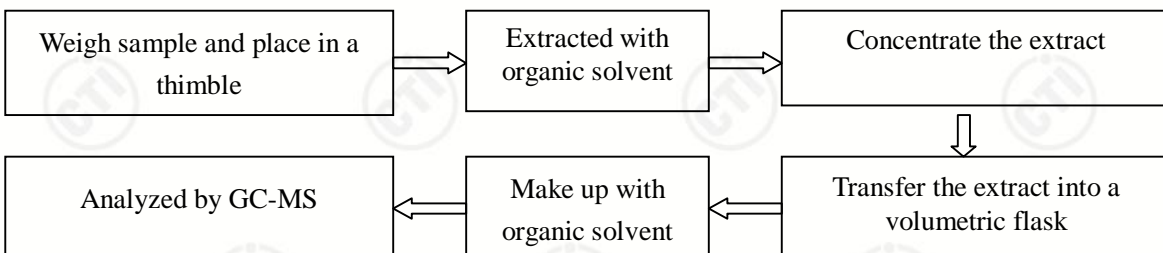
## 6.1 Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid (PFOA)



## 6.2 Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid (PFOA)



## 7. Polycyclic Aromatic Hydrocarbons(PAHs)

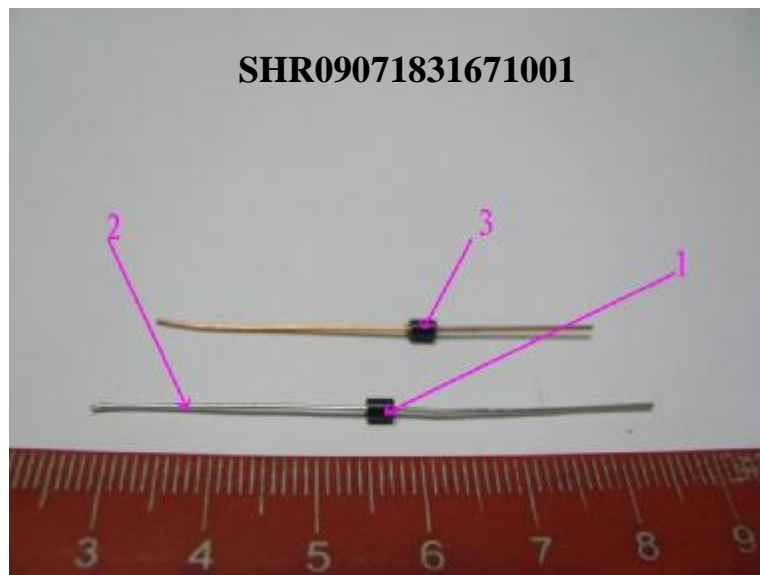


# Test Report

Report No.:SHR09071831671001

Page 7 of 7

## Photo of the sample



\*\*\* End of report \*\*\*

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4F., Building 15-3, 999 Ningqiao Road, Jinqiao, Pudong, Shanghai