

Test Report



Report No. A2250018789101001

Company Name SHANGHAI SEMITECH SEMICONDUCTOR CO., LTD

shown on Report

Address ROOM 311,UNIT 2,NO.2501,DUHUI ROAD,MINHANG ,SHANGHAI,CHINA

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

Sample Name Semiconductor Protection Device

Model No. SMB

Sample Received Date Jan. 9, 2025

Testing Period Jan. 9, 2025 to Jan. 13, 2025

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).



Approved by

Chen Kaimin

Chen kaimin

Lab Manager

Date

Jan. 13, 2025

No. R268851757

Centre Testing International Pinbiao(Shanghai) Co., Ltd.

No.1351, Wanfang Road, Minhang District, Shanghai, China

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Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls (PBBs)	IEC 62321-12:2023	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-12:2023	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-12:2023	GC-MS
Fluorine (F)	EN 14582:2016	IC
Chlorine (Cl)	EN 14582:2016	IC
Bromine (Br)	EN 14582:2016	IC
Iodine (I)	EN 14582:2016	IC

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Test Result(s)

Tested Item(s)	Result	MDL
	001	
Lead (Pb)	14884 mg/kg	2 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg
Mercury (Hg)	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg
Tested Item(s)	Result	MDL
	001	
Polybrominated Biphenyls (PBBs)		
Monobromobiphenyl	N.D.	25 mg/kg
Dibromobiphenyl	N.D.	25 mg/kg
Tribromobiphenyl	N.D.	25 mg/kg
Tetrabromobiphenyl	N.D.	25 mg/kg
Pentabromobiphenyl	N.D.	25 mg/kg
Hexabromobiphenyl	N.D.	25 mg/kg
Heptabromobiphenyl	N.D.	25 mg/kg
Octabromobiphenyl	N.D.	25 mg/kg
Nonabromobiphenyl	N.D.	25 mg/kg
Decabromobiphenyl	N.D.	25 mg/kg
Tested Item(s)	Result	MDL
	001	
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	25 mg/kg
Dibromodiphenyl ether	N.D.	25 mg/kg
Tribromodiphenyl ether	N.D.	25 mg/kg
Tetrabromodiphenyl ether	N.D.	25 mg/kg
Pentabromodiphenyl ether	N.D.	25 mg/kg
Hexabromodiphenyl ether	N.D.	25 mg/kg
Heptabromodiphenyl ether	N.D.	25 mg/kg
Octabromodiphenyl ether	N.D.	25 mg/kg
Nonabromodiphenyl ether	N.D.	25 mg/kg
Decabromodiphenyl ether	N.D.	25 mg/kg

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Test Result(s)

Tested Item(s)	Result	MDL
	001	
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg
Tested Item(s)	Result	MDL
	001	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	113 mg/kg	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Sample/Part Description

No.	CTI Sample ID	Description
1	001	Electronic components(Tested as a whole)

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.
 The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

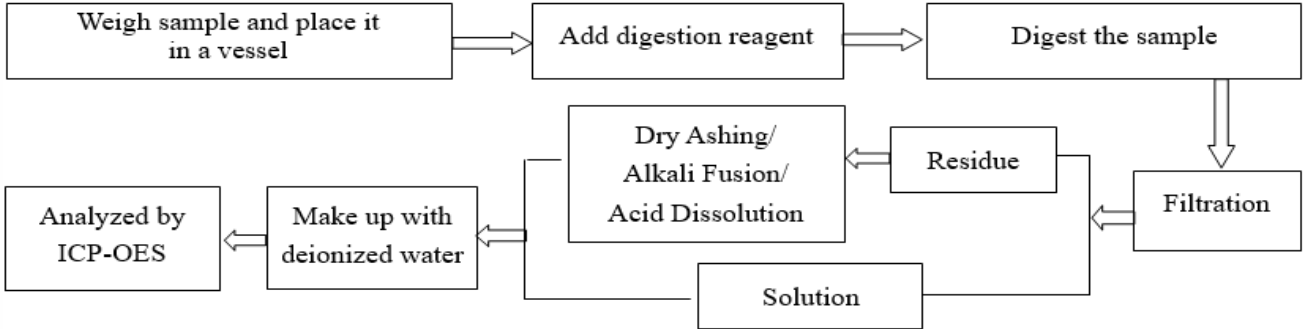
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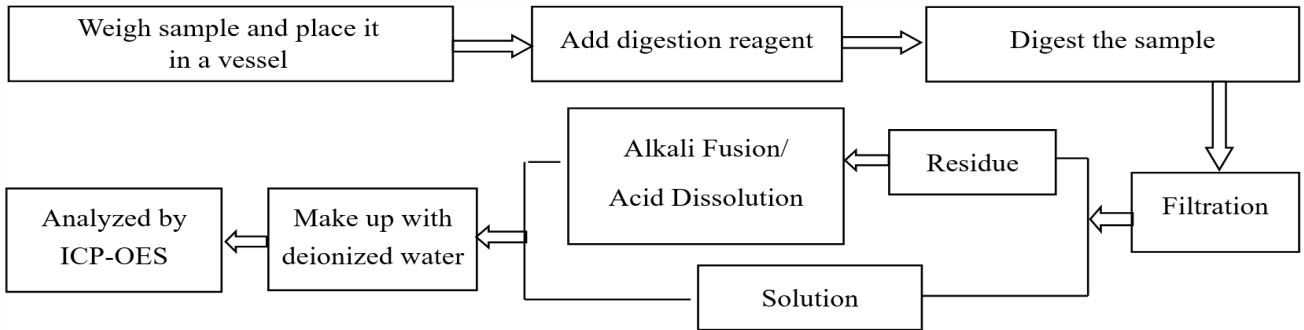
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Test Process

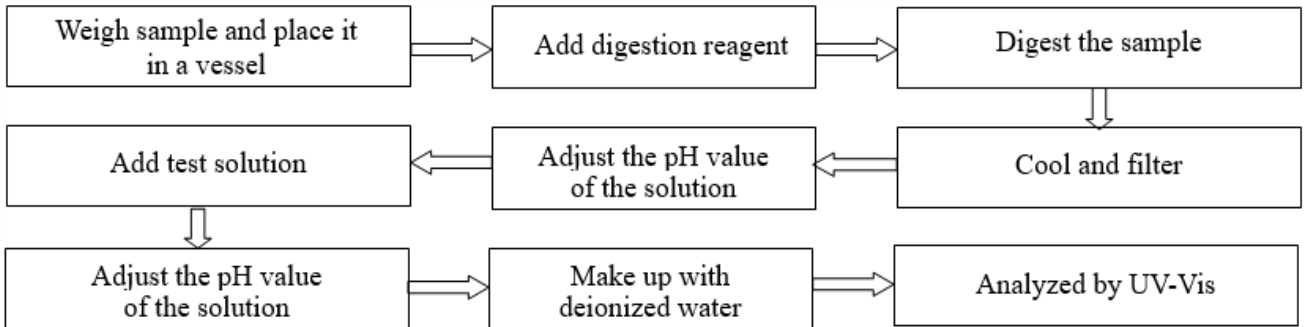
1. Lead (Pb), Cadmium (Cd), Chromium (Cr)



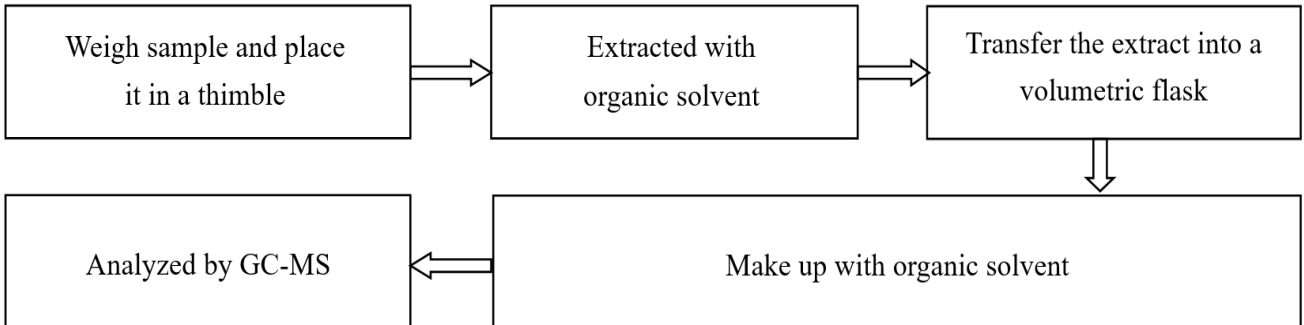
2. Mercury (Hg)



3. Hexavalent Chromium (Cr(VI))



4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)

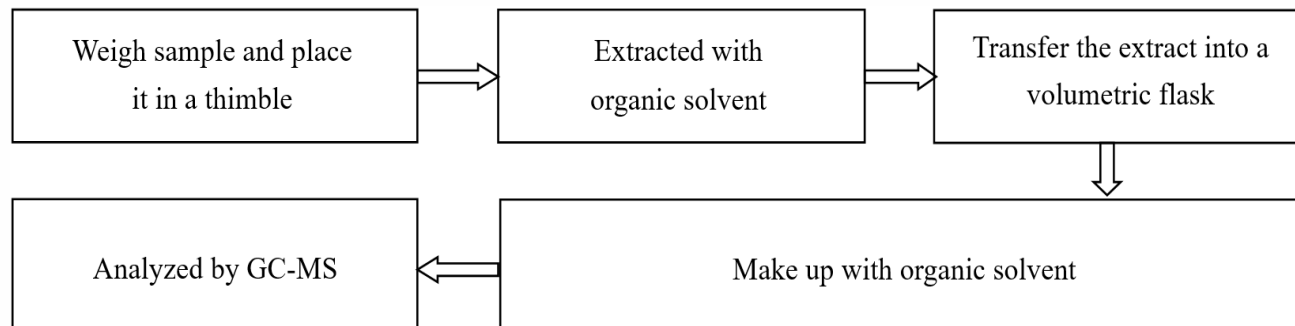


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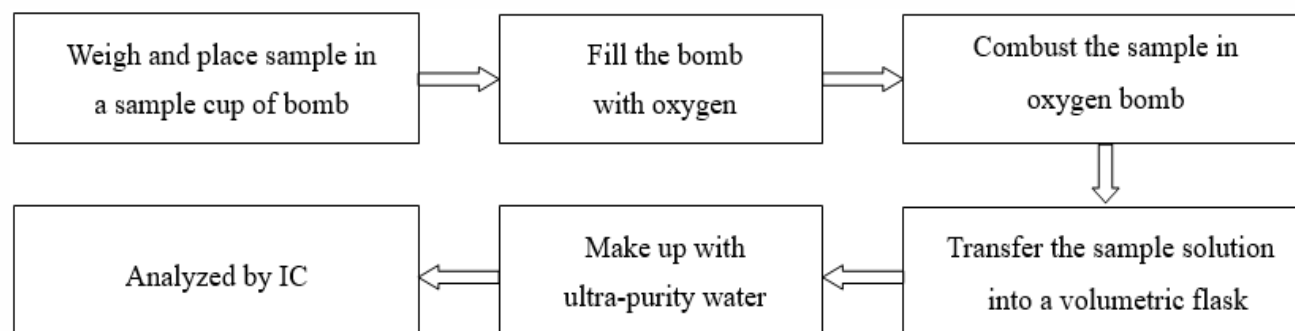
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5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)

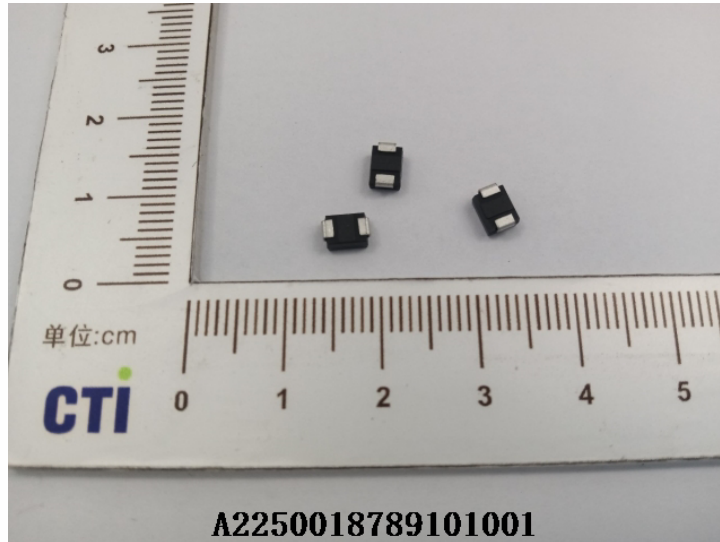


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Photo(s) of the sample(s)



Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019 / CNAS-GL015:2022;
5. Without written approval of CTI, this report can't be reproduced except in full;
6. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of report ***

Appendix

Client Reference Information

SMA SMC SOD-123FL DO-218AB R-6 DO-15 DO-41 DO-201 DO-214AA TO-263 TO-126 TO-220
SMAF SMBF SMCF AK

Statement:

1. The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. The Appendix Information is/are the supplement(s) for the Report A2250018789101001.