

## Test Report

No.: SHAEC24001825404

Date: Feb 05, 2024

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Client Name: ShangHai EXSEMI CO.,LTD/ShangHai Yixing Electronic CO., LTD

Client Address: D409~D418, Chengtianweiye, No. 399 Jianyun Road, Pudong, Shanghai

Sample Name: SMBJ

Model No.: SMBJ

Client Ref. Information: SMF,SMF4L,SMAF,SMBF,SMAJ,SMBJ,SMCJ,SMDJ,5.0SMDJ,SM8S,DO-218,TO-220,ITO-220, SMA/DO-214AC,DO-214AA/SMB, DO-214AB/SMC, DO-41, DO-15, DO-201AD, R-6, MINI-MELF, MELF, TO-92, TO-126, D-PAK, D2-PAK, SOD-123, SOD-323, SOD-523, SOT-23,SOT-323,SOT-523,SOT-523,SOT-723,SOD-923,SOD-882,SOT-23-6,SOT-223,SOT-89,TO-277B,DFN1006,DFN2010,DFN2510,SOP-8,TO-252,PDFN,QDFN,TO-247,TOLL

The above sample(s) and information were provided by the client.

SGS Job No.: SHP24-002534

Sample Receiving Date: Jan 25, 2024

Testing Period: Jan 25, 2024 ~ Jan 31, 2024

Test Requested: Select test(s) as requested by the client.

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

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

| Test Requirement  | Conclusion |
|---|------------|
| EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) | Pass       |

Signed for and on behalf of  
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Annie Liu

Annie Liu  
Approved Signatory

scan to see the report



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**Test Result(s):**

Test Part Description:

| SN ID | Sample No. | SGS Sample ID           | Description                   |
|-------|------------|-------------------------|-------------------------------|
| SN1   | A1         | SHA24-0018254-0001.C001 | Black body with silvery metal |

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) “-“ = Not Regulated

**EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)**

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

| Test Item(s)                              | Limit | Unit(s) | MDL | A1     |
|---|-------|---------|-----|--------|
| Lead (Pb)                                 | 1000  | mg/kg   | 2   | 19274▲ |
| Mercury (Hg)                              | 1000  | mg/kg   | 2   | ND     |
| Cadmium (Cd)                              | 100   | mg/kg   | 2   | ND     |
| Hexavalent Chromium (Cr(VI))              | 1000  | mg/kg   | 8   | ND     |
| Polybrominated biphenyls (PBB)            | 1000  | mg/kg   | -   | ND     |
| Monobrominated biphenyl (MonoBB)          | -     | mg/kg   | 5   | ND     |
| Dibrominated biphenyl (DiBB)              | -     | mg/kg   | 5   | ND     |
| Tribrominated biphenyl (TriBB)            | -     | mg/kg   | 5   | ND     |
| Tetrabrominated biphenyl (TetraBB)        | -     | mg/kg   | 5   | ND     |
| Pentabrominated biphenyl (PentaBB)        | -     | mg/kg   | 5   | ND     |
| Hexabrominated biphenyl (HexaBB)          | -     | mg/kg   | 5   | ND     |
| Heptabrominated biphenyl (HeptaBB)        | -     | mg/kg   | 5   | ND     |
| Octabrominated biphenyl (OctaBB)          | -     | mg/kg   | 5   | ND     |
| Nonabrominated biphenyl (NonaBB)          | -     | mg/kg   | 5   | ND     |
| Decabrominated biphenyl (DecaBB)          | -     | mg/kg   | 5   | ND     |
| Polybrominated diphenyl ethers (PBDE)     | 1000  | mg/kg   | -   | ND     |
| Monobrominated diphenyl ether (MonoBDE)   | -     | mg/kg   | 5   | ND     |
| Dibrominated diphenyl ether (DiBDE)       | -     | mg/kg   | 5   | ND     |
| Tribrominated diphenyl ether (TriBDE)     | -     | mg/kg   | 5   | ND     |
| Tetrabrominated diphenyl ether (TetraBDE) | -     | mg/kg   | 5   | ND     |
| Pentabrominated diphenyl ether (PentaBDE) | -     | mg/kg   | 5   | ND     |
| Hexabrominated diphenyl ether (HexaBDE)   | -     | mg/kg   | 5   | ND     |
| Heptabrominated diphenyl ether (HeptaBDE) | -     | mg/kg   | 5   | ND     |



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| Test Item(s)                            | Limit | Unit(s) | MDL | A1 |
|---|-------|---------|-----|----|
| Octabrominated diphenyl ether (OctaBDE) | -     | mg/kg   | 5   | ND |
| Nonabrominated diphenyl ether (NonaBDE) | -     | mg/kg   | 5   | ND |
| Decabrominated diphenyl ether (DecaBDE) | -     | mg/kg   | 5   | ND |
| Bis(2-ethylhexyl) phthalate (DEHP)      | 1000  | mg/kg   | 50  | ND |
| Butyl benzyl phthalate (BBP)            | 1000  | mg/kg   | 50  | ND |
| Dibutyl phthalate (DBP)                 | 1000  | mg/kg   | 50  | ND |
| Diisobutyl phthalate (DIBP)             | 1000  | mg/kg   | 50  | ND |

**Notes:**

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.
- (4) ▲According to the declaration from the client, Lead (Pb) is exempted by EU RoHS directive 2011/65/EU based on [ANNEX III 7(a)]: Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

More information about exemption can be found via the following link:

<https://rohs.sgsonline.com.cn/PDFLinks/en/RSTS-TP-037%20RoHS%20Exemption%20%28EN%29.pdf>

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.



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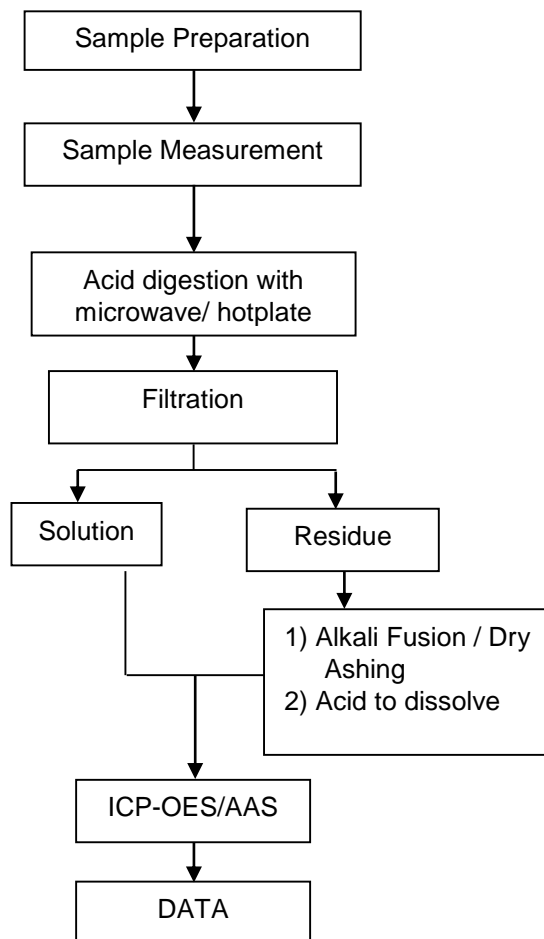
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### Elements Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.



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**Hexavalent Chromium (Cr(VI)) Testing Flow Chart**

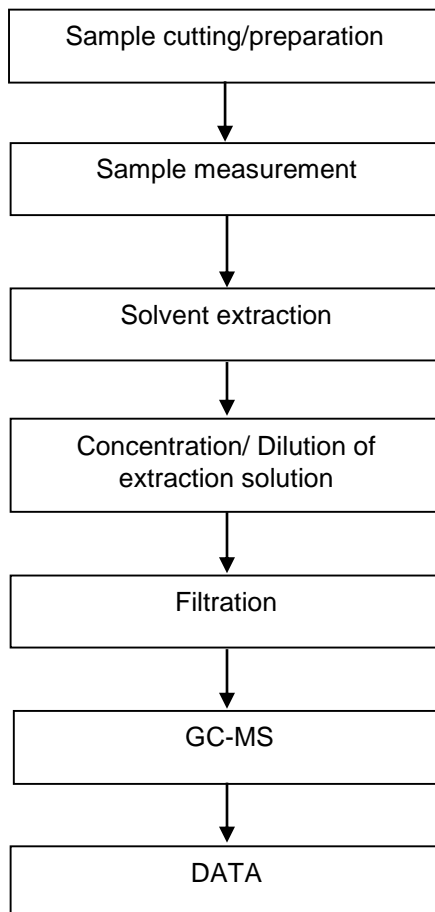


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### PBB/PBDE Testing Flow Chart



**Phthalates Testing Flow Chart**



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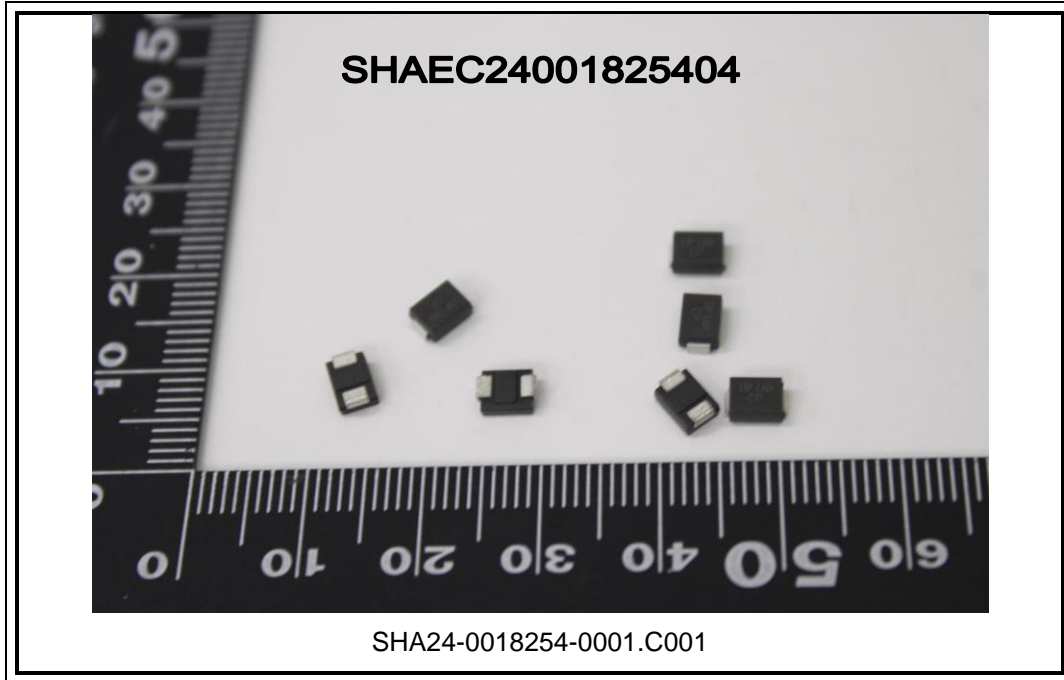
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Sample Photo:



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