

S3A-13-F S3B-13-F S3D-13-F S3G-13-F S3J-13-F S3K-13-F S3M-13-F

Part Number: **S3x Series LF Finish**  
Weight (mg): 210

Element	Material Group	Materials	CAS (if applicable)	Average mass homogeneous Material(%)	Percent of whole (%)	Mass (mg)	ppm Homogeneous Material	ppm overall
Chip	Silicon w/Metal	Si (95~98%)	7440-21-3	95.00%	4.95	10.4	950000	47048
		PbO (1~4%)	1317-36-8	4.00%			40000	1981
		Ni (1%)	7440-02-0	1.00%			10000	495
Solder Paste	RoHS Exempt High Temperature	Pb	7439-92-1	92.50%	2.00	4.2	925000	18500
		Sn	7440-31-5	5.00%			50000	1000
		Ag	7440-22-4	2.50%			25000	500
Leadframe & Clip	Copper Alloy	Cu (99.95%)	7440-50-8	99.95%	42.05	88.3	999500	420266
		Zn (0.004%)	7440-66-6	0.01%			60	25
		Fe (0.01%)	7439-89-6	0.01%			100	42
		P (0.034%)	7723-14-0	0.03%			340	143
Encapsulation	Epoxy	Silica (SiO <sub>2</sub> ) (60~80%)	14808-60-7	70.00%	50.00	105	700000	350000
		Polymer with 1-chloro-2,3-epoxypropane and formaldehyde (10~20%)	29690-82-2	15.00%			150000	75000
		Phenol-formaldehyde polymer (5~15%)	9003-35-4	10.00%			100000	50000
		Sb <sub>2</sub> O <sub>3</sub> (0~5%)	1309-64-4	2.50%			25000	12500
		TBBA-diglycidyl-ether oligomer (0~5%)	40039-93-8	2.50%			25000	12500
Lead Plating Finish	Tin Solder	Sn (>99.5%)	7440-31-5	100.00%	1.00	2.1	25000	10000
				<b>Total</b>	<b>100.00</b>	<b>210.00</b>		<b>1000000</b>

Tolerance ±10%

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\* The Silicon Chip is doped at atomic levels with trace amounts of elements that may include Phosphorus, Boron, Arsenic, and other elements. Metalization may include Titanium, Nickel, Aluminum, Silver or Gold. These substances are not reported where their concentration is less than the minimum reportable level per the guidelines specified in the Tables of EIA JIG-101, Material Composition Declaration for Electronic Products.

This product or product family does not contain any of the following substances except as **CURRENTLY** exempted by ELV II and RoHS and

Asbestos

Azo compounds

Cadmium and cadmium compounds

Certain Shortchain Chlorinated Paraffins

Chlorinated organic compounds

Hexavalent chromium compounds

Lead and lead compounds

Mercury and mercury compounds

Organic tin compounds

**REACH SVHCs:**

Anthracene

4,4'- Diaminodiphenylmethane

Dibutyl phthalate

Cyclododecane

Cobalt dichloride

Diarsenic pentaoxide

Diarsenic trioxide

Sodium dichromate, dihydrate

Ozone Depleting Substances - Class I (CFCs, HBFCs, etc.)

Ozone Depleting Substances - Class I (CFCs, HBFCs, etc.)

Ozone Depleting Substances - Class II (HCFCs)

Perfluorooctane Sulphonate (PFOS) or related compounds

Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) including **DecaBDE**

Polychlorinated Biphenyls (PCBs)

Polychlorinated Naphthalenes (> 3 chlorine atoms)

Radioactive Substances

Tributyl Tin (TBT) and Triphenyl Tin (TPT)

Tributyl Tin Oxide (TBTO)

5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)

Bis (2-ethyl(hexyl)phthalate) (DEHP)

Hexabromocyclododecane (HBCDD)

Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)

Bis(tributyltin)oxide

Lead hydrogen arsenate

Triethyl arsenate

Benzyl butyl phthalate

**Exemptions Applied:**

**RoHS Exemption 7a for Pb in High Temperature, High %Pb in Solder is applied**

**RoHS Exemption 5 for Pb in glass in electronic components**

S3A-13-F S3B-13-F S3D-13-F S3G-13-F S3J-13-F S3K-13-F S3M-13-F

Part Number: **S3x Series LF Finish & Halogen Free (DATE CODE LIMITED)**  
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		Zn (0.004%)	7440-66-6	0.01%			60	25
		Fe (0.01%)	7439-89-6	0.01%			100	42
		P (0.034%)	7723-14-0	0.03%			340	143
Encapsulation	Epoxy	Silica Fused (10%~30%)	60676-86-0	30.00%	50.00	105	300000	150000
		Silicon dioxide(40%~60%)	7631-86-9	50.00%			500000	250000
		Epoxy resin.(2%~10%)	N/A	7.10%			71000	35500
		Phenolic Resin(2%~10%)	N/A	6.88%			68800	34400
		Carbon black(0.1%~1%)	1309-64-4	1.00%			10000	5000
		Flame Retardant(<5%)	N/A	5.00%			50000	25000
		Trace Elements	N/A	0.02%			200	100
Lead Plating Finish	Tin Solder	Sn (>99.5%)	7440-31-5	100.00%	1.00	2.1	1000000	10000
<b>Total</b>					<b>100.00</b>	<b>210.00</b>		<b>1000000</b>

100.00%

Tolerance ±10%

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This product or product family does not contain any of the following substances except as **CURRENTLY** exempted by ELV II and RoHS and reported above:

- |  |  |
|--|--|
| Asbestos                                 | Organic tin compounds  |
| Antimony Compounds                       | Ozone Depleting Substances - Class I (CFCs, HBFCs, etc.)                                   |
| Azo compounds                            | Ozone Depleting Substances - Class II (HCFCs)  |
| Cadmium and cadmium compounds            | Perfluorooctane Sulphonate (PFOS) or related compounds                                     |
| Certain Shortchain Chlorinated Paraffins | Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) including DecaBDE |
| Chlorinated organic compounds            | Polychlorinated Biphenyls (PCBs)   |
| Halogens                                 | Polychlorinated Naphthalenes (> 3 chlorine atoms)  |
| Hexavalent chromium compounds            | Radioactive Substances   |
| Lead and lead compounds                  | Tributyl Tin (TBT) and Triphenyl Tin (TPT)   |
| Mercury and mercury compounds            | Tributyl Tin Oxide (TBTO)  |

**REACH SVHCs:**

- |                              |   |
|------------------------------|---|
| Anthracene                   | 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)          |
| 4,4'- Diaminodiphenylmethane | Bis (2-ethyl(hexyl)phthalate) (DEHP)                        |
| Dibutyl phthalate            | Hexabromocyclododecane (HBCDD)                              |
| Cyclododecane                | Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) |
| Cobalt dichloride            | Bis(tributyltin)oxide                                       |
| Diarsenic pentaoxide         | Lead hydrogen arsenate                                      |
| Diarsenic trioxide           | Triethyl arsenate   |
| Sodium dichromate, dihydrate | Benzyl butyl phthalate                                      |

**Exemptions Applied:**

**RoHS Exemption 7a for Pb in High Temperature, High %Pb in Solder is applied**  
**RoHS Exemption 5 for Pb in glass in electronic components**