

B1xx-p-F B2xxA-p-F B3xxA-p-F SMAZxxx

Part Number: **SMA OJ Devices**  
Weight (mg): 64

p = package designator  
DATE CODE LIMITED  
See Data Sheet

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	Doped Silicon*	7440-21-3	98.90%	2.97	1.9	989000	29361
		Ni	7440-02-0	1.10%			11000	327
Solder Paste	RoHS Exempt High Temperature	Pb	7439-92-1	92.50%	4.00	2.56	925000	37000
		Sn	7440-31-5	5.00%			50000	2000
		Ag	7440-22-4	2.50%			25000	1000
Leadframe & Clip	Copper Alloy	Cu (99.95%)	7440-50-8	99.95%	41.56	26.6	999500	415417
		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	141
Encapsulation	KL-G100S	Silica Fused (10% ~30%)	60676-86-0	30.00%	50.47	32.3	300000	151406
		Silicon dioxide(40%~60%)	7631-86-9	52.50%			525000	264961
		Epoxy resin.(2% ~10%)	N/A	6.00%			60000	30281
		Phenolic Resin(2% ~10%)	N/A	6.00%			60000	30281
		Carbon black(0.1%-1%)	1333-86-4	0.50%			5000	2523
		Flame Retardant(<5%)	N/A	5.00%			50000	25234
Lead Plating Finish	Matte Tin	Tin	7440-31-5	100.00%	1.00	0.64	1000000	10000
				Total	100.00	64.00		1000000

Tolerance ±10%

This data is based on information provided by our suppliers. We believe it to be correct but do not routinely validate it by measurement. It is for guidance only and Diodes Inc. does not guarantee its absolute accuracy or completeness. See the applicable Data Sheet for any Date Code limits.

\* 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 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

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

**B1xxB-p-F B2xx-p-F B3xxB-p-F**

Part Number: **SMB OJ Devices**  
Weight (mg): 93

p = package designator  
DATE CODE LIMITED  
See Data Sheet

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	Doped Silicon*	7440-21-3	98.90%	4.95	4.6	989000	48918
		Ni	7440-02-0	1.10%			11000	544
Solder Paste	RoHS Exempt High Temperature	Pb	7439-92-1	92.50%	2.51	2.33	925000	23175
		Sn	7440-31-5	5.00%			50000	1253
		Ag	7440-22-4	2.50%			25000	626
		Cu (99.95%)	7440-50-8	99.95%			999500	435051
Leadframe & Clip	Copper Alloy	Zn (0.004%)	7440-66-6	0.01%	43.53	40.48	60	26
		Fe (0.01%)	7439-89-6	0.01%			100	44
		P (0.034%)	7723-14-0	0.03%			340	148
		Silica Fused (10% ~30%)	60676-86-0	30.00%			300000	144065
Encapsulation	KL-G100S	Silicon dioxide(40%~60%)	7631-86-9	52.50%	48.02	44.66	525000	252113
		Epoxy resin.(2% ~10%)	N/A	6.00%			60000	28813
		Phenolic Resin(2% ~10%)	N/A	6.00%			60000	28813
		Carbon black(0.1%-1%)	1333-86-4	0.50%			5000	2401
		Flame Retardant(<5%)	N/A	5.00%			50000	24011
Lead Plating Finish	Matte Tin	Tin	7440-31-5	100.00%	1.00	0.93	1000000	10000
				<b>Total</b>	<b>100.00</b>	<b>93.00</b>		<b>1000000</b>

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                                      |

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

**B3xx-p-F B5xxC-p-F**

Part Number: **SMC OJ Devices**  
Weight (mg): 210

p = package designator  
DATE CODE LIMITED  
See Data Sheet

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	Doped Silicon*	7440-21-3	98.90%	4.95	10.4	989000	48979
		Ni	7440-02-0	1.10%			11000	545
Solder Paste	RoHS Exempt High Temperature	Pb	7439-92-1	92.50%	2.00	4.2	925000	18500
		Ag	7440-22-4	2.50%			50000	1000
		Sn	7440-31-5	5.00%			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	KL-G100S	Silica Fused (10% ~30%)	60676-86-0	30.00%	50.00	105	300000	150000
		Silicon dioxide(40%~60%)	7631-86-9	52.50%			525000	262500
		Epoxy resin.(2% ~10%)	N/A	6.00%			60000	30000
		Phenolic Resin(2% ~10%)	N/A	6.00%			60000	30000
		Carbon black(0.1%-1%)	1333-86-4	0.50%			5000	2500
		Flame Retardant(<5%)	N/A	5.00%			50000	25000
Lead Plating Finish	Matte Tin	Tin	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>

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