

Package: **SMA** ES1x-p-F ES2xA-p-F RS1xx-p-F RS2xA-p-F S1x-p-F S2xA-p-F SMAJxx(C)A-p-F SMATxx-p-F US1x-p-F  
Weight (mg): 64

Element	Material Group	Materials	CAS (if applicable)	Average mass homogeneous Material(%)	Percent of whole (%)	Mass (mg)	ppm Homogeneous Material	ppm overall
Die, Analog	Doped silicon	Doped silicon *	7440-21-3	95.00%	2.97	1.90	950000	28203
		PbO	1317-36-8	4.00%			40000	1188
		Ni	7440-02-0	1.00%			10000	297
Leadframe & Clip	Copper	Cu	7440-50-8	99.95%	41.56	26.60	999500	415417
		Zn	7440-66-6	0.006%			60	25
		Fe	7439-89-6	0.010%			100	42
		P	7723-14-0	0.034%			340	141
Molding compound	KL-G100S	Silica Fused	7631-86-9	69.50%	50.47	32.30	695000	350758
		Silicon dioxide	14808-60-7	23.00%			230000	116078
		Phenolic Resin	9003-35-4	7.00%			70000	35328
		Carbon black	1333-86-4	0.50%			5000	2523
Die Attach Solder Paste	PbSnAg	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
Tin solder	Pure Tin	Sn	7440-31-5	100.00%	1.00	0.64	1000000	10000
					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

\* 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:

Antimony compounds	Organic tin compounds
Asbestos	Ozone Depleting Substances - Class I (CFCs, HBFCs, etc.)
Azo compounds	Ozone Depleting Substances - Class II (HCFCs)
compounds	Perfluorooctane Sulphonate (PFOS) or related compounds
Chlorinated Paraffins	Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) including <b>DecaBDE</b>
compounds	Polychlorinated Biphenyls (PCBs)
Halogens	Polychlorinated Naphthalenes (> 3 chlorine atoms)
compounds	Radioactive Substances
compounds	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
compounds	Tributyl Tin Oxide (TBTO)

This product or product family does not contain any chemicals designated by the European Chemicals Agency (ECHA) as Substances of Very High Concern (SVHCs) under REACH. Please check the document at [http://www.diodes.com/files/products\\_lead\\_free/RoHS\\_Product\\_List.pdf](http://www.diodes.com/files/products_lead_free/RoHS_Product_List.pdf) for the current compliance status.

Package: **SMB** ES2x-p-F MURS1xx-p-F RS1xB-p-F RS2x-p-F RS3xB-p-F S1xB-p-F S2x-p-F S3xB-p-F SMBJxx(C)A-p-F  
 Weight (mg): 93 SMBTxx-p-F TB SMB Thyristor

Element	Material Group	Materials	CAS (if applicable)	Average mass homogeneous Material(%)	Percent of whole (%)	Mass (mg)	ppm Homogeneous Material	ppm overall
Die, Analog	Doped silicon	Doped silicon *	7440-21-3	95.00%	4.95	4.60	950000	46989
		PbO	1317-36-8	4.00%			40000	1978
		Ni	7440-02-0	1.00%			10000	495
Leadframe & Clip	Copper	Cu	7440-50-8	99.95%	43.53	40.48	999500	435051
		Zn	7440-66-6	0.006%			60	26
		Fe	7439-89-6	0.010%			100	44
		P	7723-14-0	0.034%			340	148
Molding compound	KL-G100S	Silica Fused	7631-86-9	69.50%	48.02	44.66	695000	333749
		Silicon dioxide	14808-60-7	23.00%			230000	110449
		Phenolic Resin	9003-35-4	7.00%			70000	33615
		Carbon black	1333-86-4	0.50%			5000	2401
Die Attach Solder Paste	PbSnAg	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
Tin solder	Pure Tin	Sn	7440-31-5	100.00%	1.00	0.93	1000000	10000
					100.00	93.00		1000000

Tolerance ±10%

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Antimony compounds	Organic tin compounds
Asbestos	Ozone Depleting Substances - Class I (CFCs, HBFCs, etc.)
Azo compounds	Ozone Depleting Substances - Class II (HCFCs)
compounds	Perfluorooctane Sulphonate (PFOS) or related compounds
Chlorinated Paraffins	Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) including <b>DecaBDE</b>
compounds	Polychlorinated Biphenyls (PCBs)
Halogens	Polychlorinated Naphthalenes (> 3 chlorine atoms)
compounds	Radioactive Substances
compounds	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
compounds	Tributyl Tin Oxide (TBTO)

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Package: **SMC** 3.0SMCJxxA-p ES3x-p-F MURS320-p-F RS3x-p-F S3x-p-F S5xC-p-F S8xC-p-F SMCJxx(C)A-p-F  
Weight (mg): 210

Element	Material Group	Materials	CAS (if applicable)	Average mass homogeneous Material(%)	Percent of whole (%)	Mass (mg)	ppm Homogeneous Material	ppm overall
Die, Analog	Doped silicon	Doped silicon *	7440-21-3	95.00%	4.95	10.40	950000	47048
		PbO	1317-36-8	4.00%			40000	1981
		Ni	7440-02-0	1.00%			10000	495
Leadframe & Clip	Copper	Cu	7440-50-8	99.95%	42.05	88.30	999500	420266
		Zn	7440-66-6	0.006%			60	25
		Fe	7439-89-6	0.010%			100	42
		P	7723-14-0	0.034%			340	143
Molding compound	KL-G100S	Silica Fused	7631-86-9	69.50%	50.00	105.00	695000	347500
		Silicon dioxide	14808-60-7	23.00%			230000	115000
		Phenolic Resin	9003-35-4	7.00%			70000	35000
		Carbon black	1333-86-4	0.50%			5000	2500
Die Attach Solder Paste	PbSnAg	Pb	7439-92-1	92.50%	2.00	4.20	925000	18500
		Sn	7440-31-5	5.00%			50000	1000
		Ag	7440-22-4	2.50%			25000	500
Tin solder	Pure Tin	Sn	7440-31-5	100.00%	1.00	2.10	1000000	10000
					100.00	210.00		1000000

Tolerance ±10%

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compounds	Radioactive Substances
compounds	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
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