

**LTM9013-BGA, 196LD 15mm X 15mm X 2.82mm (TABLE OF MATERIAL DECLARATION)**

*The LTM9013 is RoHS compliant per EU RoHS Directive 2003/95/EC.*

**It contains less than 100ppm cadmium (Cd) and less than 1,000ppm of each - lead (Pb), mercury (Hg), hexavalent chromium (Cr+), polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE)**

No.	Part Name	Material Name	Component Weight (gram)	Materials Analysis (element)	CAS Number	Material Mass (gram)	Materials Analysis (weight %)
1	Substrate	Circuit Board	0.2513	Barium Compounds	7727-43-7	0.004926	1.96
				Bismaleimide/Triazine Resin/Filler Substances (Silica Crystalline)	105391-33-1,1156-51-0/9003-36-5/21645-51 2, non-disclosure	0.044783	17.82
				Copper Metal	7440-50-8	0.151716	60.37
				Copper Compounds	147-14-8	0.000043	0.02
				Ecotoxic substances	7440-38-2, 7439-92-1	0.000019	0.01
				Phosphorus	7723-14-0	0.000276	0.11
				Palladium	7440-05-3	0.000045	0.02
				Gold metal or alloy	7440-57-5	0.000146	0.06
				Nickel	7440-02-0	0.003116	1.24
				Zinc	7440-66-6	0.000183	0.07
				Continuous Filament Fiber Glass	65997-17-3	0.035209	14.01
				Acrylic Resin	non-disclosure	0.009374	3.73
				Chromium(III) Oxide	1308-38-9	0.000005	0.00
				Silica amorphous	7631-86-9	0.000060	0.02
				Talc;not containing fibers like asbestos	14807-96-6	0.000578	0.23
				Aromatic Carbonyl compounds	non-disclosure	0.000528	0.21
				Cyanoguanidine	461-58-5	0.000015	0.01
				Amine compounds	non-disclosure	0.000070	0.03
				Leveling agent and others	non-disclosure	0.000214	0.09
2	Solder Paste	Alloy	0.0140	Sn	7440-31-5	0.01326	95.00
				Sb	7440-36-0	0.00070	5.00
3	Epoxy		0.0023	Di-ester resin	non-disclosure	0.00023	10.00
				Functionalized ester	non-disclosure	0.00023	10.00
				Silver	7440-22-4	0.00184	80.00
4	Passive/Active Components		0.0450	Ni Oxide	1313-99-1	0.00061	1.36
				Cu Oxide	1317-38-0	0.00021	0.46
				Zn Oxide	1314-13-2	0.00093	2.07
				Fe Oxide	1309-37-1	0.00339	7.53
				Iron Powder (Fe)	7439-89-6	0.00010	0.22
				Copper (Cu)	7440-50-8	0.01357	30.15
				Nickel (Ni)	7440-02-0	0.00307	6.83
				Tin (Sn)	7440-31-5	0.00101	2.25
				Ceramic (Ba) Compounds	12047-27-7	0.02211	49.14
5	Active Ics	Silicon	0.0084	Silicon	7440-21-3	0.00844	100.00
6	Wire	Gold	0.0015	Au	7440-57-5	0.00147	99.99
7	Solder Ball	SAC305	0.1617	Sn	7440-31-5	0.15601	96.50
				Ag	7440-22-4	0.00485	3.00
				Cu	7440-50-8	0.00081	0.50
8	Encapsulation	Epoxy Resin	0.8658	Fused Silica	60676-86-0	0.66842	77.20
				Epoxy Resin	non-disclosure	0.07706	8.90
				Phenol Resin	non-disclosure	0.07706	8.90
				Crystalline Silica	14808-60-7	0.02598	3.00
				Carbon Black	1333-86-4	0.00433	0.50
				Metal Hydroxide	non-disclosure	0.01299	1.50
Total Package Weight			1.3500				

Note: Composition derived from MSDS and material C of C from Vendors

Component Weight based on assembly of generic parts