LINEAR SEMICONDUCTOR

LTM4620A 144LD-BGA, High Pb, 15mm X 15mm X 5.01mm (TABLE OF MATERIAL DECLARATION)

The LTM4620A is RoHS compliant per EU RoHS Directive 2003/95/EC.

It contains less than 100ppm cadmium (Cd), High- 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	0.2960	Barium Compounds	7727-43-7	0.00497	1.68
				Bismaleimide/Triazine Resin/ Crystalline)	105391-33-1, 1156-51-0/9003-36-5/21645-51-2	0.08344	28.19
				Copper Metal	7440-50-8	0.12420	41.96
				Copper Compounds	147-14-8	0.00004	0.02
				Silver	74400-22-4	0.00007	0.02
				Ecotoxic substances	7440-38-2, 7440-28-0	0.00003	0.01
				Gold metal or alloy	7440-57-5	0.00086	0.29
				Nickel	7440-02-0	0.00548	1.85
				Zinc	7440-66-6	0.00028	0.10
				Continuous Filament Fiber Glass	65997-17-3	0.06556	22.15
				Acrylic Resin	non-disclosure	0.00947	3.20
				Epoxy Resin	non-disclosure	0.00011	0.04
				Chromium (III) Oxide	1308-38-9	0.00001	0.00
				Silica amorphous	7631-86-9	0.00006	0.02
				Talc;without asbestos fibers	14807-96-6	0.00056	0.19
				Aromatic Carbonyl compounds	non-disclosure	0.00053	0.18
				Cyanoguanidine	461-58-5	0.00001	0.01
				Amine compounds	non-disclosure	0.00007	0.02
				Curing Leveling agent and others	non-disclosure	0.00022	0.07
2	Solder Paste I	Alloy	0.0637	Sn	7440-31-5	0.00637	10.00
				Pb	7439-92-1	0.05736	90.00
3	Solder Paste II	Alloy	0.1025	Sn	7440-31-5	0.09734	95.00
				Sb	7440-36-0	0.00512	5.00
4	Passive/Active Components		0.9442	Iron Powder (Fe)	7439-89-6	0.73754	78.11
				Copper (Cu)	7440-50-8	0.18199	19.27
				Nickel (Ni)	7440-02-0	0.00305	0.32
				Tin (Sn)	7440-31-5	0.00628	0.67
				Ceramic (Ba) Compounds	12047-27-7	0.01534	1.62
5	Active Ics	Silicon	0.0218	Silicon	7440-21-3	0.02179	100.00
6	Wire	Gold	0.0013	Au	7440-57-5	0.00130	99.99
7	Cu frame	Cu	0.3875	Cu	7440-50-8	0.38750	100.00
8	Epoxy		0.0027	silver	7440-22-4	0.00091	34.06
				Bisphenol A diglycidyl ether polymer	25085-99-88	0.00029	10.97
				Phenol polymer with formaldehyde, glycidyl ether	28064-14-4	0.00055	20.69
				Phenol-formaldehyde polymer	9003-35-4	0.00005	1.72
				Epichlorohyrin-4, 4-isopropylldene diphenol resin	25068-38-6	0.00026	9.72
				Amine adduct	non-disclosure	0.00026	9.72
				2,3-Epoxypropyl neodecanoate	26761-45-5	0.00026	9.72
				Treated fumed silica	67762-90-7	0.00009	3.39
9	Solder Ball		0.2419	Sn	7440-31-5	0.23345	96.50
				Ag	7440-22-4	0.00726	3.00
				Cu	7440-50-8	0.00121	0.50
10	Encapsulation	Epoxy Resin	1.2872	Fused Silica	60676-86-0	0.99369	77.20
				Epoxy Resin	non-disclosure	0.11456	8.90
				Phenol Resin	non-disclosure	0.11456	8.90
				Crytalline Silica	14808-60-7	0.03862	3.00
				Carbon Black	1333-86-4	0.00644	0.50
				Metal Hydroxide	non-disclosure	0.01931	1.50
	Total Package Weight		**3.3488**				

Note: Composition derived from MSDS and material C of C from Vendors
Component Weight based on assembly of generic parts