

## LTM4644 77LD-BGA, 5mm X 9mm X 5.01mm (TABLE OF MATERIAL DECLARATION)

*The LTM4644 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	0.1768	Barium Compounds	7727-43-7	0.00313	1.77
				Bismaleimide/Triazine/Resin/Filler Substance(Silica Crystalline)	105391-33-1 1156-51-0/9003-36-5/21645-51-2 non-disclosure	0.04935	27.92
				Copper Metal	7440-50-8	0.07562	42.78
				Copper Compounds	147-14-8	0.00003	0.02
				Silver	7440-22-4	0.00004	0.03
				Ecotoxic substances	7440-38-2 7439-92-1	0.00001	0.01
				Phosphorus	7723-14-0	0.00021	0.12
				Palladium	7440-05-3	0.00003	0.02
				Gold metal or alloy	7440-57-5	0.00011	0.06
				Nickel	7440-02-0	0.00232	1.31
				Zinc	7440-66-6	0.00012	0.07
				Continuous Filament Fiber Glass	65997-17-3	0.03878	21.94
				Acrylic Resin	non-disclosure	0.00597	3.38
				Epoxy Resin	non-disclosure	0.00007	0.04
				Chromium(III) Oxide	1308-38-9	0.00000	0.00
				Silica amorphous	7631-86-9	0.00004	0.02
				Talc;not containing fibers like asbestos	14807-96-9	0.00037	0.21
				Aromatic Carbonyl compounds	non-disclosure	0.00034	0.19
				Cyanoguanidine	461-58-5	0.00001	0.01
				Amine compounds	non-disclosure	0.00004	0.03
				Leveling agent and others	non-disclosure	0.00014	0.08
				Curing Reagent	non-disclosure	0.00001	0.01
2	Solder Paste	Alloy	0.1935	Sn	7440-31-5	0.18379	95.00
				Sb	7440-36-0	0.00967	5.00
3	Passive/Active Components		0.5580	Iron Powder (Fe)	7439-89-6	0.42499	76.16
				Copper (Cu)	7440-50-8	0.10932	19.59
				Nickel (Ni)	7440-02-0	0.00287	0.51
				Tin (Sn)	7440-31-5	0.00395	0.71
				Ceramic (Ba) Compounds	12047-27-7	0.01687	3.02
4	Active Ics	Silicon	0.0067	Silicon	7440-21-3	0.00672	100.00
5	Wire	Gold	0.0041	Au	7440-57-5	0.00413	99.99
6	Solder Ball	SAC305	0.1317	Sn	7440-31-5	0.12711	96.50
				Ag	7440-22-4	0.00395	3.00
				Cu	7440-50-8	0.00066	0.50
7	Encapsulation	Epoxy Resin	0.8104	Fused Silica	60676-86-0	0.62564	77.20
				Epoxy Resin	non-disclosure	0.07213	8.90
				Phenol Resin	non-disclosure	0.07213	8.90
				Crytalline Silica	14808-60-7	0.02431	3.00
				Carbon Black	1333-86-4	0.00405	0.50
				Metal Hydroxide	non-disclosure	0.01216	1.50
Total Package Weight			1.8812				

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