

LTM9012- BGA-PBF 221LD 15mm X 11.25mm X 2.82mm (TABLE OF MATERIAL DECLARATION)

The LTM9012 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	0.2529	Barium Compounds	7727-43-7	0.00688	2.72
				Bismaleimide/Triazine/Resin/Filler Substance(Silica Crystalline)	105391-33-1,1156-51-0/9003-36-5/21645-512	0.04631	18.31
				Copper Metal	7440-50-8	0.16729	66.14
				Copper Compounds	1328-53-6	0.00006	0.02
				Ecotoxic substances	7440-38-2, 7440-28-0	0.00004	0.02
				Gold metal or alloy	7440-57-5	0.00078	0.31
				Nickel	7440-02-0	0.00506	2.00
				Zinc	7440-66-6	0.00040	0.16
				Continuous Filament Fiber Glass	65997-17-3	0.02514	9.94
				Chromium(III) Oxide	1308-38-9	0.00001	0.01
				Silica amorphous	7631-86-9	0.00014	0.06
				Talc;not containing fibers like asbestos	14807-96-9	0.00078	0.31
				Cyanoguanidine	461-58-5	0.00002	0.01
				Calcium caobonate	471-34-1	0.00001	0.00
2	Solder Paste	Alloy	0.0177	Sn	7440-31-5	0.01686	95.00
				Sb	7440-36-0	0.00089	5.00
3	Epoxy I		0.0010	Di-ester resin	non-disclosure	0.00010	10.00
				Functionalized ester	non-disclosure	0.00010	10.00
				Silver	7440-22-4	0.00078	80.00
4	Passive/Active Components		0.0436	Copper (Cu)	7440-50-8	0.01395	32.00
				Nickel (Ni)	7440-02-0	0.00349	8.00
				Tin (Sn)	7440-31-5	0.00105	2.40
				Ceramic (Ba) Compounds	12047-27-7	0.02511	57.60
5	LTC-QFN FC						
		Active IC	0.0039	Silicon (Si)	7440-21-3	0.003904	100.00
		Lead Frame	0.0209	Copper (Cu)	7440-50-8	0.02036	97.49
				Iron (Fe)	7439-89-6	0.0005	2.39
				Phosphorus (P)	7723-14-0	0.000008	0.04
				Zinc (Zn)	7440-66-6	0.000016	0.08
		Plating	0.0001	Exter. Plating Pb	7439-92-1	0.000116	100.00
			0.0007	Exter. Plating Sn	7440-31-5	0.000664	100.00
			0.0004	Inter. Plating Ag	7440-22-4	0.000412	100.00
		Die Attach	0.0037	Silver (Ag)	7440-22-4	0.000076	2.04
				Tin (Sn)	7440-31-5	0.003648	97.96
		Encapsulation	0.0295	Resin (EP)	non-disclosure	0.003832	13.00
				Silica (SiO2)	60676-86-0	0.025352	86.00
				Carbon Black (C)	1333-86-4	0.000296	1.00
6	Active Ics	Silicon	0.0177	Silicon	7440-21-3	0.01775	100.00
7	Wire	Gold	0.0007	Au	7440-57-5	0.00066	99.99
8	Solder Ball	SAC305	0.1069	Sn	7440-31-5	0.10320	96.50
				Ag	7440-22-4	0.00321	3.00
				Cu	7440-50-8	0.00053	0.50

9	Encapsulation	Epoxy Resin	0.6485	Fused Silica	60676-86-0	0.50066	77.20
				Epoxy Resin	non-disclosure	0.05772	8.90
				Phenol Resin	non-disclosure	0.05772	8.90
				Crytalline Silica	14808-60-7	0.01946	3.00
				Carbon Black	1333-86-4	0.00324	0.50
				Metal Hydroxide	non-disclosure	0.00973	1.50
Total Package Weight			1.1483				

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