



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com		Package: 64 ucfBGA Total Device Weight 22.93 Milligrams		Package Code: UMG64 Products: LIF-MD6000 (Crosslink)		Assembly: ASET Size (mm): 3.5 x 3.5 Lead pitch (mm): 0.4 MSL: 3 Reflow max (°C): 260		
April-20	% of Total Pkg. Wt.	Weight (mg)	% of Total Pkg. Wt.	Weight (mg)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	22.79%	5.225	22.79%	5.2251	Silicon chip	7440-21-3	100.00%	Die size: 2.51 x 2.56mm
Substrate	6.41%	1.470	1.99% 4.36% 0.06%	0.4557 0.9995 0.0147	BT Resin Glass Fiber Bisphenol A*	- 65997-17-3 80-05-7	31.00% 68.00% 1.00%	CCL-HL 832NS
Foil	9.43%	2.163	9.425% 0.010%	2.1612 0.0023	Copper (Cu) OSP	7440-50-8 -	99.89% 0.11%	
Solder Mask	0.80%	0.183	0.087% 0.002% 0.025% 0.043% 0.079% 0.006% 0.114% 0.013% 0.006% 0.005% 0.421%	0.0199 0.0003 0.0057 0.0098 0.0180 0.0014 0.0260 0.0029 0.0015 0.0011 0.0966	Diethylene glycol monoethyl ether acetate Phthalocyanine blue Talc (containing no asbestos fibers) Dipropylene glycol monomethyl ether Solvent naphtha(petroleum), Heavy arom. Silica, amorphous Barium sulfate Dipropylene glycol monomethyl ether acetate Naphthalene (Carc . Cat. 3 ; R40) Deionized water Other (Trade secret)	112-15-2 147-14-8 14807-96-6 34590-94-8 64742-94-5 7631-86-9 7727-43-7 88917-22-0 91-20-3 7732-18-5 -	10.85% 0.19% 3.13% 5.36% 9.83% 0.78% 14.19% 1.59% 0.81% 0.59% 52.67%	Solder mask PFR800 Aus410
Repassivation polyimide	0.10%	0.023	0.06% 0.01% 0.00% 0.04%	0.0126 0.0011 0.0001 0.0091	N-Methyl-2-pyrrolidone Proprietary Monomer Methanol Non regulated ingredients	872-50-4 - 67-56-1 -	55.00% 5.00% 0.50% 39.50%	HD4000E
UBM	0.07%	0.016	0.01% 0.06%	0.0033 0.0128	Titanium (Ti) Copper (Cu)	7440-32-6 7440-50-8	20.25% 79.75%	
Bump	5.94%	1.362	4.79% 0.09% 0.84% 0.22%	1.0994 0.0202 0.1920 0.0505	Tin (Sn) Silver (Ag) Nickel (Ni) Copper (Cu)	7440-31-5 7440-22-4 7440-02-0 7440-50-8	80.72% 1.48% 14.1% 3.71%	
Mold Compound	37.53%	8.606	2.06% 1.88% 0.94% 0.19% 26.65% 5.82%	0.4733 0.4303 0.2151 0.0430 6.1100 1.3339	Epoxy Resin Phenol Resin Metal Hydroxide Carbon Black Silica (Amorphous) A Silica (Amorphous) B	- - - 1333-86-4 60676-86-0 7631-86-9	5.50% 5.00% 2.50% 0.50% 71.00% 15.50%	EME-G311SA Type C
Solder Balls	16.93%	3.882	16.63% 0.20% 0.08% 0.01%	3.8141 0.0466 0.0194 0.0019	Tin (Sn) Silver (Ag) Copper (Cu) Nickel (Ni)	7440-31-5 7440-22-4 7440-50-8 7440-02-0	98.25% 1.20% 0.50% 0.05%	Sn98.25/Ag1.2/Cu0.5/Ni0.05

Notes: SVHC: * 0.06% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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