



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custrea@latticesemi.com		Package: 80 ctfBGA Total Device Weight 67.12 Milligrams (Mg)		Package Code: JMG80 Products: LIF-MD6000 (Crosslink)		Assembly: ASEK Size (mm): 6.5 x 6.5 Lead pitch (mm): 0.65 MSL: 3 Reflow max (°C): 260		
November, 2020								
	% of Total Pkg. Wt.	Weight (Mg)	% of Total Pkg. Wt.	Weight (Mg)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	7.78%	5.225	7.7844%	5.2250	Silicon chip	7440-21-3	100.00%	Die size: 2.51 x 2.56 mm
Substrate	7.55%	5.070	2.417% 5.136%	1.6223 3.4474	BT Resins Glass fiber	- 65997-17-3	32.00% 68.00%	MGC CCL-HL832NS
Foil	13.27%	8.906	7.551% 0.002%	5.0682 0.0015	Copper OSP	7440-50-8 -	99.97% 0.03%	
Solder mask	1.62%	1.086	0.176% 0.003% 0.051% 0.087% 0.159% 0.013% 0.230% 0.026% 0.013% 0.010% 0.852%	0.1178 0.0021 0.0340 0.0583 0.1067 0.0085 0.1542 0.0173 0.0088 0.0064 0.5720	Diethylene glycol monoethyl ether acetate Phthalocyanine blue Talc containing no asbestiform fibers) Dipropylene glycol monomethyl ether Solvent naphtha(petroleum), Heavy arom. Silica, amorphous Barium sulfate Dipropylene glycol monomethyl ether acetate Naphthalene 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	0.036%	0.024	0.020% 0.002% 0.000% 0.014%	0.0132 0.0012 0.0001 0.0095	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	0.024%	0.016	0.005% 0.019%	0.0032 0.0128	Titanium (Ti) Copper (Cu)	7440-32-6 7440-50-8	20.25% 79.75%	
Bump	2.031%	1.363	1.639% 0.030% 0.286% 0.075%	1.1002 0.0202 0.1922 0.0506	Tin (Sn) Silver (Ag) Nickel (Ni) Copper (Cu)	7440-31-5 7440-22-4 7440-02-0 7440-50-8	80.72% 1.48% 14.10% 3.71%	Sn98.2/Ag1.8
Mold Compound	60.46%	40.580	6.263% 3.268% 1.632% 2.996% 38.127% 8.170%	4.2041 2.1935 1.0957 2.0107 25.5910 5.4838	Epoxy Resins Phenol Resins Metal Hydroxide Carbon Black Silica (Amorphous) A Silica (Amorphous) B	- - - 1333-86-4 60676-86-0 7631-86-9	10.36% 5.41% 2.70% 4.96% 63.06% 13.51%	EME-G311SA Type C
Solder Balls	7.23%	4.851	7.101% 0.087% 0.036% 0.004%	4.7661 0.0582 0.0243 0.0024	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%	Sn0.9825Ag1.2Cu0.5Ni0.05 0.25mm diameter

The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible. Constituent substances and proportions in epoxy materials are before curing. The information provided above is representative of the package as of the date listed, and is subject to change at any time.
www.latticesemi.com

