Device Material Content

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Package: 80 ckfBGA
Total Device Weight 108.4 Milligrams

Package Code: KMG80
Products: Crosslink

Assembly: ASEK
Size (mm): 7 x 7
Lead pitch (mm): 0.65
MSL: 3
Reflow max (ºC): 260

	% of Total Pkg. Wt.	Weight (mg)	% of Total Pkg. Wt.	Weight (mg)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	4.82%	5.2250	4.820%	5.2250	Silicon chip	7440-21-3	100.00%	Die size: 2.0 x 2.0 x 0.177mm
Repassivation polyimide	0.02%	0.024	0.012%	0.0132	N-Methyl-2-pyrrolidone	872-50-4	55.00%	HD4000E
			0.001%	0.0012	Proprietary Monomer	-	5.00%	
			0.000%	0.0001	Methanol	67-56-1	0.50%	
			0.009%	0.0095	Non regulated ingredients	-	39.50%	
UBM	0.01%	0.016	0.003%	0.0032	Titanium (Ti)	7440-32-6	20.25%	
			0.012%	0.0128	Copper (Cu)	7440-50-8	79.75%	
Bump	1.26%	1.363	1.015%	1.1002	Tin (Sn)	7440-31-5	80.72%	
			0.019%	0.0202	Silver (Ag)	7440-22-4	1.48%	
			2.158%	2.3397	Nickel (Ni)	7440-02-0	14.10%	
			0.047%	0.0506	Copper (Cu)	7440-50-8	3.71%	
Mold Compound	29.85%	32.362	3.58%	3.8834	Epoxy Resins	-	12.00%	EME-G311SA Type C
			1.49%	1.6181	Phenol Resins	-	5.00%	
			2.24%	2.4272	Aluminum Hydroxide	21645-51-2	7.50%	
			0.15%	0.1618	Carbon Black	1333-86-4	0.50%	
			22.39%	24.2715	Silica(Amorphous)	7631-86-9	75.00%	
Solder Balls	12.37%	13.410	11.938%	12.9407	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.371%	0.4023	Silver (Ag)	7440-22-4	3.00%	
			0.062%	0.0671	Copper (Cu)	7440-50-8	0.50%	
Substrate	19.41%	21.040	5.28%	5.7230	Epoxy Resin	9003-36-5	27.20%	CCL-HL832NS
			5.31%	5.7560	Thermosetting Resin	-	27.36%	
			8.82%	9.5610	Continuous Filament Fiber Glass	65997-17-3	45.44%	
Solder Mask	3.89%	4.213	0.422%	0.4570	Diethylene glycol monoethyl ether acetate	112-15-2	10.85%	PFR800 AUS 410
			0.007%	0.0080	Phthalocyanine blue	147-14-8	0.19%	
			0.122%	0.1320	Talc (containing no asbestiform fibers)	14807-96-6	3.13%	
			0.208%	0.2260	Dipropylene glycol monomethyl ether	34590-94-8	5.36%	
			0.382%	0.4140	Solvent naphtha(petroleum), Heavy arom.	64742-94-5	9.83%	
			0.030%	0.0330	Silica, amorphous	7631-86-9	0.78%	
			0.552%	0.5980	Barium sulfate	7727-43-7	14.19%	
			0.062%	0.0670	Dipropylene glycol monomethyl ether acetate	88917-22-0	1.59%	
			0.031%	0.0340	Naphthalene	91-20-3	0.81%	
			0.023%	0.0250	Deionized water	7732-18-5	0.59%	
			2.047%	2.2190	Other (Trade secret)	-	52.67%	
Foil	28.36%	30.744	28.360%	30.7420	Copper	7440-50-8	99.99%	
			0.002%	0.0020	Nickel	7440-02-0	0.01%	

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.

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Br/Cl/Sb

Rev. D