



Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
custreq@lsc.com

Package Code:

UMG64

Assembly: ASEM

Size (mm): 4 x 4

Lead pitch (mm): 0.4

MSL: 3

Reflow max (°C): 260

Package: 64 ucBGA
Total Device Weight 0.030 Grams

Products:

XO2

April, 2018

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	7.09%	0.0021	7.09%	0.0021	Silicon chip	7440-21-3	100.00%	Die size: 1.7 x 1.91 mm
Mold Compound	47.43%	0.0142	3.32%	0.0010	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE (ULA)
			2.37%	0.00071	Phenol Novolac	9003-35-4	5.00%	
			2.37%	0.00071	Metal Hydroxide	-	5.00%	
			0.24%	0.00007	Carbon Black	1333-86-4	0.50%	
			39.13%	0.01174	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	1.14%	0.0003	0.92%	0.00027	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.23%	0.00007	Esters & resins	-	20.00%	
Wire	1.85%	0.0006	1.82%	0.00055	Copper	7440-50-8	98.50%	0.8 mil diameter; 1 wire per solder ball
			0.03%	0.00001	Palladium	7440-05-3	1.50%	
Solder Balls	12.99%	0.0039	12.80%	0.0038	Tin (Sn)	7440-31-5	98.50%	SAC105
			0.13%	0.00004	Silver (Ag)	7440-22-4	1.00%	
			0.06%	0.00002	Copper (Cu)	7440-50-8	0.50%	
Substrate	29.48%	0.0088	19.16%	0.0057	Laminate*	-	65.00%	BT Resin CCL-HL832NX-A
			6.06%	0.0018	Solder mask PSR4000 AUS 308	-	20.54%	
			3.16%	0.0009	Copper	7440-50-8	10.71%	
			1.05%	0.00032	Nickel plating	7440-02-0	3.57%	
			0.05%	0.00002	Gold plating	7440-57-5	0.18%	

Notes: * 0.19% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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





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Mold Compound	47.43%	0.0142	41.50%	0.0125	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G2250 series (ULA)
			3.08%	0.0009	Epoxy resin	-	6.50%	
			2.61%	0.0008	Phenol Resin	-	5.50%	
			0.24%	0.00007	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	1.14%	0.0003	0.92%	0.00027	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
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