Device Material Content

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

April, 2018

Package: 64 csBGA
Total Device Weight 0.047 **Grams**

Package Code: MN64
Products: LC4kZE

Assembly: ASEM
Size (mm): 5 x 5
Lead pitch (mm): 0.5
MSL: 3
Reflow max (^oC): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	4.53%	0.0021	4.53%	0.0021	Silicon chip	7440-21-3	100.00%	Die size: 1.77 x 1.91 mm
Mold Compound	49.16%	0.0231	3.44%	0.0016	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE (ULA)
			2.46%	0.0012	Phenol Novolac	9003-35-4	5.00%	
			2.46%	0.0012	Metal Hydroxide	-	5.00%	
			0.25%	0.0001	Carbon Black	1333-86-4	0.50%	
			40.55%	0.0191	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.73%	0.0003	0.58%	0.00027	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.15%	0.00007	Esters & resins	-	20.00%	
Wire	1.85%	0.0009	1.82%	0.0009	Copper	7440-50-8	98.50%	Pd coated Copper, 0.8 mil diameter
			0.03%	0.0000	Palladium	7440-05-3	1.50%	
Solder Balls	14.33%	0.0067	13.83%	0.0065	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.43%	0.0002	Silver (Ag)	7440-22-4	3.00%	
			0.07%	0.0000	Copper (Cu)	7440-50-8	0.50%	
Substrate	29.41%	0.0138	17.35%	0.0082	Laminate*	-	59.00%	BT Resin CCL-HL832NX-A
			4.17%	0.0020	Solder mask PSR4000 AUS 308	-	14.17%	
			6.47%	0.0030	Copper	7440-50-8	22.00%	
			1.19%	0.0006	Nickel plating	7440-02-0	4.05%	
			0.23%	0.0001	Gold plating	7440-57-5	0.78%	

Notes: * 0.17% 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

PCN#05A-17
Rev. L1

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April, 2018

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Total Device Weight 0.047 **Grams**

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Products: LC4kZE

Assembly: ASET
Size (mm): 5 x 5
Lead pitch (mm): 0.5
MSL: 3
Reflow max (ºC): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	4.53%	0.0021	4.53%	0.0021	Silicon chip	7440-21-3	100.00%	Die size: 1.77 x 1.91 mm
Mold Compound	49.16%	0.0231	43.01%	0.0202	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G2250 series (ULA)
			3.20%	0.0015	Epoxy resin	-	6.50%	
			2.70%	0.0013	Phenol Resin	-	5.50%	
			0.25%	0.0001	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.73%	0.0003	0.58%	0.00027	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.15%	0.00007	Esters & resins	-	20.00%	
Wire	1.85%	0.0009	1.82%	0.0009	Copper	7440-50-8	98.50%	Pd coated Copper, 0.8 mil diameter
			0.03%	0.0000	Palladium	7440-05-3	1.50%	
Solder Balls	14.33%	0.0067	14.12%	0.0066	Tin (Sn)	7440-31-5	98.50%	SAC105
			0.14%	0.0001	Silver (Ag)	7440-22-4	1.00%	
			0.07%	0.0000	Copper (Cu)	7440-50-8	0.50%	
Substrate	29.41%	0.0138	17.35%	0.0082	Laminate*	-	59.00%	BT Resin CCL-HL832NX-A
			4.17%	0.0020	Solder mask PSR4000 AUS 308	-	14.17%	
			6.47%	0.0030	Copper	7440-50-8	22.00%	
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