Device Material Content

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

January, 2019

Package: 324 caBGA
Total Device Weight 0.586 **Grams**

Package Code: BG324
Products: XO3

Assembly: ASEM
Size (mm): 15 x 15
Lead pitch (mm): 0.8
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	1.28%	0.0075						Die size: 3.7 x 3.7 mm
			1.28%	0.0075	Silicon chip	7440-21-3	100.00%	
Mold Compound	51.47%	0.3016						Mold Compound: Sumitomo G750SE
			3.60%	0.0211	Epoxy Resin	-	7.00%	
			2.57%	0.0151	Phenol Novolac	9003-35-4	5.00%	
			2.57%	0.0151	Metal Hydroxide	-	5.00%	
			0.26%	0.0015	Carbon Black	1333-86-4	0.50%	
			42.46%	0.2488	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.21%	0.0012						Die attach epoxy: Henkel (Ablebond) 2100A
			0.17%	0.00098	Silver	7440-22-4	80.00%	
			0.04%	0.00025	Esters & resins	-	20.00%	
Wire	0.69%	0.0040						0.8 mil diameter; 1 wire per solder ball
			0.68%	0.0040	Copper	7440-50-8	98.50%	
			0.01%	0.0001	Palladium	7440-05-3	1.50%	
Solder Balls	20.67%	0.1211						SAC305
			19.95%	0.1169	Tin (Sn)	7440-31-5	96.50%	
			0.62%	0.0036	Silver (Ag)	7440-22-4	3.00%	
			0.10%	0.0006	Copper (Cu)	7440-50-8	0.50%	
Substrate	16.69%	0.0978						BT Resin CCL-HL832NX-A
			11.35%	0.0665	Glass fiber	65997-17-3	68.00%	
			5.34%	0.0313	BT Resins	-	32.00%	
Solder Mask	5.27%	0.0309						Solder mask PSR4000 AUS 308
			2.87%	0.0168	Quartz	14808-60-7	54.37%	
			0.39%	0.0023	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.18%	0.0010	Morpholine derivative	71868-10-5	3.32%	
			0.16%	0.0009	Silicon dioxide	7631-86-9	3.00%	
			0.16%	0.0009	Silica, amorphous	112945-52-5	3.00%	
			0.01%	0.0001	Carbon black	1333-86-4	0.24%	
			1.52%	0.0089	Trade secret ingredients	-	28.74%	
Foil	3.71%	0.0218						
			2.75%	0.0161	Copper	7440-50-8	74.07%	
			0.92%	0.0054	Nickel plating	7440-02-0	24.69%	
			0.05%	0.0003	Gold plating	7440-57-5	1.24%	

Notes: * 0.11% 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

Rev. D

Device Material Content

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

January, 2019

Package: 324 caBGA
Total Device Weight 0.586 **Grams**

Package Code: BG324
Products: XO3

Assembly: ATP
Size (mm): 15 x 15
Lead pitch (mm): 0.8
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	1.28%	0.0075						Die size: 3.7 x 3.7 mm
			1.28%	0.0075	Silicon chip	7440-21-3	100.00%	
Mold Compound	51.47%	0.3016						Mold Compound: Hitachi GE-110LS-V
			3.60%	0.0211	Epoxy Resin	-	7.00%	
			2.57%	0.0151	Phenol Novolac	9003-35-4	5.00%	
			2.57%	0.0151	Metal Hydroxide	-	5.00%	
			0.26%	0.0015	Carbon Black	1333-86-4	0.50%	
			42.46%	0.2488	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.21%	0.0012						Die attach epoxy: Ablebond 2300
			0.17%	0.00098	Silver	7440-22-4	80.00%	
			0.04%	0.00025	Esters & resins	-	20.00%	
Wire	0.69%	0.0040						0.8 mil diameter; 1 wire per solder ball
			0.68%	0.0040	Copper	7440-50-8	98.50%	
			0.01%	0.0001	Palladium	7440-05-3	1.50%	
Solder Balls	20.67%	0.1211						SAC105
			20.36%	0.1193	Tin (Sn)	7440-31-5	98.50%	
			0.21%	0.0012	Silver (Ag)	7440-22-4	1.00%	
			0.10%	0.0006	Copper (Cu)	7440-50-8	0.50%	
Substrate	16.69%	0.0978						BT Resin CCL-HL832NX-A
			11.35%	0.0665	Glass fiber	65997-17-3	68.00%	
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