Device Material Content

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

March, 2021

Package: 256 caBGA
Total Device Weight 497.48 **Milligrams**

Package Code: BG256
Products: LIFCL-17

Assembly: ASEK
Size (mm): 14 x 14 x 0.7
Lead pitch (mm): 0.8
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	1.72%	8.57	1.72%	8.57	Silicon chip	7440-21-3	100.00%	Die size: 4.81 x 3.77mm
Mold Compound	54.37%	270.47	47.57% 3.53% 2.99% 0.27%	236.66 17.58 14.88 1.35	Silica Epoxy resin Phenol Resin Carbon Black	60676-86-0 - - 1333-86-4	87.50% 6.50% 5.50% 0.50%	Mold Compound: Kyocera KE-G1250AAS (ULA)
D/A Epoxy	0.62%	3.10	0.50% 0.12%	2.48 0.62	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	0.22%	1.12	0.22% 0.01% 0.00%	1.08 0.03 0.00	Copper Palladium Gold	7440-50-8 7440-05-3 7440-57-5	96.55% 3.10% 0.35%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	19.73%	98.16	19.04% 0.59% 0.10%	94.73 2.94 0.49	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	96.50% 3.00% 0.50%	SAC305
Substrate	6.53%	32.49	2.09% 4.44%	10.40 22.09	BT Resins Glass fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	11.67%	58.04	11.52% 0.15%	57.29 0.75	Copper (Cu) OSP	7440-50-8 -	98.70% 1.30%	
Solder Mask	5.13%	25.53	2.88% 0.82% 1.13% 0.15% 0.03% 0.12%	14.35 4.08 5.62 0.77 0.13 0.59	Quartz 3-methoxy-3-methylbutylacetate Barium Sulfate Talc (containing no asbestiform fibers) Naphthalene Trade secret ingredients	14808-60-7 103429-90-9 7727-43-7 14807-96-6 91-20-3 -	56.20% 16.00% 22.00% 3.00% 0.50% 2.30%	Solder mask PSR4000 AUS 308

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Rev. A

Device Material Content

5555 NE Moore Ct.
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May, 2021

Package: 256 caBGA
Total Device Weight 496.22 **Milligrams**

Package Code: BG256
Products: LIFCL-40, LFD2NX-40

Assembly: ASEK
Size (mm): 14 x 14 x 0.7
Lead pitch (mm): 0.8
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	2.38%	11.79	2.38%	11.79	Silicon chip	7440-21-3	100.00%	Die size: 4.81 x 3.77mm
Mold Compound	53.18%	263.89	46.53%	230.90	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G1250AAS (ULA)
			3.46%	17.15	Epoxy resin	-	6.50%	
			2.92%	14.51	Phenol Resin	-	5.50%	
			0.27%	1.32	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.86%	4.27	0.69%	3.41	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.17%	0.85	Esters & resins	-	20.00%	
Wire	0.47%	2.34	0.46%	2.26	Copper	7440-50-8	96.55%	0.8 mil diameter; 1 wire per solder ball
			0.01%	0.07	Palladium	7440-05-3	3.10%	
			0.00%	0.01	Gold	7440-57-5	0.35%	
Solder Balls	19.78%	98.14	19.08%	94.70	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.59%	2.94	Silver (Ag)	7440-22-4	3.00%	
			0.10%	0.49	Copper (Cu)	7440-50-8	0.50%	
Substrate	6.53%	32.40	2.09%	10.37	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A
			4.44%	22.03	Glass fiber	65997-17-3	68.00%	
Foil	11.67%	57.91	11.52%	57.16	Copper (Cu)	7440-50-8	98.70%	
			0.15%	0.75	OSP	-	1.30%	
Solder Mask	5.13%	25.47	2.88%	14.31	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.82%	4.07	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			1.13%	5.60	Barium Sulfate	7727-43-7	22.00%	
			0.15%	0.76	Talc (containing no asbestiform fibers)	14807-96-6	3.00%	
			0.03%	0.13	Naphthalene	91-20-3	0.50%	
			0.12%	0.59	Trade secret ingredients	-	2.30%	

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Rev. A1

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