Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
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December, 2020

Package: 484 caBGA
Total Device Weight 0.893 **Grams**

Package Code: BG484
Products: LCMXO3D-9400

Assembly: ASEK
Size (mm): 19 x 19
Lead pitch (mm): 0.8
MSL: 3
Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.74%	0.0155			Silicon chip	7440-21-3	100.00%	Die size: 5.23 x 6.26 x 0.279 mm
Mold Compound	55.79%	0.4985	41.84%	0.37385	Aluminum oxide	1344-28-1	75.00%	Mold Compound: Kyocera KE-G1250AHT
			8.09%	0.07228	Silica	60676-86-0	14.50%	
			2.79%	0.02492	Epoxy resin	-	5.00%	
			2.79%	0.02492	Phenol Resin	-	5.00%	
			0.28%	0.00249	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.62%	0.0055	0.50%	0.00443	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.12%	0.00111	Esters & resins	-	20.00%	
Wire	0.36%	0.0032	0.348%	0.00311	Copper (Cu)	7440-50-8	96.55%	Au coated PCC, 0.02mm dia
			0.011%	0.00010	Palladium (Pd)	7440-05-3	3.10%	
			0.001%	0.000011	Gold (Au)	7440-57-5	0.35%	
Solder Balls	15.14%	0.1353	14.61%	0.1305	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.45%	0.00406	Silver (Ag)	7440-22-4	3.00%	
			0.08%	0.00068	Copper (Cu)	7440-50-8	0.50%	
Substrate	8.43%	0.0753	2.70%	0.0241	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A 2 layer
			5.73%	0.0512	Glass fiber	65997-17-3	68.00%	
Solder mask	7.38%	0.0659	5.572%	0.04978	Resin	-	75.50%	Solder mask PSR4000 AUS 320
			0.015%	0.00013	Phthalocyanine blue	147-14-8	0.20%	
			0.015%	0.00013	Organic pigment	-	0.20%	
			0.037%	0.00033	Silica	-	0.50%	
			1.535%	0.01372	Barium sulfate	7727-43-7	20.80%	
			0.155%	0.00138	Talc	14807-96-6	2.10%	
			0.052%	0.00046	Antifoamer and Leveling agent	-	0.70%	
Foil	10.54%	0.0942	8.47%	0.0872	Copper	7440-50-8	92.64%	
			5.90%	0.0608	Nickel plating	7440-02-0	64.54%	
			1.28%	0.0132	Gold plating	7440-57-5	14.00%	

Lattice regards this materials information to be correct but makes no guarantee as to its accuracy or completeness, including, but not limited to, with respect to its compliance with applicable environmental laws and regulations. Lattice subcontracts the production, test and assembly of hardware devices to independent third-party vendors and materials suppliers ("Contractors"). All data provided hereunder is based on information received from Contractors. Lattice has not independently verified the accuracy or completeness of this information which is provided solely for your reference in connection with the use of Lattice products.

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Device Material Content

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November, 2020

Package: 484 caBGA
Total Device Weight 1.030 Grams

Package Code: BG484
Products: LCMXO3D-9400

Assembly: ATK
Size (mm): 19 x 19
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	2.07%	0.0213			Silicon chip	7440-21-3	100.00%	Die size: 5.23 x 6.26 x 0.279 mm
Mold Compound	47.25%	0.4869	1.42%	0.01461	Epoxy Resin A	-	3.00%	Mold Compound: Sumitomo EME G770SFE
			1.42%	0.01461	Epoxy Resin B	-	3.00%	
			1.42%	0.01461	Phenol Resin	-	3.00%	
			34.26%	0.35300	Silica, vitreous	60676-86-0	72.50%	
			7.09%	0.07303	Silicon dioxide	7631-86-9	15.00%	
			1.42%	0.01461	Aluminium and its compounds	-	3.00%	
			0.24%	0.00243	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.35%	0.0036	0.30%	0.00307	Silver	7440-22-4	85.00%	Die attach epoxy: Henkel QMI-529HT
			0.04%	0.00036	Isobornyl Methacrylate	7534-94-3	10.00%	
			0.02%	0.00018	Bismaleimide Resin	-	5.00%	
Wire	0.34%	0.0035	0.330%	0.00340	Copper (Cu)	7440-50-8	97.05%	Au coated PCC, 0.02mm dia
			0.010%	0.00010	Palladium (Pd)	7440-05-3	2.80%	
			0.001%	0.000005	Gold (Au)	7440-57-5	0.15%	
Solder Balls	16.60%	0.1711	16.02%	0.1651	Tin (Sn)	7440-31-5	96.50%	MKE SAC305
			0.50%	0.00513	Silver (Ag)	7440-22-4	3.00%	
			0.08%	0.00086	Copper (Cu)	7440-50-8	0.50%	
Substrate	15.67%	0.1615	4.31%	0.0444	BT Resins	-	27.50%	BT Resin CCL-HL832NX-A 2 layer
			4.31%	0.0444	Inorganic filler	21645-51-2	27.50%	
			7.05%	0.0727	Glass fiber	65997-17-3	45.00%	
Solder mask	2.07%	0.0213	1.563%	0.01610	Resin	-	75.50%	Solder mask PSR4000 AUS 320
			0.004%	0.00004	Phthalocyanine blue	147-14-8	0.20%	
			0.004%	0.00004	Organic pigment	-	0.20%	
			0.010%	0.00011	Silica	-	0.50%	
			0.431%	0.00444	Barium sulfate	7727-43-7	20.80%	
			0.043%	0.00045	Talc	14807-96-6	2.10%	
			0.014%	0.00015	Antifoamer and Leveling agent	-	0.70%	
Foil	15.65%	0.1613	8.47%	0.0872	Copper	7440-50-8	54.10%	
			5.90%	0.0608	Nickel plating	7440-02-0	37.69%	
			1.28%	0.0132	Gold plating	7440-57-5	8.17%	

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Br/Cl/Sb

Rev. B