



Device Material Content

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

Assembly: ASEK
Size (mm): 17 x 17

Package Code:

BG400

Lead pitch (mm): 0.8

Package: 400 caBGA
Total Device Weight: 0.719 Grams

Products:

LCMXO3-9400

MSL: 3
Reflow max (°C): 260

April, 2020

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.67%	0.0120	1.67%	0.0120	Silicon chip	7440-21-3	100.00%	Die size: 5.092 x 4.968 mm
Mold Compound	55.60%	0.3999	48.65%	0.3499	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G1250AHT
			3.61%	0.0260	Epoxy resin	-	6.50%	
			3.06%	0.0220	Phenol Resin	-	5.50%	
			0.28%	0.0020	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.60%	0.0043	0.48%	0.00345	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel 2100A
			0.12%	0.00086	Esters & resins	-	20.00%	
Wire	0.39%	0.0028	0.379%	0.00273	Copper (Cu)	7440-50-8	97.20%	AuPCC+, 0.02mm dia
			0.010%	0.00007	Palladium (Pd)	7440-05-3	2.50%	
			0.001%	0.00001	Gold (Au)	7440-57-5	0.30%	
Solder Balls	15.55%	0.1118	15.00%	0.1079	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.47%	0.0034	Silver (Ag)	7440-22-4	3.00%	
			0.08%	0.0006	Copper (Cu)	7440-50-8	0.50%	
Substrate	10.22%	0.0735	3.17%	0.0228	BT Resins	-	31.00%	BT Resin CCL-HL832NX-A
			6.95%	0.0500	Glass fiber	65997-17-3	68.00%	
			0.10%	0.0007	Bisphenol A*	80-05-7	1.00%	
Foil	5.24%	0.0377	4.06%	0.0292	Copper	7440-50-8	77.39%	
			1.00%	0.0072	Nickel plating	7440-02-0	19.02%	
			0.19%	0.0014	Gold plating	7440-57-5	3.59%	
Solder Mask	10.74%	0.0773	2.53%	0.0182	Solvent naphtha (petroleum)	64742-94-5	23.52%	Solder mask PSR4000 AUS 320
			0.63%	0.0045	Naphthalene	91-20-3	5.87%	
			1.58%	0.0114	Phosphin oxide derivative	-	14.70%	
			1.58%	0.0114	Talc	14807-96-6	14.70%	
			1.89%	0.0136	Dipropylene glycol monomethyl Ether	34590-94-8	17.63%	
			1.58%	0.0114	Epoxy Resin	85954-11-6	14.70%	
			0.95%	0.0069	Barium Sulfate	7727-43-7	8.88%	

Notes: SVHC: * 0.10% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.

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Assembly: ATP
Size (mm): 17 x 17

Package Code:

BG400

Lead pitch (mm): 0.8

Package: 400 caBGA
Total Device Weight: 0.739 Grams

Products:

LCMXO3-9400

MSL: 3

Reflow max (°C): 260

June, 2020

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.85%	0.0137			Silicon chip	7440-21-3	100.00%	Die size: 5.1 x 4.9 x 0.228 mm
Mold Compound	51.97%	0.3842	3.64%	0.0269	Solid Epoxy Resin	-	7.00%	Mold Compound: Hitachi GE-110LS-V
			2.60%	0.0192	Phenol Resin	-	5.00%	
			44.17%	0.3266	Silica	60676-86-0	85.00%	
			1.30%	0.0096	Metal Hydroxide	-	2.50%	
			0.26%	0.0019	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.26%	0.0019	0.22%	0.00165	Silver	7440-22-4	87.00%	Die attach epoxy: Henkel QMI-529HT
			0.02%	0.00013	Isobornyl Methacrylate	7534-94-3	7.00%	
			0.001%	0.00001	2-(3,4-Epoxy)cyclohexyl)ethyltrimethoxysilane	3388-04-3	0.50%	
			0.01%	0.00010	Additive	-	5.00%	
Wire	0.80%	0.0059	0.78%	0.0058	Copper (Cu)	7440-50-8	97.90%	MKE Cu wire(Pd coated), 0.02mm dia
			0.02%	0.0001	Palladium (Pd)	7440-05-3	2.10%	
Solder Balls	18.95%	0.1401	18.29%	0.1352	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.57%	0.0042	Silver (Ag)	7440-22-4	3.00%	
			0.09%	0.0007	Copper (Cu)	7440-50-8	0.50%	
Substrate	16.42%	0.1213	5.09%	0.0376	BT Resins	-	31.00%	BT Resin CCL-HL832NX-A*
			11.16%	0.0825	Glass fiber	65997-17-3	68.00%	
			0.16%	0.0012	Bisphenol A	80-05-7	1.00%	
Foil	5.83%	0.0431	4.51%	0.0334	Copper	7440-50-8	77.39%	
			1.11%	0.0082	Nickel plating	7440-02-0	19.02%	
			0.21%	0.0015	Gold plating	7440-57-5	3.59%	
Solder Mask	3.91%	0.0289	2.20%	0.0162	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.63%	0.0046	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.86%	0.0064	Barium Sulfate	7727-43-7	22.00%	
			0.12%	0.0009	Talc	14807-96-6	3.00%	
			0.02%	0.0001	Naphthalene	91-20-3	0.50%	
			0.09%	0.0007	Trade secret ingredients	-	2.30%	

Notes: SVHC: * 0.16% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.

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