



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com					Package Code: FTN256		Assembly: ASEM Size (mm): 17 x 17	
Package: 256 ftBGA (v.1) Total Device Weight 0.705 Grams					Products: XO, XP2		Lead pitch (mm): 1.0 MSL: 3 Reflow max (°C): 260	
June, 2022	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.00%	0.0071	1.00%	0.0071	Silicon chip	7440-21-3	100.00%	Die size: 5.1 x 4.9 x 0.228 mm
Mold Compound	55.88%	0.3940	3.91% 2.79% 2.79% 0.28% 46.10%	0.0276 0.0197 0.0197 0.0020 0.3250	Epoxy Resin Phenol Novolac Metal Hydroxide Carbon Black Silica Fused	- 9003-35-4 - 1333-86-4 60676-86-0	7.00% 5.00% 5.00% 0.50% 82.50%	Mold Compound: Sumitomo G750SE (ULA)
D/A Epoxy	0.16%	0.0011	0.13% 0.03%	0.00090 0.00023	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	0.49%	0.0035	0.48% 0.01%	0.0034 0.0001	Copper Palladium	7440-50-8 7440-05-3	98.50% 1.50%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	13.78%	0.0971	13.30% 0.41% 0.07%	0.0937 0.0029 0.0005	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	96.50% 3.00% 0.50%	SAC305
Substrate	13.11%	0.0924	4.20% 8.91%	0.0296 0.0628	BT Resins Glass Fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	7.43%	0.0524	6.01% 1.37% 0.05%	0.0424 0.0096 0.0004	Copper Nickel Gold	7440-50-8 7440-02-0 7440-57-5	80.89% 18.38% 0.73%	
Solder Mask	8.15%	0.0575	4.58% 1.30% 1.79% 0.24% 0.23%	0.0323 0.0092 0.0126 0.0017 0.0016	Quartz 3-methoxy-3-methylbutylacetate Barium Sulfate Talc (containing no asbestiform fibers) Trade secret ingredients	14808-60-7 103429-90-9 7727-43-7 14807-96-6 -	56.20% 16.00% 22.00% 3.00% 2.80%	Solder mask PSR4000 AUS 308

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	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.00%	0.0071	1.00%	0.0071	Silicon chip	7440-21-3	100.00%	Die size: 5.1 x 4.9 x 0.228 mm
Mold Compound	55.88%	0.3940	48.90% 3.63% 3.07% 0.28%	0.3447 0.0256 0.0217 0.0020	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-G2250 series
D/A Epoxy	0.16%	0.0011	0.13% 0.03%	0.00090 0.00023	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	0.49%	0.0035	0.48% 0.01%	0.0034 0.0001	Copper Palladium	7440-50-8 7440-05-3	98.50% 1.50%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	13.78%	0.0971	13.57% 0.14% 0.07%	0.0957 0.0010 0.0005	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	98.50% 1.00% 0.50%	SAC105
Substrate	13.11%	0.0924	4.20% 8.91%	0.0296 0.0628	BT Resins Glass Fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	7.43%	0.0524	6.01% 1.37% 0.05%	0.0424 0.0096 0.0004	Copper Nickel Gold	7440-50-8 7440-02-0 7440-57-5	80.89% 18.38% 0.73%	
Solder Mask	8.15%	0.0575	4.58% 1.30% 1.79% 0.24% 0.23%	0.0323 0.0092 0.0126 0.0017 0.0016	Quartz 3-methoxy-3-methylbutylacetate Barium Sulfate Talc (containing no asbestiform fibers) Trade secret ingredients	14808-60-7 103429-90-9 7727-43-7 14807-96-6 -	56.20% 16.00% 22.00% 3.00% 2.80%	Solder mask PSR4000 AUS 308

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