



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com					Package Code: FN1156		Assembly: ASEM Size (mm): 35 x 35 Lead pitch (mm): 1.0 MSL: 3 Reflow max (°C): 250	
June, 2022	Package: Total Device Weight		1156 fpBGA 5.37 Grams		Products: FE3			
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.02%	0.0548	1.02%	0.0548	Silicon chip	7440-21-3	100.00%	Die size: 9.78 x 8.81 mm
Mold Compound	34.14%	1.8333	2.39% 1.71% 1.71% 0.17% 28.17%	0.1283 0.0917 0.0917 0.0092 1.5125	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	0.13%	0.0070	0.10% 0.03%	0.00558 0.00140	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	0.16%	0.0086	0.16% 0.00%	0.0085 0.0001	Copper Palladium	7440-50-8 7440-05-3	98.45% 1.45%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	20.89%	1.1218	20.16% 0.63% 0.10%	1.0825 0.0337 0.0056	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	96.50% 3.00% 0.50%	SAC305
Substrate	23.39%	1.2560	7.48% 15.91%	0.4019 0.8541	BT Resins Glass fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	15.59%	0.8372	14.73% 0.78% 0.08%	0.7910 0.0420 0.0042	Copper Nickel plating Gold plating	7440-50-8 7440-02-0 7440-57-5	94.48% 5.01% 0.50%	
Solder Mask	4.68%	0.2513	2.63% 0.75% 1.03% 0.14% 0.13%	0.1412 0.0402 0.0553 0.0075 0.0070	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

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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Rev. K2



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	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.02%	0.0548	1.02%	0.0548	Silicon chip	7440-21-3	100.00%	Die size: 9.78 x 8.81 mm
Mold Compound	34.14%	1.8333	1.71% 1.71% 0.07% 29.97% 0.68%	0.0917 0.0917 0.0037 1.6097 0.0367	Epoxy Resin Phenol Resin Carbon Black Silica Others	- - 1333-86-4 60676-86-0 -	5.00% 5.00% 0.20% 87.80% 2.00%	Mold Compound: Hitachi CEL9750ZHF10AKL-U (ULA)
D/A Epoxy	0.13%	0.0070	0.10% 0.03%	0.00558 0.00140	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	0.16%	0.0086	0.16% 0.00%	0.0085 0.0001	Copper Palladium	7440-50-8 7440-05-3	98.45% 1.45%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	20.89%	1.1218	20.16% 0.73%	1.0825 0.0393	Tin (Sn) Silver (Ag)	7440-31-5 7440-22-4	96.50% 3.50%	Ag 3.5
Substrate	23.39%	1.2560	7.48% 15.91%	0.4019 0.8541	BT Resins Glass fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	15.59%	0.8372	14.73% 0.78% 0.08%	0.7910 0.0420 0.0042	Copper Nickel plating Gold plating	7440-50-8 7440-02-0 7440-57-5	94.48% 5.01% 0.50%	
Solder Mask	4.68%	0.2513	2.63% 0.75% 1.03% 0.14% 0.13%	0.1412 0.0402 0.0553 0.0075 0.0070	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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