



Device Material Content

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

November, 2020

Package: 256 fpBGA
Total Device Weight: 1.071 Grams

Package Code:

FN256

Products:

LFE2/2M

Assembly: ASEM

Size (mm): 17 x 17 x 1.86

Lead pitch (mm): 1.0

MSL: 3

Reflow max (°C): 250

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.46%	0.0157	1.46%	0.0157	Silicon chip	7440-21-3	100.00%	Die size: 9.78 x 8.81 mm
Mold Compound	29.72%	0.3184	2.08%	0.0223	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE (ULA)
			1.49%	0.0159	Phenol Novolac	9003-35-4	5.00%	
			1.49%	0.0159	Metal Hydroxide	-	5.00%	
			0.15%	0.0016	Carbon Black	1333-86-4	0.50%	
			24.52%	0.2626	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.19%	0.0021	0.15%	0.00165	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.04%	0.00041	Esters & resins	-	20.00%	
Wire	0.29%	0.0031	0.285%	0.00306	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.004%	0.00005	Palladium	7440-05-3	1.55%	
Solder Balls	22.65%	0.2426	21.86%	0.2341	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.68%	0.0073	Silver (Ag)	7440-22-4	3.00%	
			0.11%	0.0012	Copper (Cu)	7440-50-8	0.50%	
Substrate	24.47%	0.2621	7.83%	0.0839	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A
			16.64%	0.1782	Glass fiber	65997-17-3	68.00%	
Foil	16.97%	0.1817	15.42%	0.1651	Copper	7440-50-8	90.87%	
			1.47%	0.0157	Nickel plating	7440-02-0	8.64%	
			0.08%	0.0009	Gold plating	7440-57-5	0.48%	
Solder Mask	4.24%	0.0455	2.39%	0.0255	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.68%	0.0073	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.93%	0.0100	Barium Sulfate	7727-43-7	22.00%	
			0.13%	0.0014	Talc	14807-96-6	3.00%	
			0.02%	0.0002	Naphthalene	91-20-3	0.50%	
			0.10%	0.0010	Trade secret ingredients	-	2.30%	

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Rev. K



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FN256

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LFE2/2M

Assembly: ASEK

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Reflow max (°C): 250

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Die	1.46%	0.0157	1.46%	0.0157	Silicon chip	7440-21-3	100.00%	Die size: 9.78 x 8.81 mm
Mold Compound	29.72%	0.3184	1.49%	0.0159	Epoxy Resin	-	5.00%	Mold Compound: Hitachi CEL9750ZHF10AKL-U (ULA)
			1.49%	0.0159	Phenol Resin	-	5.00%	
			0.06%	0.0006	Carbon Black	1333-86-4	0.20%	
			26.10%	0.2795	Silica	60676-86-0	87.80%	
			0.59%	0.0064	Others	-	2.00%	
D/A Epoxy	0.19%	0.0021	0.15%	0.00165	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.04%	0.00041	Esters & resins	-	20.00%	
Wire	0.29%	0.0031	0.285%	0.00306	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.004%	0.00005	Palladium	7440-05-3	1.55%	
Solder Balls	22.65%	0.2426	21.86%	0.2341	Tin (Sn)	7440-31-5	96.50%	Ag 3.5
			0.79%	0.0085	Silver (Ag)	7440-22-4	3.50%	
Substrate	24.47%	0.2621	7.83%	0.0839	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A
			16.64%	0.1782	Glass fiber	65997-17-3	68.00%	
Foil	16.97%	0.1817	15.42%	0.1651	Copper	7440-50-8	90.87%	
			1.47%	0.0157	Nickel plating	7440-02-0	8.64%	
			0.08%	0.0009	Gold plating	7440-57-5	0.48%	
Solder Mask	4.24%	0.0455	2.39%	0.0255	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.68%	0.0073	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.93%	0.0100	Barium Sulfate	7727-43-7	22.00%	
			0.13%	0.0014	Talc	14807-96-6	3.00%	
			0.02%	0.0002	Naphthalene	91-20-3	0.50%	
			0.10%	0.0010	Trade secret ingredients	-	2.30%	

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			1.49%	0.0159	Phenol Novolac	9003-35-4	5.00%	
			1.49%	0.0159	Metal Hydroxide	-	5.00%	
			0.15%	0.0016	Carbon Black	1333-86-4	0.50%	
			24.52%	0.2626	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.19%	0.0021	0.15%	0.00165	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2300
			0.04%	0.00041	Esters & resins	-	20.00%	
Wire	0.29%	0.0031	0.285%	0.00306	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.004%	0.00005	Palladium	7440-05-3	1.55%	
Solder Balls	22.65%	0.2426	21.63%	0.2317	Tin (Sn)	7440-31-5	95.50%	SAC405
			0.91%	0.0097	Silver (Ag)	7440-22-4	4.00%	
			0.11%	0.0012	Copper (Cu)	7440-50-8	0.50%	
Substrate	24.47%	0.2621	7.83%	0.0839	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A
			16.64%	0.1782	Glass fiber	65997-17-3	68.00%	
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