



## Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 <a href="mailto:custreq@latticesemi.com">custreq@latticesemi.com</a>		<b>Package:</b> 256 csBGA <b>Total Device Weight:</b> 148.2 Milligrams		<b>Package Code:</b> MG256 <b>Products:</b> XO3L/LF		<b>Assembly:</b> ASEK Size (mm): 9 x 9 Lead pitch (mm): 0.5 MSL: 3 Reflow max (°C): 260		
October, 2024								
	% of Total Pkg. Wt.	Weight (mg)	% of Total Pkg. Wt.	Weight (mg)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	5.88%	8.711	5.88%	8.711	Silicon chip	7440-21-3	100.00%	Die size: 4.452 x 4.364
<b>Mold Compound</b>	45.24%	67.044	5.43%	8.045	Epoxy Resins	-	12.00%	Sumitomo EME-G31 ISAC
			2.26%	3.352	Phenol Resins	-	5.00%	
			33.93%	50.283	Silica(Amorphous)	7631-86-9	75.00%	
			3.39%	5.028	Aluminum Hydroxide	21645-51-2	7.50%	
			0.23%	0.335	Carbon Black	1333-86-4	0.50%	
<b>Substrate</b>	16.40%	24.300	5.25%	7.776	BT Resins	-	32.00%	CCL-HL832NS
			11.15%	16.524	Glass fiber	65997-17-3	68.00%	
<b>Foil</b>	12.02%	17.810	12.014%	17.805	Copper (Cu)	7440-50-8	99.97%	
			0.003%	0.005	OSP	-	0.03%	
<b>Solder Mask</b>	1.08%	1.594	0.25%	0.375	Solvent naphtha (petroleum)	64742-94-5	23.52%	Solder mask PSR4000 AUS 320
			0.41%	0.609	Phosphinoxide derivative	-	38.20%	
			0.16%	0.234	Talc (containing no asbestiform fibers )	14807-96-6	14.70%	
			0.16%	0.234	Epoxy Resin	85954-11-6	14.70%	
			0.10%	0.142	Barium Sulfate	7727-43-7	8.88%	
<b>Bump</b>	0.48%	0.706	0.067%	0.100	Tin (Sn)	7440-31-5	14.16%	
			0.001%	0.002	Silver (Ag)	7440-22-4	0.28%	
			0.388%	0.575	Nickel (Ni)	7440-02-0	81.44%	
			0.020%	0.029	Copper (Cu)	7440-50-8	4.11%	
<b>Polyamic Ester</b>	0.096%	0.142	0.054%	0.080	N-Methyl-2-pyrrolidone	872-50-4	56.00%	HD4100
			0.035%	0.053	Non regulated ingredients	-	37.00%	
			0.006%	0.009	Proprietary Monomer	-	6.50%	
			0.000%	0.001	Methanol	67-56-1	0.50%	
<b>RDL 1</b>	0.007%	0.010	0.007%	0.010	Titanium (Ti)	7440-32-6	100.00%	
<b>RDL 2</b>	0.55%	0.811	0.55%	0.811	Copper (Cu)	7440-50-8	100.00%	
<b>UBM</b>	0.03%	0.049	0.007%	0.010	Titanium (Ti)	7440-32-6	20.41%	
			0.026%	0.039	Copper (Cu)	7440-50-8	79.59%	
<b>Solder Balls</b>	18.23%	27.020	17.594%	26.074	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.547%	0.811	Silver (Ag)	7440-22-4	3.00%	
			0.091%	0.135	Copper (Cu)	7440-50-8	0.50%	
100.00%		148.197	100.00%		148.197			

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