



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com				Package Code: FTN256 (v.1)			Assembly: ASEM Size (mm): 17 x 17 Lead pitch (mm): 1.0 MSL: 3 Reflow max (°C): 260		
Package: 256 ftBGA		Total Device Weight 0.705 Grams		Products: LA-XP2, LAMXO					
January, 2020									
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:	
Die	1.00%	0.0071			Silicon chip	7440-21-3	100.00%	Die size: 3.35 x 3.35 mm	
Mold Compound	55.31%	0.390	2.77%	0.0195	Epoxy Resin	-	5.00%	Mold Compound: Hitachi CEL9750ZHF10AKL-U (ULA)	
			2.77%	0.0195	Phenol Resin	-	5.00%		
			0.11%	0.0008	Carbon Black	1333-86-4	0.20%		
			48.56%	0.3424	Silica	60676-86-0	87.80%		
			1.11%	0.0078	Others	-	2.00%		
D/A Epoxy	0.16%	0.0011	0.13%	0.00088	Silver (Ag)	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A	
			0.03%	0.00022	Organic esters and resins	-	20.00%		
Wire	1.07%	0.0075	1.07%	0.0075	Gold (Au)	7440-57-5	100.00%	0.8 to 1.0 mil diameter; 1 wire per package lead	
Solder Balls	13.78%	0.097	13.30%	0.0937	Tin (Sn)	7440-31-5	96.50%	SAC305	
			0.41%	0.0029	Silver (Ag)	7440-22-4	3.00%		
			0.07%	0.0005	Copper (Cu)	7440-50-8	0.50%		
Substrate	13.11%	0.0924	4.20%	0.0296	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A	
			8.91%	0.0628	Glass fiber	65997-17-3	68.00%		
Foil	9.56%	0.0674	8.14%	0.0574	Copper	7440-50-8	85.15%		
			1.87%	0.0096	Nickel plating	7440-02-0	14.28%		
			0.07%	0.0004	Gold plating	7440-57-5	0.57%		
Solder Mask	6.01%	0.0424	3.27%	0.02303	Quartz	14808-60-7	54.37%	Solder mask PSR4000 AUS 308	
			0.44%	0.00310	Dipropylene glycol monomethyl ether	34590-94-8	7.33%		
			0.20%	0.00141	Morpholine derivative**	71868-10-5	3.32%		
			0.18%	0.00127	Silicon dioxide	7631-86-9	3.00%		
			0.18%	0.00127	Silica, amorphous	112945-52-5	3.00%		
			0.01%	0.00010	Carbon black	1333-86-4	0.24%		
			1.73%	0.01217	Trade secret ingredients	-	28.74%		

Notes: SVHC: * 0.13% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.
 ** 0.20% max. concentration of Morpholine derivative (CAS# 71868-10-5), contained in solder mask material.

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