Device Material Content

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

January, 2020

Package: 256 caBGA
Total Device Weight 0.497 **Grams**

Package Code: BG256
Products: LCMXO3-9400

Assembly: ATP
Size (mm): 14 x 14
Lead pitch (mm): 0.8
MSL: 3
Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	2.75%	0.0137			Silicon chip	7440-21-3	100.00%	Die size: 5.1 x 4.9 x 0.228 mm
Mold Compound	51.66%	0.2566						Mold Compound: Hitachi GE-110LS-V
			3.62%	0.0180	Solid Epoxy Resin	-	7.00%	
			2.58%	0.0128	Phenol Resin	-	5.00%	
			43.91%	0.2181	Silica	60676-86-0	85.00%	
			1.29%	0.0064	Metal Hydroxide	-	2.50%	
			0.26%	0.0013	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.38%	0.0019						Die attach epoxy: Henkel QMI-529HT
			0.33%	0.00165	Silver	7440-22-4	87.00%	
			0.03%	0.00013	Isobornyl Methacrylate	7534-94-3	7.00%	
			0.002%	0.00001	2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	0.50%	
			0.02%	0.00010	Additive	-	5.00%	
Wire	0.60%	0.0030						MKE Cu wire(Pd coated), 0.02mm dia
			0.59%	0.0029	Copper (Cu)	7440-50-8	97.90%	
			0.01%	0.0001	Palladium (Pd)	7440-05-3	2.10%	
Solder Balls	18.05%	0.0897						SAC305
			17.42%	0.0866	Tin (Sn)	7440-31-5	96.50%	
			0.54%	0.0027	Silver (Ag)	7440-22-4	3.00%	
			0.09%	0.0004	Copper (Cu)	7440-50-8	0.50%	
Substrate	16.70%	0.0830						BT Resin CCL-HL832NX-A*
			5.34%	0.0266	BT Resins	-	32.00%	
			11.35%	0.0564	Glass fiber	65997-17-3	68.00%	
Foil	5.87%	0.0292						
			4.59%	0.0228	Copper	7440-50-8	78.16%	
			1.07%	0.0053	Nickel plating	7440-02-0	18.31%	
			0.21%	0.0010	Gold plating	7440-57-5	3.53%	
Solder Mask	3.98%	0.0198						Solder mask PSR4000 AUS 308
			2.16%	0.0108	Quartz	14808-60-7	54.37%	
			0.29%	0.0014	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.13%	0.0007	Morpholine derivative**	71868-10-5	3.32%	
			0.12%	0.0006	Silicon dioxide	7631-86-9	3.00%	
			0.12%	0.0006	Silica, amorphous	112945-52-5	3.00%	
			0.01%	0.00005	Carbon black	1333-86-4	0.24%	
			1.14%	0.0057	Trade secret ingredients	-	28.74%	

Notes: SVHC:
* 0.17% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.
** 0.13% max. concentration of Morpholine derivative (CAS# 71868-10-5), contained in solder mask material.

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.
www.latticesemi.com

PCN#06A-17
Rev. G