LATTICE SEMICONDUCTOR

Device Material Content

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

Package: **284 LBGA** **with SnAgCu Solder Balls** **iCE65L04**
Total Device Weight **0.264** **Grams**

MSL: 3
Peak Reflow Temp: 260°C

April, 2012	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	2.46%	0.0065			Silicon chip	7440-21-3	Die size: 148 X 118 MIL
Mold	46.52%	0.1230					KE-G1250LKDS
			41.86%	0.1107	Silica	60676-86-0	75 to 95% Fused silica filler (LSC uses 90% in our calculation)
			2.56%	0.0068	Epoxy Resin(1)	Trade secret	1 to 10% Epoxy resin (LSC uses 5.5% in our calculation)
			2.09%	0.0055	Phenol Resin-1	Trade secret	2 to 7% Phenol resin (LSC uses 4.5% in our calculation)
Tape	0.12%	0.0003					FH-900T-25
			0.014%	0.00004	Epoxy Resin	25038-59-9	10 to 20% (LSC uses 12% in our calculation)
			0.014%	0.00004	Phenol Resin	Trade secret	10 to 20% (LSC uses 12% in our calculation)
			0.007%	0.00002	SiO2 Filler	Trade secret	1 to 10% (LSC uses 6% in our calculation)
			0.083%	0.00022	(Meta)Acrylic Copolymer	Trade secret	65 to 75% (LSC uses 70% in our calculation)
Wire	1.16%	0.0031					0.7 MIL GPG-3 (2N)
			1.087%	0.0030	Gold (Au)	7440-57-5	99% Au
			0.073%	0.00003	Palladium (Pd)	7440-05-3	1% Pd
Solder Balls	9.67%	0.0256					SAC105
			17.62%	0.0252	Tin (Sn)	7440-31-5	Solder ball composition Sn98.5/Ag1.0/Cu0.5%
			0.55%	0.00026	Silver (Ag)	7440-22-4	
			0.09%	0.00013	Copper (Cu)	7440-50-8	
Substrate	40.08%	0.1060					GHPL-830NX(A), CCL-HL832NX(A-HS), AUS308
			30.76%	0.0326	BT Resin (1)(3) GHPL-830NX(A)	Trade secret	30.8%
			23.08%	0.0245	BT Resin (2) CCL-HL832NX(A-HS)	Trade secret	23.1%
			19.42%	0.0206	Copper (1)(4)	7440-50-8	19.4%
			9.24%	0.0098	Copper (2)(3)	7440-50-8	9.2%
			3.85%	0.0041	Copper thickness in hole	7440-50-8	3.9%
			1.92%	0.0020	Nickel plating	7440-02-0	1.9%
			0.19%	0.0002	Gold plating	7440-57-5	0.2%
			11.54%	0.0122	Solder mask PSR4000 AUS 308	Trade secret	11.5%

Notes:

The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.

Constituent substances and proportions in epoxy materials are before curing.

The information provided above is representative of the package as of the date listed, and is subject to change at any time.

www.latticesemi.com

lead-free

RoHS 2002/95/EC

Rev. A