Device Material Content

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

April, 2018

Package: **484 fpBGA**
Total Device Weight **4.284** **Grams**

Package Code: FN900
Products: LFE2/2M

Assembly: ASEM
Size (mm): 31 x 31
Lead pitch (mm): 1.0
MSL: 3
Reflow max (^{o}C): 250

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.64%	0.0704	1.64%	0.0704	Silicon chip	7440-21-3	100.00%	Die size: 9.49 x 9.80 mm
Mold Compound	40.50%	1.7350	2.84%	0.1214	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE
			2.03%	0.0867	Phenol Novolac	9003-35-4	5.00%	
			2.03%	0.0867	Metal Hydroxide	-	5.00%	
			0.20%	0.0087	Carbon Black	1333-86-4	0.50%	
			33.41%	1.4314	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.24%	0.0102	0.19%	0.00818	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.05%	0.00205	Esters & resins	-	20.00%	
Wire	0.22%	0.0094	0.22%	0.0092	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.55%	
Solder Balls	20.38%	0.8732	19.67%	0.8426	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.61%	0.0262	Silver (Ag)	7440-22-4	3.00%	
			0.10%	0.0044	Copper (Cu)	7440-50-8	0.50%	
Substrate	37.01%	1.5856	19.83%	0.8494	Laminate*	-	53.57%	BT Resin CCL-HL832NX-A
			3.96%	0.1698	Solder mask PSR4000 AUS 308	-	10.71%	
			11.83%	0.5069	Copper	7440-50-8	31.97%	
			1.32%	0.0566	Nickel plating	7440-02-0	3.57%	
			0.07%	0.0029	Gold plating	7440-57-5	0.18%	

Notes: * 0.20% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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

PCN#05A-17
Rev. G1

Device Material Content

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

April, 2018

Package: 484 fpBGA
Total Device Weight 4.284 **Grams**

Package Code: FN900
Products: LFE2/2M

Assembly: ASET
Size (mm): 31 x 31
Lead pitch (mm): 1.0
MSL: 3
Reflow max (ºC): 250

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.64%	0.0704						Die size: 9.49 x 9.80 mm
			1.64%	0.0704	Silicon chip	7440-21-3	100.00%	
Mold Compound	40.50%	1.7350						Mold Compound: Hitachi CEL9750ZHF series
			2.03%	0.0867	Epoxy Resin	-	5.00%	
			2.03%	0.0867	Phenol Resin	-	5.00%	
			0.08%	0.0035	Carbon Black	1333-86-4	0.20%	
			35.56%	1.5233	Silica	60676-86-0	87.80%	
			0.81%	0.0347	Others	-	2.00%	
D/A Epoxy	0.24%	0.0102						Die attach epoxy: Henkel (Ablebond) 2100A
			0.19%	0.00818	Silver	7440-22-4	80.00%	
			0.05%	0.00205	Esters & resins	-	20.00%	
Wire	0.22%	0.0094						0.8 mil diameter; 1 wire per solder ball
			0.22%	0.0092	Copper	7440-50-8	98.45%	
			0.00%	0.0001	Palladium	7440-05-3	1.55%	
Solder Balls	20.38%	0.8732						Ag3.5
			19.67%	0.8426	Tin (Sn)	7440-31-5	96.50%	
			0.71%	0.0306	Silver (Ag)	7440-22-4	3.50%	
Substrate	37.01%	1.5856						BT Resin CCL-HL832NX-A
			19.83%	0.8494	Laminate*	-	53.57%	
			3.96%	0.1698	Solder mask PSR4000 AUS 308	-	10.71%	
			11.83%	0.5069	Copper	7440-50-8	31.97%	
			1.32%	0.0566	Nickel plating	7440-02-0	3.57%	
			0.07%	0.0029	Gold plating	7440-57-5	0.18%	

Notes: * 0.20% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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

Rev. G1

Device Material Content

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

April, 2018

Package: **484 fpBGA**
Total Device Weight **4.284** **Grams**

Package Code: **FN900**
Products: LFE2/2M

Assembly: ATP
Size (mm): 31 x 31
Lead pitch (mm): 1.0
MSL: 3
Reflow max (ºC): 250

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.64%	0.0704	1.64%	0.0704	Silicon chip	7440-21-3	100.00%	Die size: 9.49 x 9.80 mm
Mold Compound	40.50%	1.7350	2.84%	0.1214	Epoxy Resin	-	7.00%	Mold Compound: Hitachi GE-110
			2.03%	0.0867	Phenol Novolac	9003-35-4	5.00%	
			2.03%	0.0867	Metal Hydroxide	-	5.00%	
			0.20%	0.0087	Carbon Black	1333-86-4	0.50%	
			33.41%	1.4314	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.24%	0.0102	0.19%	0.00818	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2300
			0.05%	0.00205	Esters & resins	-	20.00%	
Wire	0.22%	0.0094	0.22%	0.0092	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.55%	
Solder Balls	20.38%	0.8732	19.47%	0.8339	Tin (Sn)	7440-31-5	95.50%	SAC405
			0.82%	0.0349	Silver (Ag)	7440-22-4	4.00%	
			0.10%	0.0044	Copper (Cu)	7440-50-8	0.50%	
Substrate	37.01%	1.5856	19.83%	0.8494	Laminate*	-	53.57%	BT Resin CCL-HL832NX-A
			3.96%	0.1698	Solder mask PSR4000 AUS 308	-	10.71%	
			11.83%	0.5069	Copper	7440-50-8	31.97%	
			1.32%	0.0566	Nickel plating	7440-02-0	3.57%	
			0.07%	0.0029	Gold plating	7440-57-5	0.18%	

Notes: * 0.20% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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

Rev. G1