



Device Material Content

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

Package Code:

FN484

Assembly: ASEM

Size (mm): 23 x 23

Lead pitch (mm): 1.0

MSL: 3

Reflow max (°C): 250

Package: 484 fpBGA
Total Device Weight: 2.214 Grams

Products:

FE2, FE3, XP2

April, 2018

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	0.99%	0.0219	0.99%	0.0219	Silicon chip	7440-21-3	100.00%	Die size: 5.66 x 6.71mm
Mold Compound	34.35%	0.7604	2.23%	0.0494	Epoxy Resin	-	6.50%	Mold Compound: Sumitomo G750SE
			1.72%	0.0380	Phenol Novolac	9003-35-4	5.00%	
			1.72%	0.0380	Metal Hydroxide	-	5.00%	
			0.10%	0.0023	Carbon Black	1333-86-4	0.30%	
			28.58%	0.6327	Silica Fused	60676-86-0	83.20%	
D/A Epoxy	0.14%	0.0032	0.12%	0.00255	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.03%	0.00064	Esters & resins	-	20.00%	
Wire	0.22%	0.0050	0.22%	0.0049	Copper	7440-50-8	98.55%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.45%	
Solder Balls	21.21%	0.4696	20.47%	0.4531	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.64%	0.0141	Silver (Ag)	7440-22-4	3.00%	
			0.11%	0.0023	Copper (Cu)	7440-50-8	0.50%	
Substrate	43.07%	0.9535	16.70%	0.3696	Copper	7440-50-8	38.76%	BT Resin CCL-HL832NX-A
			1.54%	0.0340	Nickel plating	7440-02-0	3.57%	
			0.08%	0.0017	Gold plating	7440-57-5	0.18%	
			11.62%	0.2572	BT Resins*	-	26.97%	
			8.53%	0.1889	Continuous Filament Fiber Glass	65997-17-3	19.81%	
			4.61%	0.1021	Solder mask PSR4000 AUS 308	-	10.71%	

Notes: * 0.12% 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.

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PCN#05A-17
Rev. G



Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
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Package Code:

FN484

Assembly: ASET

Size (mm): 23 x 23

Lead pitch (mm): 1.0

MSL: 3

Reflow max (°C): 250

Package: 484 fpBGA

Total Device Weight 2.214 Grams

Products:

FE2, FE3, XP2

April, 2018

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	0.99%	0.0219	0.99%	0.0219	Silicon chip	7440-21-3	100.00%	Die size: 5.66 x 6.71mm
Mold Compound	34.35%	0.7604	1.72%	0.0380	Epoxy Resin	-	5.00%	Mold Compound: Hitachi CEL-9750ZHF10AKL-U
			1.72%	0.0380	Phenol Resin	-	5.00%	
			0.07%	0.0015	Carbon Black	1333-86-4	0.20%	
			30.16%	0.6676	Silica	60676-86-0	87.80%	
			0.69%	0.0152	Others	-	2.00%	
D/A Epoxy	0.14%	0.0032	0.12%	0.00255	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.03%	0.00064	Esters & resins	-	20.00%	
Wire	0.22%	0.0050	0.22%	0.0049	Copper	7440-50-8	98.55%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.45%	
Solder Balls	21.21%	0.4696	20.47%	0.4531	Tin (Sn)	7440-31-5	96.50%	Ag 3.5
			0.74%	0.0164	Silver (Ag)	7440-22-4	3.50%	
Substrate	43.07%	0.9535	16.70%	0.3696	Copper	7440-50-8	38.76%	BT Resin CCL-HL832NX-A
			1.54%	0.0340	Nickel plating	7440-02-0	3.57%	
			0.08%	0.0017	Gold plating	7440-57-5	0.18%	
			11.62%	0.2572	BT Resins*	-	26.97%	
			8.53%	0.1889	Continuous Filament Fiber Glass	65997-17-3	19.81%	
			4.61%	0.1021	Solder mask PSR4000 AUS 308	-	10.71%	

Notes: * 0.12% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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FN484

Assembly: ATP

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Lead pitch (mm): 1.0

MSL: 3

Reflow max (°C): 250

Package: 484 fpBGA
Total Device Weight 2.214 Grams

Products:

FE2, FE3, XP2

April, 2018

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	0.99%	0.0219	0.99%	0.0219	Silicon chip	7440-21-3	100.00%	Die size: 5.66 x 6.71mm
Mold Compound	34.35%	0.7604	2.40%	0.0532	Solid Epoxy Resin	-	7.00%	Mold Compound: Hitachi (Nitto) GE-110LS-V
			1.72%	0.0380	Phenol Resin	-	5.00%	
			29.20%	0.6464	Silica	60676-86-0	85.00%	
			0.86%	0.0190	Metal Hydroxide	-	2.50%	
			0.17%	0.0038	Carbon Black	1333-86-4	0.50%	
D/A Epoxy	0.14%	0.0032	0.12%	0.00255	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.03%	0.00064	Esters & resins	-	20.00%	
Wire	0.22%	0.0050	0.22%	0.0049	Copper	7440-50-8	98.55%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.45%	
Solder Balls	21.21%	0.4696	20.26%	0.4484	Tin (Sn)	7440-31-5	95.50%	SAC405
			0.85%	0.0188	Silver (Ag)	7440-22-4	4.00%	
			0.11%	0.0023	Copper (Cu)	7440-50-8	0.50%	
Substrate	43.07%	0.9535	16.70%	0.3696	Copper	7440-50-8	38.76%	BT Resin CCL-HL832NX-A
			1.54%	0.0340	Nickel plating	7440-02-0	3.57%	
			0.08%	0.0017	Gold plating	7440-57-5	0.18%	
			11.62%	0.2572	BT Resins*	-	26.97%	
			8.53%	0.1889	Continuous Filament Fiber Glass	65997-17-3	19.81%	
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