Device Material Content

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

April, 2020

Package: 100 PQFP
Total Device Weight 1.800 Grams

Package Code: YN
Products: M4A

Assembly: ASEK
Size (mm): 14 x 20 x 2.7
Lead pitch (mm): 0.5
MSL: 3
Reflow max (ºC): 245

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	0.32%	0.0057			Silicon chip	7440-21-3	100.00%	Die size: 3.38 x 3.54 mm
Mold Compound	64.53%	1.1615						Mold Compound: Sumitomo G631SH
			2.58%	0.0465	Epoxy Resin A	-	4.00%	
			2.58%	0.0465	Epoxy Resin B	834893-60-6	4.00%	
			5.16%	0.0929	Phenol Resin	628290-34-6	8.00%	
			0.26%	0.0046	Carbon Black	1333-86-4	0.40%	
			53.95%	0.9710	Silica Fused	60676-86-0	83.60%	
D/A Epoxy	0.12%	0.0021						Die attach: Hitachi EN-4900F
			0.01%	0.00015	Acrylic Resin	-	7.00%	
			0.01%	0.00025	Polybutadiene derivative	-	12.00%	
			0.00%	0.00001	Butadiene copolymer	-	0.50%	
			0.01%	0.00015	2-Phenoxyethyl Acrylate	48145-04-6	7.00%	
			0.00%	0.00001	Peroxide	-	0.50%	
			0.00%	0.00003	Additive	-	1.50%	
			0.08%	0.00150	Silver	7440-22-4	71.50%	
Wire	0.09%	0.0016	0.09%	0.0016	Gold (Au)	7440-57-5	100.00%	1.0 mil wire diameter; 1 wire for each package lead
Plating	1.62%	0.0291	1.62%	0.0291	Tin (Sn)	7440-31-5	100.00%	Plating is 100% Matte Sn; thickness is >10.2µm
Leadframe	33.33%	0.6000						C7025
			32.23%	0.5802	Copper (Cu)	7440-50-8	96.70%	
			1.00%	0.0181	Nickel (Ni)	7440-02-0	3.01%	
			0.06%	0.0010	Silicon (Si)	7440-21-3	0.17%	
			0.01%	0.0002	Magnesium (Mg)	7439-95-4	0.03%	
			0.03%	0.0005	Silver (Ag)	7440-22-4	0.09%	

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

Rev. F

Device Material Content

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

December, 2017

Package: 100 PQFP
Total Device Weight 1.600 **Grams**

Package Code: YN
Products: M4A

Assembly: ATP
Size (mm): 14 x 20 x 2.7
Lead pitch (mm): 0.5
MSL: 3
Reflow max (ºC): 245

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.11%	0.0178			Silicon chip	7440-21-3	100.00%	Die size: 3.38 x 3.54 mm
Mold Compound	84.37%	1.3499	5.91%	0.0945	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G700 series
			4.22%	0.0675	Phenol Resin	-	5.00%	
			0.42%	0.0067	Carbon Black	1333-86-4	0.50%	
			73.82%	1.1812	Silica Fused	60676-86-0	87.50%	
D/A Epoxy	0.08%	0.0013	0.06%	0.00102	Silver	7440-22-4	80.00%	Die attach: Ablebond 3230 or Sumitomo CRM1076NS
			0.02%	0.00026	Esters & resins	-	20.00%	
Wire	0.18%	0.0029	0.18%	0.0029	Gold (Au)	7440-57-5	100.00%	1.0 mil wire diameter; 1 wire for each package lead
Plating	1.38%	0.0221	1.38%	0.0221	Tin (Sn)	7440-31-5	100.00%	Plating is 100% Matte Sn; thickness is >10.2µm
Leadframe	12.88%	0.2061	12.45%	0.1993	Copper (Cu)	7440-50-8	96.70%	C7025
			0.39%	0.0062	Nickel (Ni)	7440-02-0	3.01%	
			0.02%	0.0004	Silicon (Si)	7440-21-3	0.17%	
			0.00%	0.0001	Magnesium (Mg)	7439-95-4	0.03%	
			0.01%	0.0002	Silver (Ag)	7440-22-4	0.09%	

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Rev. E1