



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com					Package Code: YN		Assembly: ASEK Size (mm): 14 x 20 x 2.7 Lead pitch (mm): 0.5 MSL: 3 Reflow max (°C): 245	
April, 2023	Package: Total Device Weight		100 PQFP 1.800 Grams		Products: M4A			
	% 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	5.16%	0.0929	Epoxy Resins	-	8.00%	Mold Compound: Sumitomo G631SH
			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	0.01%	0.00015	Acrylic Resin	-	7.00%	Die attach: Hitachi EN-4900F
			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	32.23%	0.5802	Copper (Cu)	7440-50-8	96.70%	C7025
			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.

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Rev. G