



## Device Material Content

5555 NE Moore Ct.  
Hillsboro OR 97124  
[custreq@lsc.com](mailto:custreq@lsc.com)

August, 2018

**Package:** 100 TQFP (1.4mm)  
**Total Device Weight** 0.654 Grams

**Package Code:**

**TN100, TG100**

**Products:**

(LC) 4kZE, XO, XO2

Assembly: ASEM

Size (mm): 14 x 14 x 1.4

Lead pitch (mm): 0.5

MSL: 3

Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	1.09%	0.0071			Silicon chip	7440-21-3	100.00%	Die size: 3.35 x 3.35 mm
<b>Mold Compound</b>	75.90%	0.4961	5.69%	0.0372	Epoxy Resin	-	7.50%	Mold Compound: Sumitomo EME-G700SY (ULA)
			2.28%	0.0149	Phenol Resin	-	3.00%	
			52.33%	0.3421	Silica (Amorphous) A	60676-86-0	68.95%	
			15.18%	0.0992	Silica (Amorphous) B	7631-86-9	20.00%	
			0.42%	0.0027	Carbon Black	1333-86-4	0.55%	
<b>D/A Epoxy</b>	0.15%	0.0010	0.12%	0.00076	Silver	7440-22-4	75.50%	Die attach: Yizbond 8143
			0.01%	0.00008	Epoxy Acylate	15625-89-5	7.50%	
			0.00%	0.00002	Substituted Polyamine	68490-66-4	2.00%	
			0.02%	0.00010	Bisphenol F	28064-14-4	10.00%	
			0.01%	0.00005	2-Ethylhexyl Glycidyl Ether	2461-15-6	5.00%	
<b>Wire</b>	0.24%	0.0016	0.24%	0.0016	Copper (Cu)	7440-50-8	100.00%	0.8 mil wire diameter; 1 wire for each package lead
<b>Plating</b>	1.02%	0.0067	1.02%	0.0067	Tin (Sn)	7440-31-5	100.00%	Plating is 100% Matte Sn; thickness is >10.2µm
<b>Leadframe</b>	21.59%	0.1411	20.88%	0.1365	Copper (Cu)	7440-50-8	96.70%	C7025
			0.65%	0.0042	Nickel (Ni)	7440-02-0	3.01%	
			0.04%	0.0002	Silicon (Si)	7440-21-3	0.17%	
			0.01%	0.0000	Magnesium (Mg)	7439-95-4	0.03%	
			0.02%	0.0001	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](http://www.latticesemi.com)





## Device Material Content

5555 NE Moore Ct.  
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December, 2017

Package: 100 TQFP (1.4mm)  
Total Device Weight 0.654 Grams

**Package Code:**

**TN100, TG100**

**Products:**

(LC) 4kZE, XO, XO2

**Assembly: ASET**

Size (mm): 14 x 14 x 1.4

Lead pitch (mm): 0.5

MSL: 3

Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	1.09%	0.0071			Silicon chip	7440-21-3	100.00%	Die size: 3.35 x 3.35 mm
<b>Mold Compound</b>	75.90%	0.4961	3.04%	0.0198	Epoxy Resin A	-	4.00%	Mold Compound: Sumitomo EME-G631SH
			3.04%	0.0198	Epoxy Resin B	834893-60-6	4.00%	
			3.80%	0.0248	Phenol Resin	628290-34-6	5.00%	
			0.30%	0.0020	Carbon Black	1333-86-4	0.40%	
			65.73%	0.4297	Silica Fused	60676-86-0	86.60%	
<b>D/A Epoxy</b>	0.15%	0.0010	0.12%	0.00080	Silver (Ag)	7440-22-4	80.00%	Die attach epoxy: Sumitomo CRM-1076WA
			0.00%	0.00002	Epoxy Resin A	-	2.00%	
			0.00%	0.00000	Dicyandiamide	461-58-5	0.20%	
			0.03%	0.00018	others	-	17.80%	
<b>Wire</b>	0.24%	0.0016	0.24%	0.00157	Copper (Cu)	7440-50-8	98.50%	0.8 mil wire diameter; 1 wire for each package lead
			0.00%	0.00002	Palladium	7440-05-3	1.50%	
<b>Plating</b>	1.02%	0.0067	1.02%	0.0067	Tin (Sn)	7440-31-5	100.00%	Plating is 100% Matte Sn; thickness is >10.2µm
<b>Leadframe</b>	21.59%	0.1411	20.88%	0.1365	Copper (Cu)	7440-50-8	96.70%	C7025
			0.65%	0.0042	Nickel (Ni)	7440-02-0	3.01%	
			0.04%	0.0002	Silicon (Si)	7440-21-3	0.17%	
			0.01%	0.0000	Magnesium (Mg)	7439-95-4	0.03%	
			0.02%	0.0001	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.

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