



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@lsc.com				Package Code: MN132			Assembly: ASEM Size (mm): 8 x 8 Lead pitch (mm): 0.5 MSL: 3 Reflow max (°C): 260		
Package: 132 csBGA		Total Device Weight 0.1240 Grams		Products: 4kZE, XO, XP2					
April, 2018									
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:	
Die	6.93%	0.0086			Silicon chip	7440-21-3	100.00%	Die size: 4.71 x 2.90 mm	
Mold Compound	56.76%	0.0704	49.38%	0.0612	Silica	60676-86-0	87.00%	Mold Compound: Sumitomo EME-G750SE	
			2.84%	0.0035	Epoxy Resin	-	5.00%		
			2.84%	0.0035	Phenol Resin	-	5.00%		
			1.56%	0.0019	Metal Hydroxide	-	2.75%		
			0.14%	0.0002	Carbon Black	1333-86-4	0.25%		
D/A Epoxy	1.12%	0.0014	0.90%	0.00111	Silver (Ag)	7440-22-4	80.00%	Die attach: Ablebond 2100A	
			0.22%	0.00028	Organic esters and resins	-	20.00%		
Wire	1.44%	0.0018	1.41%	0.0018	Copper (Cu)	7440-50-8	97.90%	MKE Cu wire(Pd coated), 0.02mm dia	
			0.03%	0.0000	Palladium (Pd)	7440-05-3	2.10%		
Solder Balls	11.20%	0.0139	10.81%	0.0134	Tin (Sn)	7440-31-5	96.50%	SAC305	
			0.34%	0.0004	Silver (Ag)	7440-22-4	3.00%		
			0.06%	0.0001	Copper (Cu)	7440-50-8	0.50%		
Substrate	22.55%	0.0280	14.66%	0.0182	Laminate*	-	65.00%	BT Resin CCL-HL832NX-A	
			2.41%	0.0030	Solder mask PSR4000 AUS 308	-	10.71%		
			4.63%	0.0057	Copper	7440-50-8	20.54%		
			0.80%	0.0010	Nickel plating	7440-02-0	3.57%		
			0.04%	0.0001	Gold plating	7440-57-5	0.18%		

Notes: * 0.15% 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. N1



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custrec@lsc.com				Package Code: MN132			Assembly: ASET Size (mm): 8 x 8 Lead pitch (mm): 0.5 MSL: 3 Reflow max (°C): 260		
April, 2018 Package: 132 csBGA Total Device Weight: 0.1240 Grams		Products: XO, XP2							
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:	
Die	6.93%	0.0086			Silicon chip	7440-21-3	100.00%	Die size: 4.71 x 2.90 mm	
Mold Compound	56.76%	0.0704	49.66%	0.0616	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G2250 series (ULA)	
			3.69%	0.0046	Epoxy resin	-	6.50%		
			3.12%	0.0039	Phenol Resin	-	5.50%		
			0.28%	0.0004	Carbon Black	1333-86-4	0.50%		
D/A Epoxy	1.12%	0.0014	0.90%	0.00111	Silver (Ag)	7440-22-4	80.00%	Die attach: Ablebond 2100A	
			0.22%	0.00028	Organic esters and resins	-	20.00%		
Wire	1.44%	0.0018	1.42%	0.0018	Copper (Cu)	7440-50-8	98.50%	Pd coated Copper, 0.8 mil diameter	
			0.02%	0.0000	Palladium (Pd)	7440-05-3	1.50%		
Solder Balls	11.20%	0.0139	11.04%	0.0137	Tin (Sn)	7440-31-5	98.50%	SAC105	
			0.11%	0.0001	Silver (Ag)	7440-22-4	1.00%		
			0.06%	0.0001	Copper (Cu)	7440-50-8	0.50%		
Substrate	22.55%	0.0280	14.66%	0.0182	Laminate*	-	65.00%	BT Resin CCL-HL832NX-A	
			2.41%	0.0030	Solder mask PSR4000 AUS 308	-	10.71%		
			4.63%	0.0057	Copper	7440-50-8	20.54%		
			0.80%	0.0010	Nickel plating	7440-02-0	3.57%		
			0.04%	0.0001	Gold plating	7440-57-5	0.18%		

Notes: * 0.15% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@lsc.com				Package Code: <div style="border: 1px solid black; padding: 2px; display: inline-block;">MN132</div>			Assembly: ATP Size (mm): 8 x 8 Lead pitch (mm): 0.5 MSL: 3 Reflow max (°C): 260		
April, 2018	Package: 132 csBGA Total Device Weight 0.1240 Grams		Products: XO, XP2						
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:	
Die	6.93%	0.0086			Silicon chip	7440-21-3	100.00%	Die size: 4.71 x 2.90 mm	
Mold Compound	56.76%	0.0704	3.97%	0.0049	Solid Epoxy Resin	-	7.00%	Mold Compound: Hitachi GE-110LS-V (ULA)	
			2.84%	0.0035	Phenol Resin	-	5.00%		
			48.24%	0.0598	Silica	60676-86-0	85.00%		
			1.42%	0.0018	Metal Hydroxide	-	2.50%		
			0.28%	0.0004	Carbon Black	1333-86-4	0.50%		
D/A Epoxy	1.12%	0.0014	0.90%	0.00111	Silver (Ag)	7440-22-4	80.00%	Die attach: Ablebond 2300	
			0.22%	0.00028	Organic esters and resins	-	20.00%		
Wire	1.44%	0.0018	1.42%	0.0018	Copper (Cu)	7440-50-8	98.50%	Pd coated Copper, 0.8 mil diameter	
			0.02%	0.0000	Palladium (Pd)	7440-05-3	1.50%		
Solder Balls	11.20%	0.0139	11.04%	0.0137	Tin (Sn)	7440-31-5	98.50%	SAC105	
			0.11%	0.0001	Silver (Ag)	7440-22-4	1.00%		
			0.06%	0.0001	Copper (Cu)	7440-50-8	0.50%		
Substrate	22.55%	0.0280	14.66%	0.0182	Laminate*	-	65.00%	BT Resin CCL-HL832NX-A	
			2.41%	0.0030	Solder mask PSR4000 AUS 308	-	10.71%		
			4.63%	0.0057	Copper	7440-50-8	20.54%		
			0.80%	0.0010	Nickel plating	7440-02-0	3.57%		
			0.04%	0.0001	Gold plating	7440-57-5	0.18%		

Notes: * 0.15% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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