

**PART INFORMATION**

Mfg Item Number	LS1023ASN7PQB
Mfg Item Name	FCPBGA 621 21*21*1.92*.8

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-12-18
Response Document ID	00M9K50008S352A1.5
Contact Name	Freescale Semiconductor Inc
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**DECLARATION**

EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e1
EU RoHS Exemption(s)	

**MANUFACTURING**

Mfg Item Number	LS1023ASN7PQB
Mfg Item Name	FCPBGA 621 21*21*1.92*.8
Version	ALL
Weight	1.285900
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	250 C
Max Time at Peak Temperature	30 seconds
Number of Processing Cycles	3

<b>RoHS</b>	
RoHS Directive	2011/65/EU
RoHS Definition	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) of homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material of Cadmium
RoHS Legal Definition	Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2011/65/EU and implemented by the laws of the European Union member states) of the part(s) identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a RoHS restricted substance) in excess of the applicable quantity limit identified below. If a homogeneous material within the part(s) contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s), the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Suppliers liability and the Companys remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Suppliers Standard Terms and Conditions of Sale applicable to such part(s) shall apply.
RoHS Declaration	1 - Item(s) do not contain RoHS restricted substances per the definition above
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemption List Version	2012/51/EU
List of Freescale Accepted Exemptions	<p>6(a) : Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight</p> <p>6(b) : Lead as an alloying element in aluminium containing up to 0.4% lead by weight</p> <p>6(c) : Copper alloy containing up to 4% lead by weight</p> <p>7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)</p> <p>7(b) : Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications</p> <p>7(c)-I : Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound</p> <p>7(c)-II : Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher</p> <p>7(c)-III : Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC</p> <p>7(c)-IV : Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors</p> <p>15 : Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages</p>

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Solder Balls - Lead Free	0.1541						g				
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00077189	g	5009	0.5009	600	0.06
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00463132	g	30054	3.0054	3601	0.3601
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.14869679	g	964937	96.4937	115636	11.5636
Underfill	0.0128						g				
Underfill		Bismuth/Bismuth Compounds	Bismuth nitrate	10361-44-1		0.000064	g	5000	0.5	49	0.0049
Underfill		Bismuth/Bismuth Compounds	Bismuth trioxide	1304-76-3		0.000064	g	5000	0.5	49	0.0049
Underfill		Plastics/polymers	1,6-Bis(2,3-epoxypropoxy) naphthalene	27610-48-6		0.00192	g	150000	15	1493	0.1493
Underfill		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00128	g	100000	10	995	0.0995
Underfill		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.000064	g	5000	0.5	49	0.0049
Underfill		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.000384	g	30000	3	298	0.0298
Underfill		Glass	Silica, vitreous	60676-86-0		0.00798	g	600000	60	5972	0.5972
Underfill		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.000064	g	5000	0.5	49	0.0049
Underfill		Solvents, additives, and other materials	Proprietary Material-Other aliphatic amine compounds	-		0.00128	g	100000	10	995	0.0995
Organic Substrate, Halogen-free	1.0162						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.01236394	g	12167	1.2167	9607	0.9607
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.35169362	g	346087	34.6087	273515	27.3515
Organic Substrate, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.10032435	g	98725	9.8725	78018	7.8018
Organic Substrate, Halogen-free		Metals	Talc	14807-96-6		0.00141658	g	1394	0.1394	1101	0.1101
Organic Substrate, Halogen-free		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.17044316	g	167726	16.7726	132547	13.2547
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.1557235	g	153241	15.3241	121100	12.11
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.13020164	g	128126	12.8126	101253	10.1253
Organic Substrate, Halogen-free		Metals	Silver, metal	7440-22-4		0.00054265	g	534	0.0534	422	0.0422
Organic Substrate, Halogen-free		Metals	Tin, metal	7440-31-5		0.01746746	g	17189	1.7189	13583	1.3583
Organic Substrate, Halogen-free		Metals	Aluminum Hydroxide	21645-51-2		0.07595485	g	74744	7.4744	59067	5.9067
Organic Substrate, Halogen-free		Metals	Copper phthalocyanine	147-14-8		0.00007825	g	77	0.0077	60	0.006
Pb-free Bumped Semiconductor D	0.1028						g				
Pb-free Bumped Semiconductor D		Nickel (external applications only)	Nickel	7440-02-0		0.000514	g	5000	0.5	399	0.0399
Pb-free Bumped Semiconductor D		Metals	Silver, metal	7440-22-4		0.00032382	g	3150	0.315	251	0.0251
Pb-free Bumped Semiconductor D		Metals	Tin, metal	7440-31-5		0.00892818	g	86850	8.685	6943	0.6943
Pb-free Bumped Semiconductor D		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.0009252	g	9000	0.9	719	0.0719
Pb-free Bumped Semiconductor D		Glass	Silicon, doped	-		0.0921088	g	886000	88.6	71629	7.1629

## LINKS

MCD LINK	
NXP website	<a href="http://www.nxp.com">http://www.nxp.com</a>
GENERAL ENVIRONMENTAL COMPLIANCE LINKS	
RoHS signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf</a>
China RoHS	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY</a>
REACH signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf</a>
ELV signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf</a>
Conflict Minerals statement	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf</a>
NXP ENVIRONMENTAL INFORMATION	
Environmental Compliance website	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX</a>
FAQ	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ</a>
Technical Service Request	<a href="http://www.nxp.com/support/sales-and-support:SUPPORTHOME">http://www.nxp.com/support/sales-and-support:SUPPORTHOME</a>
LINKS TO BLANK IPC1752 FORMS	
Blank IPC1752 v1.1 Form	<a href="http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf">http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf</a>

IPC1752 XML LINKS

[http://www.freescale.com/mcdfs/LS1023ASN7PQB\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/LS1023ASN7PQB_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/LS1023ASN7PQB\\_IPC1752A.xml](http://www.freescale.com/mcdfs/LS1023ASN7PQB_IPC1752A.xml)