

PART INFORMATION

Mfg Item Number	FS32V232BMN1VUB
Mfg Item Name	FCBGA 621 17*17*2.3 P.65

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-04-12
Response Document ID	00MNA1.7
Contact Name	Freescale Semiconductor Inc
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DECLARATION

EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e2
EU RoHS Exemption(s)	

MANUFACTURING

Mfg Item Number	FS32V232BMN1VUB
Mfg Item Name	FCBGA 621 17*17*2.3 P.65
Version	ALL
Weight	2.153400
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	260 C
Max Time at Peak Temperature	40 seconds
Number of Processing Cycles	3

RoHS	
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 - Pb Free, Sn/Ag	0.1541						g				
Solder Balls - Pb Free, Sn/Ag		Metals	Silver, metal	7440-22-4		0.0053935	g	35000	3.5	2504	0.2504
Solder Balls - Pb Free, Sn/Ag		Metals	Tin, metal	7440-31-5		0.1487065	g	965000	96.5	69056	6.9056
Bonding Agent	0.0107						g				
Bonding Agent		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2		0.004815	g	450000	45	2235	0.2235
Bonding Agent		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.00428	g	400000	40	1987	0.1987
Bonding Agent		Solvents, additives, and other materials	Dimethylvinylated and trimethylated silica	68888-89-6		0.001605	g	150000	15	745	0.0745
Die Encapsulant, Filler	0.0107						g				
Die Encapsulant, Filler		Metals	Aluminum, metal	7429-90-5		0.007704	g	720000	72	3577	0.3577
Die Encapsulant, Filler		Solvents, additives, and other materials	Proprietary Material-Other siloxanes and silicones	-		0.000863	g	90000	9	447	0.0447
Die Encapsulant, Filler		Metals	Zinc oxide	1314-13-2		0.001926	g	180000	18	894	0.0894
Die Encapsulant, Filler		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.000107	g	10000	1	49	0.0049
Underfill	0.0132						g				
Underfill		Bismuth/Bismuth Compounds	Bismuth nitrate	10361-44-1		0.000066	g	5000	0.5	30	0.003
Underfill		Bismuth/Bismuth Compounds	Bismuth trioxide	1304-76-3		0.000066	g	5000	0.5	30	0.003
Underfill		Plastics/polymers	1,6-Bis(2,3-epoxypropoxy) naphthalene	27610-48-6		0.00198	g	150000	15	919	0.0919
Underfill		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00132	g	100000	10	612	0.0612
Underfill		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.000066	g	5000	0.5	30	0.003
Underfill		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.000396	g	30000	3	183	0.0183
Underfill		Glass	Silica, vitreous	60676-86-0		0.00792	g	600000	60	3677	0.3677
Underfill		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.000066	g	5000	0.5	30	0.003
Underfill		Solvents, additives, and other materials	Proprietary Material-Other aliphatic amine compounds	-		0.00132	g	100000	10	612	0.0612
Heat Spreader	1.3147						g				
Heat Spreader		Metals	Copper, metal	7440-50-8		1.24904651	g	950062	95.0062	580053	58.0053
Heat Spreader		Nickel (external applications only)	Nickel	7440-02-0		0.06565349	g	49938	4.9938	30488	3.0488
Organic Substrate, Halogen-free	0.5508						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.0024753	g	4494	0.4494	1149	0.1149
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.38220836	g	693915	69.3915	177490	17.749
Organic Substrate, Halogen-free		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.00671756	g	12196	1.2196	3119	0.3119
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Proprietary Material-Other inorganic silicon compounds	-		0.0106962	g	19256	1.9256	4925	0.4925
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Other organic compounds	-		0.0142525	g	25876	2.5876	6618	0.6618
Organic Substrate, Halogen-free		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.0025447	g	4620	0.462	1181	0.1181
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.06893868	g	125161	12.5161	32013	3.2013
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.01170175	g	21245	2.1245	5434	0.5434
Organic Substrate, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.0017807	g	3210	0.321	821	0.0821
Organic Substrate, Halogen-free		Metals	Silver, metal	7440-22-4		0.00052161	g	947	0.0947	242	0.0242
Organic Substrate, Halogen-free		Metals	Tin, metal	7440-31-5		0.00225292	g	36770	3.677	9405	0.9405
Organic Substrate, Halogen-free		Solvents, additives, and other materials	3-methoxy-3-methyl-1-butyl acetate	103429-90-9		0.00229739	g	4171	0.4171	1066	0.1066
Organic Substrate, Halogen-free		Plastics/Polymers	Polyimide Resin	39355-34-5		0.02651496	g	48139	4.8139	12313	1.2313
Silicon Semiconductor Die	0.0992						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.001984	g	20000	2	921	0.0921
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.097216	g	980000	98	45145	4.5145

LINKS

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

IPC1752 XML LINKS

http://www.freescale.com/mcdfs/FS32V232BMN1VUB_IPC1752_v11.xml

http://www.freescale.com/mcdfs/FS32V232BMN1VUB_IPC1752A.xml