

PART INFORMATION	
Mfg Item Number	P5020NSN7MMB
Mfg Item Name	FCPBGA 1295 37.5SQ3.55P1
SUPPLIER	
Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2013-08-07
Response Document ID	8404K50008S292M1.0
Contact Name	Freescale Semiconductor Inc
Contact Title	Product Technical Support
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Representative Title	EPP Customer Response
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Representative Email	eppanlst@freescale.com
URL for Additional Information	www.freescale.com
DECLARATION	
EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e1
EU RoHS Exemption(s)	
MANUFACTURING	
Mfg Item Number	P5020NSN7MMB
Mfg Item Name	FCPBGA 1295 37.5SQ3.55P1
Version	ALL
Weight	13.973900
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	245 C
Max Time at Peak Temperature	30 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	<p>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.</p>
RoHS Declaration	1 - Item(s) do not contain RoHS restricted substances per the definition above
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemptions in this part	
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. piezoelectric 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

SubPart	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	REACHPPM	REACH%
Bonding Agent	0.0115	Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	69083-19-2	0.005175	g	450000	45		370	0.037
Bonding Agent		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7	0.0046	g	400000	40		329	0.0329
Bonding Agent		Solvents, additives, and other materials	Dimethylvinylated and trimethylated silica	68988-89-6	0.001725	g	150000	15		123	0.0123
Heat Spreader	7.532					g				537288	53.7288
Heat Spreader		Metals	Copper, metal	7440-50-8	7.507785	g	996785	99.6785		1732	0.1732
Heat Spreader		Metals	Nickel, metal	7440-02-0	0.024215	g	3215	0.3215			
Die Encapsulant, Filler	1.8864					g				97197	9.7197
Die Encapsulant, Filler		Metals	Aluminum, metal	7429-90-5	1.358208	g	720000	72		12149	1.2149
Die Encapsulant, Filler		Solvents, additives, and other materials	Proprietary Material-Other siloxanes and silicones	-	0.169776	g	80000	9		24299	2.4299
Die Encapsulant, Filler		Metals	Zinc oxide	1314-13-2	0.339552	g	180000	18		1349	0.1349
Die Encapsulant, Filler		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances	-	0.018864	g	10000	1			
Solder Balls - Lead Free	1.2821					g				459	0.0459
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8	0.006422	g	5009	0.5009		2757	0.2757
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4	0.038532	g	30054	3.0054		88533	8.8533
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5	1.237146	g	954937	96.4937			
Underfill	0.0657					g				23	0.0023
Underfill		Metals	Bismuth nitrate	10361-44-1	0.000329	g	5000	0.5		23	0.0023
Underfill		Metals	Bismuth trioxide	1304-76-3	0.000329	g	5000	0.5		705	0.0705
Underfill		Plastics/polymers	1,6-Bis(2,3-epoxypropoxy) naphthalene	27610-48-6	0.009655	g	150000	15		470	0.047
Underfill		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5	0.00657	g	100000	10		23	0.0023
Underfill		Solvents, additives, and other materials	Carbon Black	1333-86-4	0.000329	g	5000	0.5		141	0.0141
Underfill		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6	0.01971	g	30000	3		2820	0.282
Underfill		Glass	Silica, vitreous	60676-86-0	0.039418	g	600000	60		23	0.0023
Underfill		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances	-	0.000329	g	5000	0.5		470	0.047
Underfill		Solvents, additives, and other materials	Proprietary Material-Other aliphatic amine compounds	-	0.00657	g	100000	10			
Organic Substrate, Halogen-free	2.803					g				2	0.0002
Organic Substrate, Halogen-free		Metals	Arsenic, metal	7440-38-2	0.000031	g	11	0.0011		1155	0.1155
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7	0.016142	g	5759	0.5759		95338	9.5338
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8	1.332239	g	475291	47.5291		237	0.0237
Organic Substrate, Halogen-free		Plastics/polymers	2,2'-[1-(methyleneethylene)bis(4,1-phenyleneoxyethylene)]bisoxane	1675-54-3	0.003319	g	1184	0.1184		17848	1.7848
Organic Substrate, Halogen-free		Plastics/polymers	Other Epoxy resins	-	0.249414	g	88981	8.8981		1	0.0001
Organic Substrate, Halogen-free		Metals	Lead, metallic lead and lead alloys	7439-92-1	0.000014	g	5	0.0005		3956	0.3956
Organic Substrate, Halogen-free		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6	0.055284	g	19723	1.9723		42521	4.2521
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3	0.594194	g	211985	21.1985		15307	1.5307
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9	0.213911	g	76315	7.6315		61	0.0061
Organic Substrate, Halogen-free		Metals	Silver, metal	7440-22-4	0.000861	g	307	0.0307		1979	0.1979
Organic Substrate, Halogen-free		Metals	Tin, metal	7440-31-5	0.027668	g	9871	0.9871		21993	2.1993
Organic Substrate, Halogen-free		Metals	Aluminum Hydroxide	21645-51-2	0.307341	g	10647	10.9647		184	0.0184
Organic Substrate, Halogen-free		Metals	Copper phthalocyanine	14714-8	0.002982	g	921	0.0921			
Pb-free Bumped Semiconductor D	0.3932					g				140	0.014
Pb-free Bumped Semiconductor D		Metals	Nickel, metal	7440-02-0	0.001966	g	5000	0.5		88	0.0088
Pb-free Bumped Semiconductor D		Metals	Silver, metal	7440-22-4	0.001239	g	3150	0.315		2443	0.2443
Pb-free Bumped Semiconductor D		Metals	Tin, metal	7440-31-5	0.034149	g	86850	8.685		253	0.0253
Pb-free Bumped Semiconductor D		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-	0.003539	g	9000	0.9		25211	2.5211
Pb-free Bumped Semiconductor D		Glass	Silicon, doped	-	0.352307	g	896000	89.6			

LINKS

MCD LINK

Freescale website <http://www.freescale.com>**GENERAL ENVIRONMENTAL COMPLIANCE LINKS**RoHS signed letter http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ROHS_Freescale_Response.pdfChina RoHS <http://www.freescale.com/chinarohs>REACH signed letter http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_REACH_Freescale_Response.pdfELV signed letter http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ELV_Freescale_Reponse.pdfConflict Minerals statement http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_CONFLICT_METAL_Freescale_Response.pdf**FREESCALE ENVIRONMENTAL INFORMATION**EPP website <http://www.freescale.com/epp>FAQ http://www.freescale.com/webapp/sps/site/overview.jsp?code=ENVIRON_FAQTechnical Service Request https://www.freescale.com/webapp/servicerequest.create_SR.framework?defaultCategory=Hardware Product Support&defaultTopic=Environmentally Preferred Prod**LINKS TO BLANK IPC1752 FORMS**Blank IPC1752 v0.9 Form http://www.freescale.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v0.9_MCD_Template.pdfBlank IPC1752 v1.1 Form http://www.freescale.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf

IPC1752 XML LINKS

http://www.freescale.com/mcds/P5020NSN7MMB_IPC1752_v09.xml

http://www.freescale.com/mcds/P5020NSN7MMB_IPC1752_v11.xml

http://www.freescale.com/mcds/P5020NSN7MMB_IPC1752A.xml