

**PART INFORMATION**

Mfg Item Number	SPC5606EF2VMC
Mfg Item Name	MAPBGA 121 8*8*1.5 P0.65

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-06-26
Response Document ID	00ADK10949D305A1.1
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	SPC5606EF2VMC
Mfg Item Name	MAPBGA 121 8*8*1.5 P0.65
Version	ALL
Weight	0.182400
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. 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

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Solder Balls - Lead Free	0.013						g				
Solder Balls - Lead Free		Metals	Aluminum, metal	7429-90-5		0.0000007	g	5	0.0005	0	0
Solder Balls - Lead Free		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.0000013	g	100	0.01	7	0.0007
Solder Balls - Lead Free		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.0000013	g	100	0.01	7	0.0007
Solder Balls - Lead Free		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00000195	g	150	0.015	10	0.001
Solder Balls - Lead Free		Cadmium/Cadmium Compounds	Cadmium	7440-43-8		0.00000013	g	10	0.001	0	0
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00006495	g	4996	0.4996	366	0.0366
Solder Balls - Lead Free		Metals	Gold, metal	7440-57-5		0.00000065	g	50	0.005	3	0.0003
Solder Balls - Lead Free		Metals	Iron, metal	7439-89-6		0.0000013	g	100	0.01	7	0.0007
Solder Balls - Lead Free		Lead/Lead Compounds	Lead	7439-92-1		0.0000039	g	300	0.03	21	0.0021
Solder Balls - Lead Free		Nickel (external applications only)	Nickel	7440-02-0		0.00000033	g	25	0.0025	1	0.0001
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00051956	g	39966	3.9966	2848	0.2848
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.01240449	g	954193	95.4193	68007	6.8007
Solder Balls - Lead Free		Metals	Zinc, metal	7440-66-6		0.00000007	g	5	0.0005	0	0
Die Encapsulant	0.0704						g				
Die Encapsulant		Metals	Aluminum, metal	7429-90-5		0.0014087	g	20010	2.001	7723	0.7723
Die Encapsulant		Metals	Magnesium, metal	7439-95-4		0.00070435	g	10005	1.0005	3861	0.3861
Die Encapsulant		Plastics/polymers	Other phenolic resins	-		0.00211306	g	30015	3.0015	11584	1.1584
Die Encapsulant		Glass	Silicon dioxide	7631-86-9		0.01267834	g	180090	18.009	69508	6.9508
Die Encapsulant		Glass	Silica, vitreous	80676-86-0		0.04926944	g	699850	69.985	270139	27.0139
Die Encapsulant		Plastics/polymers	Other acrylic/epoxy resin mixture	-		0.00422611	g	60030	6.003	23169	2.3169
Epoxy Die Attach	0.0028						g				
Epoxy Die Attach		Solvents, additives, and other materials	Silicone modified epoxy resin	218163-11-2		0.00126	g	450000	45	6907	0.6907
Epoxy Die Attach		Solvents, additives, and other materials	Other siloxanes and silicones	-		0.00014	g	50000	5	767	0.0767
Epoxy Die Attach		Glass	Dimethyl silicone polymer with silica	67762-90-7		0.00014	g	50000	5	767	0.0767
Epoxy Die Attach		Plastics/polymers	Proprietary Material-Other acrylic/epoxy resin mixture	-		0.00084	g	300000	30	4605	0.4605
Epoxy Die Attach		Plastics/polymers	Plastic: TEE - Thermo Elastomeric	-		0.00014	g	50000	5	767	0.0767
Epoxy Die Attach		Solvents, additives, and other materials	4,4'-Diaminodiphenylsulfone	80-08-0		0.00028	g	100000	10	1535	0.1535
Non-Conductive Epoxy/Adhesive	0.0028						g				
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Silicone modified epoxy resin	218163-11-2		0.00252014	g	900050	90.005	13816	1.3816
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Phenolic Resin	125133-38-2		0.00027986	g	99950	9.995	1534	0.1534
Non-Conductive Epoxy/Adhesive	0.0028						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other Epoxy resins	-		0.00028	g	100000	10	1535	0.1535
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	1,1'-(methylene-di-p-phenylene)bismaleimide	13676-54-5		0.00098	g	350000	35	5372	0.5372
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Polytetrafluoroethylene	9002-84-0		0.0014	g	500000	50	7675	0.7675
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Silane	7803-62-5		0.00014	g	50000	5	767	0.0767
Die Spacer	0.0006						g				
Die Spacer		Solvents, additives, and other materials	Silicon	7440-21-3		0.0006	g	1000000	100	3289	0.3289
Bonding Wire, PoCu	0.013						g				
Bonding Wire, PoCu		Metals	Copper, metal	7440-50-8		0.01272719	g	979015	97.9015	69776	6.9776
Bonding Wire, PoCu		Metals	Palladium, metal	7440-05-3		0.00027281	g	20985	2.0985	1495	0.1495
Organic Substrate, Halogen-free	0.06						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.00121578	g	20263	2.0263	6665	0.6665
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.02735562	g	455927	45.5927	149975	14.9975
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.00303954	g	50659	5.0659	16664	1.6664
Organic Substrate, Halogen-free		Metals	Talc	14807-96-6		0.00042552	g	7092	0.7092	2332	0.2332
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.0212766	g	354610	35.461	116648	11.6648
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.00091188	g	15198	1.5198	4999	0.4999
Organic Substrate, Halogen-free		Metals	Aluminum Hydroxide	21645-51-2		0.00030396	g	5066	0.5066	1666	0.1666
Organic Substrate, Halogen-free		Solvents, additives, and other materials	3-methoxy-3-methyl-1-butyl acetate	103429-90-9		0.00121578	g	20263	2.0263	6665	0.6665
Organic Substrate, Halogen-free		Plastics/polymers	Methacrylic acid, polymer with 2,2-bis(p-(2,3-epoxypropoxy)phenyl)propane	26875-67-2		0.00054714	g	9119	0.9119	2999	0.2999
Organic Substrate, Halogen-free		Plastics/polymers	2-(chloromethyl)oxirane 4-(2-(4-hydroxyphenyl)propan-2-yl)phenol prop-2-enoic acid	90598-46-2		0.00370818	g	61803	6.1803	20329	2.0329
Silicon Semiconductor Die	0.0085						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00017	g	20000	2	932	0.0932
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.00833	g	980000	98	45668	4.5668
Silicon Semiconductor Die	0.0085						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00017	g	20000	2	932	0.0932
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.00833	g	980000	98	45668	4.5668

## 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/mcds/SPC5606EF2VMC\\_IPC1752\\_v11.xml](http://www.freescale.com/mcds/SPC5606EF2VMC_IPC1752_v11.xml)

[http://www.freescale.com/mcds/SPC5606EF2VMC\\_IPC1752A.xml](http://www.freescale.com/mcds/SPC5606EF2VMC_IPC1752A.xml)